

# Ashkelon 3

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FINAL REPORTS  
OF THE  
LEON LEVY EXPEDITION  
TO  
ASHKELON

*Series Editors*

*Lawrence E. Stager and J. David Schloen*

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by Lawrence E. Stager, Daniel M. Master, and J. David Schloen

THE LEON LEVY EXPEDITION TO ASHKELON

# ASHKELON 3

*The Seventh Century B.C.*

by

Lawrence E. Stager, Daniel M. Master, and J. David Schloen

With contributions by

Adam J. Aja, Lanny Bell, Kathleen J. Birney, Susan L. Cohen,  
Deirdre N. Fulton, Seymour Gitin, Christian Herrmann, Brian Hesse,  
Othmar Keel, Mordechai E. Kislev, Egon H. E. Lass, Omri Lernau,  
Ely Levine, Yael Mahler-Slasky, Seong Hyun Park, Michael D. Press,  
Steven A. Rosen, Yorke M. Rowan, Jacob Vardi, Jane C. Waldbaum,  
Joshua T. Walton, Paula Wapnish, and Ehud Weiss

Winona Lake, Indiana

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Ashkelon 3:  
The Seventh Century B.C.

by Lawrence E. Stager, Daniel M. Master, and J. David Schloen

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Shelby White and Leon Levy

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## PREFACE

IT IS with great pleasure that we dedicate this volume to Professors Frank Moore Cross and Benjamin Mazar, two luminaries of the history of the ancient Near East and of the biblical world. Frank Moore Cross and G. Ernest Wright became my mentors when I decided to major in Near Eastern Languages and Literatures (now Near Eastern Languages and Civilizations) during my sophomore year at Harvard in 1962, and Frank has remained my teacher and friend throughout my academic career. During his days as the Hancock Professor of Hebrew and Other Oriental Languages, he sat on more than 300 Ph.D. dissertation committees and was primary adviser on more than a hundred of those. Many of these dissertations were published in Harvard Semitic Museum series.

Frank always assumed that his good students knew as much as he did, which, of course, was impossible. He never talked down to his students, only up. As Ernest Wright said, as they took turns teaching the introductory course at Harvard that dealt with the Old Testament/Hebrew Bible: “Frank teaches to the ‘A’ student; I, to the ‘C’ one.” Frank’s expectations of his students were always greater than they had of themselves, and rightly so. But the high expectations of their mentor often drove them to achieve at a higher level than they imagined for themselves.

Indeed, I am in archaeology and not law today because of Frank’s encouragement. He and Ernest Wright were my undergraduate advisers, beginning in my junior year at Harvard. During my senior year, I did my senior thesis (not a very good one) on Iron Age II burial customs in Israel, under the tutelage of Roland de Vaux—Wright was then on sabbatical and serving as director of Hebrew Union College in Jerusalem. In 1965 I took a fellowship to Israel with the American Friends of Hebrew University. Little did I know at the time that the dormitory and university where I studied at Ramat Gan was largely built by the vision and financial savvy of Benjamin Mazar, president there for ten years.

Connections count for a lot in Israel, as in many other parts of the world. An entrée from Cross and Wright opened doors for me early in my archaeological career. B. Mazar, Y. Yadin, N. Avigad, T. Dothan, R. Amiran, and many others welcomed me to Israel and into their courses. But the *kairos* for me came shortly after I settled into Shikun Sprinzak. Down the slopes from the university was an Iron Age cemetery in the suburb of Manahat. A friend and I went exploring to see what new tombs could be

added to those I had studied for the senior thesis. In a robbed-out bench tomb, clearly of the Iron II period, we found a few potsherds, took them back to the lab, and observed a four-letter incised inscription on one of them. I excitedly sent a photograph of it to Frank Moore Cross, the world’s leading epigrapher of Northwest Semitic. This is a small part of his response to me about the discovery, in a letter dated January 13, 1966:

My warmest congratulations on the discovery of the ostracon. . . . Let me say first of all that you have found what we all have been searching for: a southern exemplar of the script contemporary with the 11–10th century inscribed weapons, and the earliest Byblian material. I wish there were more. But on the basis of the four letters, I think the dating is fairly secure.

I had expected him to publish this very important epigraph. Instead, he encouraged me to research the find and publish it. Needless to say, this discovery confirmed that I would be an archaeologist and not a lawyer.

Eventually, in the early 1980s, Philip King, then president of the American Schools of Oriental Research, introduced me to two of his trustees and friends, Leon Levy and Shelby White. He introduced me as a creative archaeologist who liked to explore untried ideas to see what happens regardless of the consequences. I told Leon and Shelby that if I were to fail, I’d rather fall off the top rung of the ladder than the bottom one.

In 1984 there was a convergence between Leon and Shelby’s interests in supporting me and in undertaking the excavation of a large, prominent site and the interests of Benjamin Mazar, who was looking for the right archaeologist, with sufficient funding, to tackle the site of Ashkelon. Mazar’s stature and his influential position as the head of the Council on Archaeology helped launch the Leon Levy Expedition to Ashkelon in 1985, when we received our license from the Israel Antiquities Authority.

Another great benefit of Mazar’s guidance came when he introduced me to the best majordomo I had ever known in my years of digging in Israel, Cyprus, and Tunisia, the inimitable Moshe (“Musa”) Shimon, a longtime resident of Ashkelon known to and respected by everybody in the town. For twenty years he looked after our interests as though we were family. Mazar counseled me from the beginning: “You will need Musa if you want to have a successful expedition.” And he was so right.

Both Cross and Mazar sought to understand the “original intent” and context of the biblical historians (or historiographers, as many would now prefer to call them). Their interests and their specialties often complemented each other. They could not agree, however, on the most significant focus for Israelite and Canaanite religion. For Mazar the paradigm was Baal Shamem; for Cross it was the amalgamation of phenotypes from El and Baal.

When we were digging Canaanite burials in Ashkelon we encountered difficulties with some of the ultra-Orthodox, who came from Jerusalem to harass our excavations. Mazar consoled us by telling me what they had done to him, not because he was disturbing the dead, but largely because of what he stood for as a secular Zionist and influential biblical historian and teacher. One night, they called the authorities to pick up Mazar’s corpse at his apartment in Rehavia. Of course he was very much alive. On another occasion, the octogenarian came home at night to find that his key would not fit into the lock of his apartment: they had filled the lock with lead.

In spite of these and other obstacles, our commitment to the Ashkelon project did not waver, and we relied heavily on the advice and encouragement of Cross and Mazar over the course of the excavations.

The results of our years of work on the remains of the seventh century B.C., in particular, are contained in the present volume. *Ashkelon 3* provides the template for subsequent volumes in the series that will deal in depth with specific cultural periods. Of course, these are “final reports” in only a qualified sense, because our conclusions today will, in the cumulative discipline of archaeology, be only preludes for what will come tomorrow.

With twenty-eight chapters by a wide range of specialists in various aspects of archaeology, *Ashkelon 3* makes a major contribution to our understanding of the Philistines and the world in which they lived. Three of us (Master, Schloen, and Stager) have assumed authorial, rather than just editorial, responsibility in this volume. From the conception to the execution of the seventh-century project, one or more of us has taken a major hand in carrying out each of our objectives. We have carefully reviewed and extensively edited the works of the other contributors. We are in turn greatly indebted to Michael D. Coogan for his editorial acumen, knowledge of archaeology, and literary skill, which have greatly improved the volume. The chapters for which no authors are listed (chs. 2–8 and 27) are the result of the combined efforts of all three of us.



Benjamin Mazar, Frank Moore Cross, and Lawrence Stager at Ashkelon in 1987

In 1987 a probe trench at Ashkelon by Abbas Ali-zadeh gave us a window on what was to come, although none of us realized it at the time. Before reaching seventh-century levels, we had spent several seasons excavating the very extensive Persian period at Ashkelon, which included more than 1,500 dog burials preceded by a well-organized warehouse next to the sea. Below the Persian-period stratum was evidence of a hundred-year gap in occupation, beneath which we finally encountered the 604 B.C. destruction of the Philistine seaport by Nebuchadrezzar's army.

Only in the summer of 1992, when we exposed large areas of seventh-century architecture in Grid 38 and Grid 50, did I realize how completely the Babylonian army had destroyed this once great seaport. It reminded me of the excavations in the commercial port of Carthage (1975–1980), where archaeology brought to light the Roman destruction of 146 B.C. The Roman senator Cato the Elder had declared: “*Carthago delenda est*” (Carthage must be destroyed)—and so it was.

Many people have contributed to the excavation and investigation of the Babylonian destruction of Ashkelon in 604 B.C. Leon Levy and Shelby White were of course indispensable, not just for their financial support but for the advice and encouragement they gave us on their annual visits to Ashkelon. Excavations in the Grid 38 winery were supervised by Egon Lass (1991–1994), Bryan Stone (1994–1996), and Elizabeth Bloch-Smith (1997). Excavations in the Grid 50 marketplace were supervised by Elizabeth Bloch-Smith (1991–1996), Egon Lass (spring 1992), and Susan Cohen (1997). For both excavation areas, Lass played a major role in the formulation of the stratigraphic interpretations that are presented in this volume. Special mention should also be made of the contribution of Jane Waldbaum, who not only participated in the excavation of the material as a field supervisor, but applied her expertise in Greek pottery to the enormous task of sorting, identifying, and interpreting the very important corpus of Greek ceramic imports found in seventh-century contexts at Ashkelon (see chapter 10).

My two coauthors have been working on this volume with me for many years. In 1994 my student David Schloen became associate director of the Leon Levy Expedition to Ashkelon, a position he held until 2004. He, Dr. Charles Adelman, and I developed the initial typology of the seventh-century pottery, of which by then we had accumulated a large amount. Schloen and his students from the University of Chicago worked on this pottery for several seasons, until the summer of 2000, as large quantities continued to

be excavated. In 1997 he received a National Endowment for the Humanities postdoctoral fellowship that enabled him to spend four months studying the pottery at the W. F. Albright Institute of Archaeological Research in Jerusalem. Meanwhile, he began to organize the field notes, plans, and photographs, not just of the pottery but of all the seventh-century material. This material has been digitized within the OCHRE database system developed by Sandra and David Schloen, which is the main vehicle for online publication of data from the Ashkelon excavations and a number of other archaeological and philological projects (see <http://ochre.lib.uchicago.edu>). In the final stages of the preparation of the present volume, David Schloen extensively edited all of the chapters for both content and style and laid out the text and illustrations in their final form.

In 1997 Daniel Master began to work on the material as part of his Harvard doctoral dissertation project under my supervision, in which he applied the techniques of ceramic petrography. In 2001 he completed a dissertation entitled “The Seaport of Ashkelon in the Seventh Century B.C.E.: A Petrographic Study.” In subsequent years he has refined our pottery typology, finished digitizing the plans and photographs, researched comparanda, constructed the illustrations and plates, and continued the project of sorting the pottery with the assistance of his students from Wheaton College. Since 2007 he has directed the renewed field excavations at Ashkelon and has been codirector with me of the Leon Levy Expedition. In 2008–2009 he was awarded a fellowship from the National Endowment for the Humanities that enabled him to spend a year at the Albright Institute in Jerusalem working on this volume and composing initial drafts of the jointly authored chapters. This research opportunity was also sponsored by a sabbatical grant from Wheaton College and the Leon Levy Foundation.

As we bring to a close this major publication project, I want to express my deep gratitude to all of those, professionals and volunteers alike, most of whom could not be named here, who have contributed to this project, both during the “604” excavation seasons and during the long and equally grueling process of studying and writing up the finds. I am grateful above all to my earliest and oldest archaeological mentors; thus I am delighted to present this volume in honor of Frank Moore Cross and in memory of Benjamin Mazar.

Lawrence E. Stager  
Concord, Massachusetts

December 2010



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All other photographs are credited individually where they appear.



## ABBREVIATIONS

<i>AA</i>	<i>American Anthropologist</i>
AASOR	Annual of the American Schools of Oriental Research
<i>AcOr</i>	<i>Acta Orientalia</i>
<i>ADAJ</i>	<i>Annual of the Department of Antiquities of Jordan</i>
<i>AJA</i>	<i>American Journal of Archaeology</i>
<i>ANET</i> <sup>3</sup>	<i>Ancient Near Eastern Texts Relating to the Old Testament</i> , 3d ed. [= Pritchard 1969]
<i>Ashkelon I</i>	<i>Ashkelon</i> , vol. 1, <i>Introduction and Overview (1985–2006)</i> [= Stager, Schloen, and Master 2008]
<i>ÄUAT</i>	<i>Ägypten und Altes Testament: Studien zur Geschichte, Kultur und Religion Ägyptens und des Alten Testaments</i>
<i>BA</i>	<i>Biblical Archaeologist</i>
BAH	Bibliothèque archéologique et historique
<i>BAR</i>	<i>Biblical Archaeology Review</i>
BARIS	British Archaeological Reports, International Series
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research</i>
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i>
BCHSup	Bulletin de correspondance hellénique, Supplément
<i>BIE</i>	<i>Bulletin de l'Institut d'Égypte</i>
<i>BSA</i>	<i>Annual of the British School at Athens</i>
BSASup	British School at Athens Supplementary volume
<i>CdE</i>	<i>Chronique d'Égypte: Bulletin périodique de la Fondation Égyptologique Reine Élisabeth, Bruxelles</i>
<i>EA</i>	<i>Egyptian Archaeology: Bulletin of the Egypt Exploration Society</i>
<i>EI</i>	<i>Eretz-Israel</i>
EPRO	Études préliminaires aux religions orientales dans l'empire romain
<i>ESI</i>	<i>Excavations and Surveys in Israel</i>
Heb.	Hebrew
HSS	Harvard Semitic Studies
IAA	Israel Antiquities Authority
<i>IEJ</i>	<i>Israel Exploration Journal</i>
<i>JEA</i>	<i>Journal of Egyptian Archaeology</i>
<i>JHS</i>	<i>Journal of Hellenic Studies</i>
<i>JNES</i>	<i>Journal of Near Eastern Studies</i>
<i>JPOS</i>	<i>Journal of the Palestine Oriental Society</i>
<i>KMT</i>	<i>KMT: A Modern Journal of Ancient Egypt</i>
LB	Late Bronze Age
MB	Middle Bronze Age
<i>NEA</i>	<i>Near Eastern Archaeology</i>
OBO	Orbis biblicus et orientalis
OIC	Oriental Institute Communications
OIP	Oriental Institute Publications
<i>OJA</i>	<i>Oxford Journal of Archaeology</i>
OLA	Orientalia Lovaniensia Analecta
<i>PEFQS</i>	<i>Palestine Exploration Fund Quarterly Statement</i>
<i>PEQ</i>	<i>Palestine Exploration Quarterly</i> [continues <i>PEFQS</i> ]
<i>QDAP</i>	<i>The Quarterly of the Department of Antiquities in Palestine</i>
<i>RB</i>	<i>Revue Biblique</i>
<i>RIA</i>	<i>Reallexikon der Assyriologie und vorderasiatischen Archäologie</i>
<i>RT</i>	<i>Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes</i>
SAOC	Studies in Ancient Oriental Civilization
SIMA	Studies in Mediterranean Archaeology
<i>TA</i>	<i>Tel Aviv</i>
<i>VT</i>	<i>Vetus Testamentum</i>
VTSup	Supplements to <i>Vetus Testamentum</i>
<i>ZÄS</i>	<i>Zeitschrift für ägyptische Sprache und Altertumskunde</i>
<i>ZAW</i>	<i>Zeitschrift für die alttestamentliche Wissenschaft</i>
<i>ZDPV</i>	<i>Zeitschrift des Deutschen Palästina-Vereins</i>



PART ONE

HISTORICAL SETTING,  
ARCHITECTURE, AND STRATIGRAPHY



# 1. ASHKELON ON THE EVE OF DESTRUCTION IN 604 B.C.

by Lawrence E. Stager

**A**FTER Nebuchadrezzar had been crowned king of Babylonia, he set off with the world's most powerful army to consolidate the gains he had made in Syria in 605 B.C.<sup>1</sup> He campaigned in "Ḫatti-land" (Syria-Palestine) throughout most of the year 604, beginning in the month of Sivan (May/June), continuing through Kislev (November/December), and concluding in Shebat (January/February), when he returned to Babylon. By the winter of that year, Nebuchadrezzar was striking at the heart of Philistia, at the primary seaport of the Philistines—Ashkelon.

In the *Babylonian Chronicle*, Nebuchadrezzar briefly describes the annihilation of Ashkelon:

He (Nebuchadrezzar) marched to the city of Ashkelon and captured it in the month of Kislev. He captured its king and plundered it and carried off [spoil from it . . .] He turned the city into a mound [Akkadian *ana tili*, lit. 'a tell'] and heaps of ruins and then in the month of Sebat he marched back to Babylon. [BM 21946, 18–20]<sup>2</sup>

Normally, nobody would think of conducting military operations, especially those so dependent on the horse and chariot, as the winter rains fall, sometimes

in torrents. If Nebuchadrezzar had planned his siege of Ashkelon well in advance, why did he wait until the rainy season to do it, or was it a last-minute, capricious decision to attack this great Philistine city? I posed this conundrum to Israel Eph'al, eminent historian of the ancient Near East and an expert on military matters. He recently reexamined the *Babylonian Chronicle* with this problem in mind and came up with a convincing explanation.

Beginning his expedition to Ḫatti-land in May, Nebuchadrezzar took some time to move his army from Babylon into the West. But, as Eph'al emphasized, that does not mean that he did not reach Ashkelon until the month of Kislev, as I had previously assumed. During Kislev the siege ended in the complete destruction of Ashkelon. To quote Eph'al, "Nebuchadrezzar could have reached Ashkelon and begun the siege as early as late Ab or early Elul [i.e., late July or early August], it lasting at least three months. Hence, unlike the siege of Jerusalem in 586 B.C., which did start in winter (Tevet 10th), so there is nothing extraordinary in the date for the beginning of the siege of Ashkelon. By comparison, Nebuchadrezzar's siege of Jerusalem lasted seven months and Alexander's siege of Gaza in 332 B.C. two months" (e-mail from Israel Eph'al sent in July 2010). By understanding the siege of Ashkelon as an event lasting two or three months and planned in advance, some of the shortages at Ashkelon, documented in the excavated flora, fauna, and fish (see chapters 23–25 in the present volume), do seem to indicate a great seaport under stress well before the coup de grâce.

In the previous year, while still crown prince and field commander, Nebuchadrezzar routed the Egyptian pharaoh Necho II and his army at the Battle of Carchemish, a victory which, for the prophet Jeremiah, foreshadowed the fate of Judah and the West (Jer. 25:8–14; 46:1–12; see Wiseman 1991). Mercenaries from Ethiopia, Cyrene (Put), and Lydia (Lud) fought on the side of the Egyptians (according to Jer. 46:9). Foreign mercenaries also served in the heterogeneous army of Nebuchadrezzar.

The most famous mercenary in that army was a Greek hoplite by the name of Antimenidas, who slew a Philistine giant in the battle of Ashkelon. His brother Alcaeus, a poet from the isle of Lesbos, celebrated the heroics of Antimenidas at Ashkelon with these lyrics:

<sup>1</sup> The present chapter is adapted from "Ashkelon and the Archaeology of Destruction: Kislev 604 B.C.E.," by Lawrence E. Stager, published in *EI* 25 (1996) 61\*–74\*.

<sup>2</sup> In the *editio princeps* of the *Babylonian Chronicle*, D. J. Wiseman (1956:68, 85) restored "Ashkelon" (*iš?-qi?*-[erasure]-*il-lu-nu*) as the name of the captured city in BM 21946, obverse line 18. Later W. F. Albright, accompanied by Wiseman and A. Sachs, reexamined the tablet in the British Museum and concluded that Wiseman's reading was correct. More recently, A. K. Grayson (1980) declared the reading of the name Ashkelon to be "very uncertain." He apparently convinced Wiseman that his earlier reading was "uncertain" (see Wiseman 1991:23 n. 15). In 1992 my colleague Peter Machinist asked Irving Finkel, curator of cuneiform tablets in the Department of Western Asiatic Antiquities in the British Museum, to check the tablet once again for the name of the captured city. In a letter dated November 11, 1992, Finkel responded with this reading of the text in question: *ana URU iš-qi*-[erasure]-*il-lu-nu*, noting that the first syllable *iš* is "quite clear"; the second is probably *qi* (the doubled *Winkelhaken* made with a trembling stylus); the third is "almost certainly an erasure in which the scribe possibly wrote and then erased *aleph*"; and the last three syllables *-il-lu-nu* have never been in doubt. This fresh assessment reconfirms the reading "Ashkelon" as the city which Nebuchadrezzar captured and destroyed in Kislev 604 B.C.

From the ends of the earth you are come, with your sword hilt of ivory bound with gold . . . fighting beside the Babylonians you accomplished a great labour, and delivered them from distress, for you slew a warrior who wanted only one palm's breadth of five royal cubits. [Lobel and Page 1955:fragment 350; see also Braun 1982; Quinn 1961]<sup>3</sup>

J. D. Quinn (1961) was the first to link Alcaeus Fragment 350 and Fragment 48, which mentions "sacred Babylon" and "Ascalon," thereby establishing the probable setting of Antimenidas, the giant-killer. Braun nicely summarizes the combination: "So it was to join in the destruction of Ascalon that Antimenidas crossed the sea and here that he won glory by killing and capturing the enemies of Babylon" (Braun 1982:22; see also Campbell 1982:xv.)<sup>4</sup>

Most Greek scholars think that Alcaeus wrote the poem to welcome his brother home. Alexander Fantalkin, in his paper entitled "Why Did Nebuchadnezzar II Destroy Ashkelon in Kislev 604 B.C.E.?", has a very different idea.<sup>5</sup> He claims that this lyric poem is a "mockery of Antimenidas' achievements—pure sarcasm for which Alcaeus was so notoriously famous." Fantalkin asks: "Is it possible that Antimenidas, like the rest of the Greek mercenaries in the East during the Archaic period, served in the Egyptian army, but fell into Babylonian captivity during the course of one of the battles?" I suppose it might be possible, but it is hardly probable. It seems to me that Fantalkin is torturing the texts in order to wrench from them support for his more general notion that behind nearly every East Greek pot found in the southern Levant is a Greek mercenary, and that all Greek mercenaries of this era were in the hire of the Egyptians.

<sup>3</sup> Strabo, the Greek geographer, some six centuries later, paraphrases this fragment in his geography (13.2.3): "Mytilene produced famous men: in olden times Pittacus . . . and the poet Alcaeus and his brother Antimenidas, who according to Alcaeus performed a great feat while fighting as ally of the Babylonians and rescued them from trouble by killing a warrior who, he says, was only one palm's breadth short of five royal cubits" (Campbell 1982:387).

<sup>4</sup> Of this fragment, only a couple of words are preserved at the end of each line: ". . . the sea . . . takes alive . . . of sacred Babylon . . . Ascalon . . . stirred up cruel war . . . utterly [destroyed] . . . to the abode of Death . . . decorations for us . . ." (Braun 1982:22; see also the translations of Campbell [1982:261–63] and of Quinn [1961:20], with commentary).

<sup>5</sup> I thank Alexander Fantalkin for producing a very stimulating paper about Ashkelon and, without solicitation, for sending me a prepublication copy of it. It is scheduled to appear in *The Fire Signals of Lachish: Studies in the Archaeology and History of Israel in the Late Bronze Age, Iron Age, and Persian Period in Honor of David Ussishkin*, ed. I. Finkelstein and N. Na'aman (Winona Lake, Ind.: Eisenbrauns, 2011).

Another witness to the events of 604 B.C. was the prophet Jeremiah, who proclaimed that Nebuchadnezzar would overwhelm Philistia:

At the noise of the stamping of the hoofs of his stallions,  
at the clatter of his chariots, at the rumbling of their wheels,  
Parents do not turn back for children,  
so feeble are their hands,  
because of the day that is coming to destroy  
all the Philistines,  
to cut off from Tyre and Sidon  
every helper that remains.  
For the Lord is destroying the Philistines,  
the remnant of the coastland of Caphtor [Crete].  
Baldness has come upon Gaza,  
Ashkelon is silenced.  
O remnant of their power! [Jer. 47:3–5]

The devastation of Ashkelon in the winter of 604 B.C. provided the portent of disaster that would befall Judah and Jerusalem in the years to come, if the kings of Judah pursued a pro-Egyptian policy. The events in Ashkelon give new meaning and poignancy to many of Jeremiah's prophecies. The siege and destruction of Ashkelon sent shock waves all the way to Jerusalem, right into the king's court. After all, it would have taken only a couple of days' march for the greatest army on earth to have reached Jerusalem.

In the ninth month of the fifth year of King Jehoiakim, son of Josiah of Judah, all the people in Jerusalem and all the people coming from Judah proclaimed a fast before Yahweh in Jerusalem. It was then that Baruch . . . read the words of Jeremiah from the scroll to all the people in the House of Yahweh. [Jer. 36:9–10]

The ninth month of Jehoiakim's fifth year was Kislev 604 B.C., precisely the time the Babylonian army was besieging Ashkelon (Malamat 1956:252). Probably the fast was called to gain divine favor in warding off the threat from the Babylonians.

After the public reading of the scroll, Jehoiakim's officials received a private reading of it from Baruch and reported what they heard to the king. He sent his scribe Yehudi to fetch the scroll and read it to him. After hearing what Jeremiah prophesied, Jehoiakim was defiant, supposedly declaring: "How dare you write in it that the king of Babylon will come and destroy this land and cause humans and animals to cease from it!" (Jer. 36:29). With that, he had Yehudi burn the scroll. "As Yehudi read three or four columns, he would cut them off with a scribe's knife and throw them into the fire on the hearth, until the entire scroll was consumed" (Jer. 36:23).

Yahweh then directed Jeremiah to dictate to his scribe Baruch another scroll just like the one the king had burned. Many scholars think that the second scroll probably contained the core of what is now preserved in chapters 1–24 of the Book of Jeremiah.

Thus, three very different sources provide witness to the events of 604: a Babylonian king, a Greek mercenary in the Babylonian army, and a Hebrew prophet. Each of these sources can be challenged, even impugned—the *Babylonian Chronicle* as self-serving royal propaganda; Jeremiah’s oracles as vague and tendentious rhetoric aimed primarily at Judah, not at Philistia; and Alcaeus’s encomium for his brother, the giant-killer, as poetic license.

However, most of the documents left us by the last Philistines to occupy Ashkelon are not in writing. The “documents” we must use to understand what happened at Ashkelon in the winter of 604 B.C. must be “read” and decoded using archaeological, not linguistic, methods. The Leon Levy Expedition to Ashkelon has given us an opportunity to test the accuracy of the three written accounts by exploring the seventh-century B.C. remains in two places within the city. It has also provided us with a detailed still-life of a Philistine metropolis in the late seventh century B.C., on the eve of Nebuchadnezzar’s vaunted destruction of the city.

### Fortifications

Before Nebuchadnezzar’s juggernaut advanced toward Ashkelon, the Philistines probably felt quite secure in their well-fortified city of 10,000–12,000 inhabitants. During the Iron Age II they had refortified the seaport by adding another thick sheath of sand and debris over the 2.2-km arc of artificial earthen ramparts, built originally by the Canaanites ca. 1800 B.C.<sup>6</sup> Our expedition has excavated two large mudbrick towers (10.5 × 8 m) of the Philistine period, located on the crest of the rampart, some 20 m apart, in the Grid 2 excavation area (figure 1.1). If this pattern persists along the crest of the arc, perhaps as many as fifty or more towers fortified the city in the Iron Age, just as fifty-three towers protected the Islamic/Crusader city in the medieval period. This massive fortification system was built in the Iron Age IIB and was in use until the end of the Iron Age. No successor was rebuilt along the North Slope until the Hellenistic era.

<sup>6</sup> The Bronze and Iron Age fortifications of Ashkelon, visible on the North Slope in the Grid 2 excavation area, are described in *Ashkelon 1*, pp. 215–36.

Normally, when an ancient city was besieged, the gates and fortifications were the first features to come under attack. If the assault was successful, the defenders usually surrendered and the rest of the city was spared. For Nebuchadnezzar’s version of events to be accurate, his armies must have advanced deep into the interior of Ashkelon and reduced the seaport to a heap of ruins. Our excavations have confirmed that this is indeed what happened. In particular, we found evidence of a massive destruction in the center of the city, in the Grid 38 excavation area, and on its western edge, in the Grid 50 excavation area overlooking the Mediterranean Sea (figure 1.1).

### The Winery

In the heart of the city stood Building 776, a sturdy, even stately, building that was utterly destroyed in 604 B.C. (figure 1.1). It had plastered mudbrick walls supported on foundations of sandstone ashlar blocks laid in header-stretcher style. The location of the building in the center of Ashkelon, its monumental size (ca. 400 square meters of the building was excavated), and its architectural style, utilizing ashlar and timber, indicated that this was not a residential but a public quarter, probably belonging to King Aga, the last of the Philistine kings of Ashkelon.<sup>7</sup>

Four winepresses and various storage chambers suggest that Building 776 was a winery. The platforms, vats, and basins were lined with cobbles and coated with smooth, shell-tempered plaster of unusually high quality. The best-preserved winepress had a shallow plastered platform where grapes were trodden. A channel for liquids led into an intermediate-sized plastered vat. Another channel drained the juice into a deeper plastered vat, with a small sump or catchment in the corner. The grape juice was then decanted into wine jars and left to ferment in adjacent storerooms. Dipper juglets and fat-bellied storage jars were the predominant pottery types found in the winery.<sup>8</sup>

We also found in this building dozens of unbaked clay balls, some as large as grapefruits, with a single perforation through the center.<sup>9</sup> They were probably loom weights. Since wine-making is a seasonal activity that takes place during and after the grape harvest

<sup>7</sup> See chapter 2 in the present volume for a detailed description of the winery in Building 776 of Grid 38, Phase 14. A summary was previously published in *Ashkelon 1*, pp. 279–82; the present volume updates and supersedes the description of the winery found in that earlier volume.

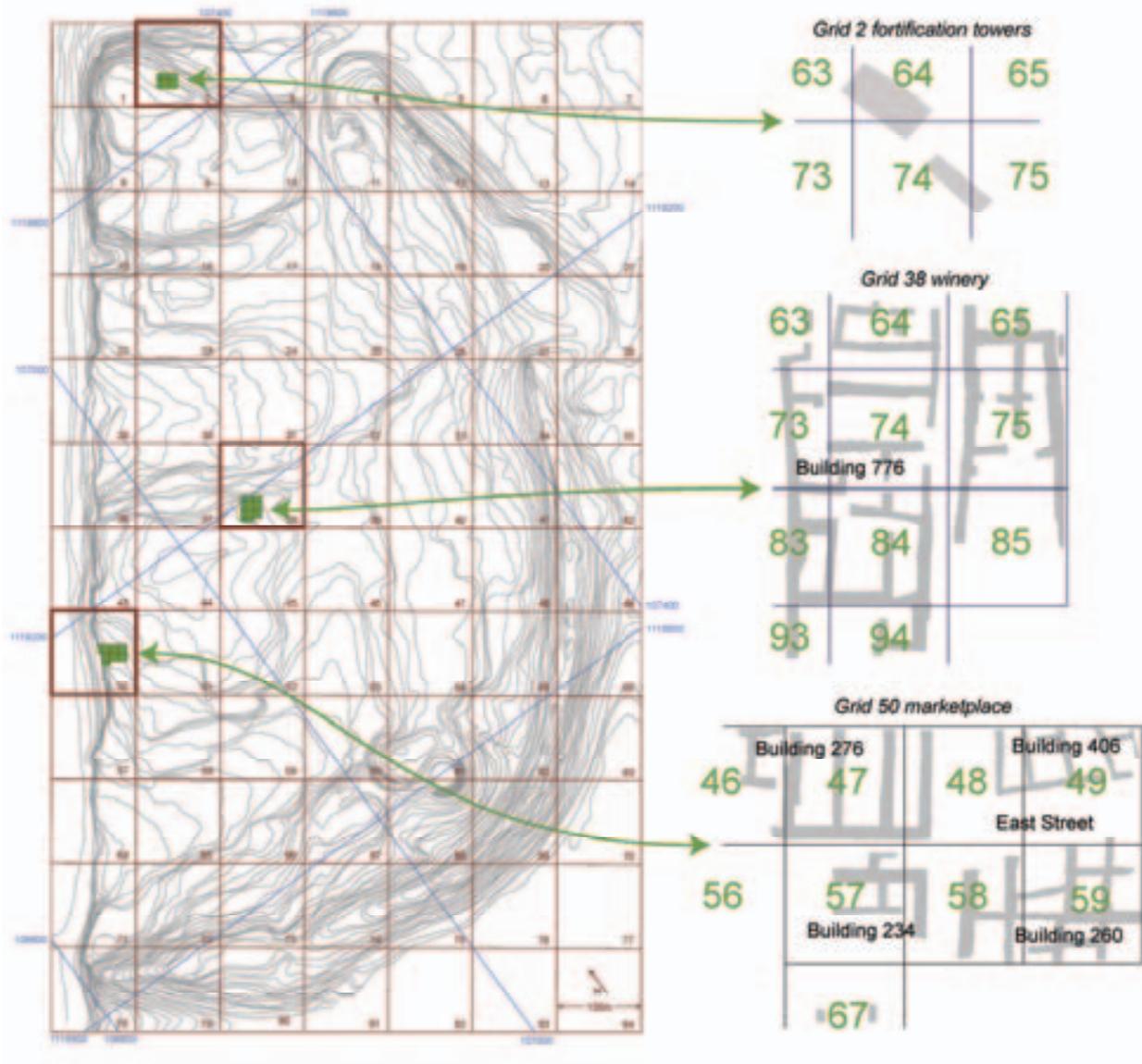
<sup>8</sup> These pottery types are described and illustrated in chapter 5 of the present volume.

<sup>9</sup> These are described and illustrated in chapter 18.

in August/September, the winery building may well have been used for weaving during the rest of the year.

Some of the larger loom weights might have been used secondarily as jar stoppers (see the discussion of this by Daniel Master in chapter 18). They fit nicely into the mouth of the typical fat-bellied storage jar, the most common Philistine wine jar found in Ashkelon. Their perforations would have made them use-

ful in wine production because wine, as it ferments, emits gas. To prevent explosions, the gases are released, sometimes through a bunghole in the side of the wine jar or cask. The same effect, without damaging the vessel, could be obtained if perforated stoppers, such as these clay spheres, were sealed in the mouth of the jar, and the hole opened and closed to release the gases (Gal 1989).



*Figure 1.1:* Map of Ashkelon showing the excavation areas (shaded green) that are discussed below

The plans inset on the right show the structures excavated in Grid 2 (the Iron II fortification towers), Grid 38 (the winery), and Grid 50 (the marketplace). The inset plans show the 10 × 10-meter squares within the relevant 100 × 100-meter hectare grid.

The royal winery at Ashkelon shatters another modern myth about the Philistines: that they were uncouth, beer-guzzling louts. W. F. Albright (1956: 115) even labeled one of their most characteristic pottery vessels, a jug with strainer spout, the Philistine “beer jug.” In fact, the ecology of Philistia favors the production of grapes over barley. The sandy soils and warm, sunny climate of the coastal plain produced many palatable wines, from the light varieties from Ashkelon to the heavier ones from Gaza (see Mayerson 1992; 1993 [reprinted in *Ashkelon 1*, pp. 471–77]). Wine production reached its peak during the Byzantine era, when the wines of Ashkelon and Gaza were exported throughout the world (Johnson and Stager 1995 [reprinted in *Ashkelon 1*, pp. 479–87]). The royal winery at Ashkelon and similar Iron II winepresses recently excavated near Ashdod suggest that coastal Philistia was already an important producer of wine both for local consumption and for export.

Whereas coastal Philistia was ideal for viticulture, the inner coastal zone, with its expansive rolling fields of deep fertile soils, was better suited to cereal and olive cultivation. Its olive oil producers supplied not only Philistia but also other regions of the Levant and the eastern Mediterranean. Throughout antiquity, the biggest consumer of Levantine olive oil was Egypt, where the olive tree does not grow. During the latter half of the seventh century B.C. Ekron was the undisputed oil capital of the country, if not the world (Gitin 1989b; 1995; 1997). Just inside the fortifications of Ekron more than a hundred olive oil factories lined the outer industrial belt. At the end of this chapter, I will suggest that it was Egypt, not Assyria, which fueled the oil economy of Ekron in the seventh century B.C.

### *The Marketplace*

Tell it not in Gath, proclaim it not in the streets of Ashkelon, or the daughters of the Philistines will rejoice, the daughters of the uncircumcised will exult. [2 Sam. 1:20; NRSV]

David’s elegy over Saul and Jonathan, who perished in battle with the Philistines, contains the most memorable and oft-quoted reference to Ashkelon. The poet who composed this early Hebrew verse knew about Ashkelon as a great commercial center and entrepôt, where news and information traveled fast. In this case, he anticipated that when the demise of King Saul and Prince Jonathan was announced in the *hûšôt* (usually mistranslated “streets”) of Ashkelon, the news would be greeted with joy, dancing, and celebration by Israel’s arch-enemy at the time.

As Benjamin Mazar (1986a; 1986b) noted, the word *hûšôt* does not mean “streets” but rather “bazaars” or “marketplaces.” It was in the bazaars of Ashkelon that the king’s demise would be announced, the marketplace being the most bustling part of any Middle Eastern city, then and now.

The marketplace that the Leon Levy Expedition partially uncovered in the Grid 50 excavation area (figure 1.1), overlooking the sea, was probably not much different in layout and function from the earlier marketplaces to which the Hebrew elegist alludes. Building 406 has been interpreted as a row of shops that flanked the street in the northeast corner of the excavation area.<sup>10</sup> Across the street from the shops was Building 260, which has been identified as an “administrative center.” As one walked westward toward the sea, the street opened up into a small plaza. On the west side of the plaza was Building 276, in which was a series of long narrow rooms—probably magazines of a warehouse where produce and goods were stored before being put on sale. Turning left at the plaza, a narrow corridor led to Building 234 on the right, tentatively identified as a “counting house.”

Room 375 in Building 406 was littered with fat-bellied wine jars, the most common storage jar found in Philistia. Just outside the entrance to this shop was a row of these jars, with a jug, juglet, and wine decanter nearby. This was very likely a wine shop.

On East Street, in front of the wine shop, lay an ostrakon written in late Phoenician script according to staff epigraphist F. M. Cross. The inscription lists so many units (bottles) of “red wine” (*yn ʾdm*), and so many units of *šēkār* (see *Ashkelon 1*, pp. 341–42, no. 1.5), usually translated “strong drink” (the verb form means “to become drunk”).

The brew itself is often taken to be beer; however, beer was not the beverage of choice in the Levant—wine was always more common and the preferred drink, contrary to the view expressed by Michael Homan (2004b; 2010). Homan offers a number of arguments as to why beer was the beverage of choice in the Levant. The only argument worth considering seriously is his contention that Hebrew *šēkār* means “beer” because Akkadian *šikaru* means “beer.” But Dennis Pardee (2009) doubts the derivative status of *šēkār*, as do I, and says the two words are nothing more than cognates. A similar cognate *šakrā* in

<sup>10</sup> See chapter 3 in the present volume for a detailed description of the marketplace in Grid 50, Phase 7. A summary was previously published in *Ashkelon 1*, pp. 309–12; the present volume updates and supersedes the description of the marketplace found in that earlier volume.

Syriac refers to date-palm wine (Brown, Driver, and Briggs 1906:1016). According to Leo Oppenheim (1964:315), date wine was added to the list of alcoholic beverages in Mesopotamia no earlier than the Neo-Babylonian period.

There is no compelling reason to think that *šēkār* is beer. In fact, there are many reasons for thinking it is not. The noun *šēkār* occurs twenty-three times in the Hebrew Bible, usually in parallel with “wine” (*yayin*). The most significant context for thinking *šēkār* is a drink derived from the grape is the Nazirite vow of Numbers 6, in which *šēkār*, along with numerous other grape products, is forbidden. It is no wonder, then, that *šēkār* appears in the same list as red wine on the ostrakon from the Ashkelon wine shop.

I would suggest that *šēkār* is a grape-based brandy, a secondary product, with an alcoholic content from 30 to 60 percent, distilled from grape residue (pomace) consisting of grape seeds, skins, and stems; that is, the pulp left over after wine making.<sup>11</sup> One of the leading arguments against such a suggestion is the claim that distillation of alcohol was so complex and required such elaborate apparatus that the process was not discovered until the medieval period. But this is a specious claim because *zivanja* or *tsikoudia* is made with very simple equipment in many households today on Cyprus and Crete. From Crete comes archaeological evidence for grape-brandy distillation dating as early as Middle Minoan II, ca. 1900–1700 B.C. (Kanta 1999).

Room 431 in Building 406 contained cuts of meat, including two complete forelegs of beef, which prompted staff zooarchaeologists to label this a “butcher shop” (Hesse and Wapnish 1996:62).<sup>12</sup> One can imagine that various cuts of meat hung in the windows and doorway of this shop in Philistine times, much as they do today in the meat markets of the Old City of Jerusalem. Locational studies of the faunal remains indicate that most of the carcasses of goat, mutton, and beef were dressed outdoors in the streets and plazas of late seventh-century B.C. Ashkelon.

One of the most interesting correlations of artifacts and architecture occurred in and around Building 234, which we have identified as a “counting house.” Two piles of charred wheat, probably once held in cloth sacks, lay in the destruction debris. The heap inside the “counting house” came from the Sharon

Plain and was imported by sea. The other heap, in the middle of the South Street between Building 234 and Building 260, came overland from Judah. In the South Street, adjacent to the “counting house,” were also found a dozen weights of bronze and stone (described below in chapter 17) along with two bronze pieces of balance pans and part of a bronze beam from a balance scale. Some of the bronze weights were cuboid, a rare type found at Ashkelon only in seventh-century contexts.

In the same debris another ostrakon was discovered. It was written in an alphabetic script similar to, but not identical with, Hebrew and Phoenician. It is a local script peculiar to Philistia in the seventh century, known also from Tell Jemmeh and Tell esh-Sharīḥ, which we have dubbed “Neo-Philistine” (Cross 1996; Naveh 1985). The ostrakon seems to be a receipt for grain which was paid for in silver (see *Ashkelon 1*, pp. 336–39, no. 1.2).

At Ashkelon it seems that commerce and religion marched hand in hand. The ostrakon receipt, together with the smashed jars, charred wheat, weights, and balance scale were sealed by collapsed roofing material consisting of reed-impressed and mat-impressed clay. Sitting on top of the roof debris was a small sandstone incense altar (without horns) that was used to offer incense, such as myrrh and frankincense, to Philistine deities.<sup>13</sup> In his catalogue of Judah’s sins, Jeremiah lists rooftop rituals such as offering incense along with wine and oil libations to pagan deities.<sup>14</sup> He declares that the “Chaldeans (Babylonians) who are fighting against this city (Jerusalem) shall come, set it on fire, and burn it, with the houses on whose roofs offerings have been made to Baal and libations have been poured out to other gods, to provoke me [Yahweh] to anger” (Jer. 32:29; also Jer. 19:13).

#### *International Trade*

Nowhere is the connection between coastal Philistia and Phoenicia more pronounced than in the abundance of red-slipped ware, both locally made and imported, which is found along the Mediterranean coast at Ashdod and Ashkelon. Red-slipped pottery decreases significantly at contemporary sites of the inner coastal plain, such as Ekron (Tel Miqne) and Timnah (Tel Batash).

<sup>11</sup> In Italian, this grape-based brandy is called *grappa*; in French, *marc*; in Greek, *zivanja* in Cyprus and *tsikoudia* in Crete; and in biblical Hebrew, *šēkār*.

<sup>12</sup> These and other animal remains are described below in chapter 24.

<sup>13</sup> This incense altar is described below in chapter 22 (altar no. 1). For horned altars connected with the olive oil industry at Ekron, see Gitin 1989a.

<sup>14</sup> In this regard, see also Zeph. 1:5, which mentions rooftop rituals performed for the “multitude of the heavens” (*lišbāḥ haššāmāyim*), but gives no specific notice of offerings.



Figure 1.2: Excavation director Lawrence E. Stager examining the destruction debris in the marketplace

Cargoes from Phoenician ports such as Tyre arrived in Ashkelon loaded with svelte amphoras and with elegant bowls and cups of highly polished Phoenician fine ware, much of it red-slipped.<sup>15</sup> In the seventh century B.C. the Philistines of Ashkelon were producing large amounts of red-slipped pottery themselves. One red-slipped carinated bowl combines the form of Assyrian bowls with the decoration of Phoenician fine ware (sometimes called “Samaria ware”). The most common Philistine red-slipped wares were bowls and cups: for example, hemispherical bowls with upright rims painted with wide red burnished bands on the exterior; carinated bowls with everted rims; and delicate bowls with S-shaped profiles. Many of these red-slipped wares served as eating bowls and drinking cups (see chapter 5 below).

Phoenician (and perhaps Philistine) ships also brought amphoras and various fine wares from Ionia, the Greek islands, Corinth, and Cyprus. A number of

<sup>15</sup> The Phoenician pottery found in seventh-century B.C. contexts in Ashkelon is treated in detail in chapter 6 of the present volume.

East Greek one-handed cooking jugs, with highly micaceous fabric and S-shaped profiles, were also imported to Ashkelon before the destruction of 604 B.C.<sup>16</sup>

A special trading relationship between Philistia and Phoenicia, known as *ḥubūr*, has been inferred from the Egyptian “Tale of Wenamon,” which is dated ca. 1050 B.C. (Mazar 1986a:65–68). Apparently such trading agreements persisted until the demise of Philistia, and it is to those agreements that Jeremiah alludes in his “Oracle against Philistia” (Jer. 47:4).

#### *Philistia in the Vise-grip of Bipolar Politics*

Unlike the Assyrians, the Neo-Babylonians under Nebuchadnezzar II had few economic reasons for maintaining the Philistine maritime networks. Nebuchadnezzar’s primary concern was with Egypt, which was on the rise. He dealt Necho II a serious military blow when he decisively routed the Egyptians at the Battle of Carchemish in 605 B.C. The next year he followed up that victory by reducing Ashkelon to rubble. That same year, Ekron suffered a similar fate. The seeds of the destruction of both cities were sown during the last decades of their existence, when Philistia was under the sway, if not the direct rule, of Egypt (Na’aman 1991). However, in 601/600 B.C. Nebuchadnezzar overextended his army in an unsuccessful invasion of Egypt. He was defeated by Necho, who then conquered Gaza, as the superscription later added to Jeremiah’s “Oracle against Philistia” indicates (Katzenstein 1983).

The close connections between Ashkelon and Egypt are documented in the 604 B.C. destruction. Some of the Egyptian artifacts found in the debris could be explained as trade items, such as the Egyptian barrel jars and tripod stands made of Nile clay, or the jewelry box made of abalone shell, where a necklace of Egyptian amulets found nearby had once been kept.<sup>17</sup> Other items cannot be so easily explained.

In the winery, a bronze statuette of Osiris lay in the ashes near a cache of seven bronze situlae, each with a procession of Egyptian deities in relief around the bottle (see the detailed discussion of these items by Lanny Bell in chapter 13 below). In the midst of the cache was a miniature bronze votive offering tray.

Emily Teeter (1994) had surmised that Egyptian votive offering trays and situlae were connected. In Egypt, none of the bronze votive trays predates the

<sup>16</sup> Imported Cypriot and Greek pottery found in seventh-century B.C. contexts in Ashkelon is presented in chapters 7 and 10, respectively.

<sup>17</sup> Egyptian pottery is treated below in chapter 9 and Egyptian amulets in chapter 12.

fourth century B.C. Situlae were usually found in temple or mortuary settings. They apparently held liquid offerings, such as milk or water, to revivify the deceased (Lichtheim 1946).

To the list of Egyptian cultic items found in seventh-century Ashkelon, we can now add most of a bronze hoard uncovered long ago in a small salvage excavation and published by J. H. Iliffe (1936). He misdated the cache of forty bronzes to the fourth century B.C. Twenty-six bronze statuettes of Egyptian deities, including a twin of the Osiris figurine mentioned above, and eleven bronze weights, seven of which were cuboid weights identical to those found in the 604 destruction debris, leave no doubt that the bronze hoard dates to the late seventh century B.C., the Saite period in Egypt.

The many bronze statuettes of Egyptian deities (not mediated through Phoenician cultural channels) plus the rare combination of bronze situlae and the votive offering table indicate direct contact with, or an actual presence of, Egyptians at Ashkelon. Very probably there was an Egyptian enclave with its own sanctuary there.

Egypt and Ekron were also inextricably intertwined during the last decades of the seventh century B.C. If the name Ekron is to be read in the Saqqara Letter, as Bezalel Porten (1981) maintains, then its last Philistine king Adon was a client of Pharaoh Necho II. Their relationship was supported by treaty obligations that allowed the Philistine client-king to appeal to Necho, his patron, for military help in repelling the fast-approaching Babylonian army.

The excavations at Tel Miqne–Ekron, directed by Trude Dothan and Seymour Gitin, provide us with a trove of Philistine artifacts and the most detailed plans of a Philistine city, in both the Iron I and the Iron II periods (Dothan 1995; Gitin 1995; 1997). The utter devastation of Ekron at the hands of Nebuchadnezzar in 604 B.C. has left many material remains, including thousands of whole or restorable pots, animal bones, and a rich array of small finds, including several Egyptian objects. The bulk of these artifacts date to the last half, if not the final quarter, of the seventh century B.C. So also do most of the hundred or more olive oil presses which mark the perimeter of that impressive Philistine city.

The prodigious efforts of Seymour Gitin to link the prosperity of Ekron to the Assyrian Empire have produced an anachronistic conclusion. The economic “take-off” did not occur during the late eighth or early seventh centuries B.C. but later, in the second half of the seventh century. What propelled the olive oil industry at Ekron into the international sphere was not a dying Assyria but a rising Egypt, ever the great-

est consumer of the Levantine olive oil. The expansion of Ekron and the development of its oil industry occurred after Assyrian interest and power in the West had begun to wane in the late 640s (Machinist 1992). Prior to that time, Assyria had made a serious investment in the West by transforming former kingdoms and city-states into administrative provinces, by developing a complex imperial infrastructure there, and by building new military and economic centers to organize and direct the flow of trade in the region (Tadmor 1966; Oded 1974). The imperial imprint of Assyria can be impressively documented by many forms of material culture found in Palestine during the eighth to seventh centuries B.C. Pottery known as “Assyrian Palace Ware” is found in key locations controlled by the Assyrians. Architecture of the “open court” style was introduced into the West by the Assyrians and is found at a number of their administrative centers (e.g., Megiddo and Hazor). The open-court architectural form continued to be used long after the Assyrians had disappeared from the West.

One of the most magnificent examples of Assyrian architecture, using mudbrick barrel vaulting, has been excavated at Tell Jemmeh, ancient Arsa (Van Beek 1993). Another example is the Assyrian palace located about 200 meters north of the Philistine city of Ashdod, which served as the headquarters of the overseer after Ashdod was annexed to Assyria in the late eighth century B.C. (Kogan-Zehavi 2008). This palace sits on a three-meter-high platform.

Both the Tell Jemmeh building and the Ashdod palace are made of square mudbricks, typical of Mesopotamia. The multistory Ashdod palace even had a bathing room with several ceramic bathtubs, another feature of Assyrian palaces. Complementing the architectural evidence are cuneiform texts and Assyrian-style seals, found at various sites, which attest to Assyrian control.

Nebuchadnezzar probably lacked the capability to impose an effective imperial bureaucracy on these small Mediterranean states, as Assyria had done. His overriding concern was with Egypt, and his instrument of foreign policy toward real or potential allies of Egypt was a blunt one: annihilation, and for those who survived, deportation.

During the reigns of Psamtik I (664–610 B.C.) and his son Necho II (610–595 B.C.), Egypt had moved into the power vacuum left by the withdrawal of Assyria from the West. For a few decades, Egypt held sway over former Assyrian provinces, such as Megiddo, and dependent territories, such as Philistia, later to be checked and repulsed by Nebuchadnezzar in 605 B.C. at the Battle of Carchemish. This was the era of bipolar politics, as Avraham Malamat (1975;

1990) has so felicitously applied the concept. During this period, the kings of Judah vacillated between Egypt and Babylonia a half-dozen times or more. Ashkelon and Ekron cast their lots with Egypt. But even though Nebuchadnezzar never succeeded in conquering Egypt itself, he was able to reduce Egypt's real or potential allies and client-states to rubble. Eventually, the pro-Egyptian policy of Judah (against the counsel of Jeremiah) led to the destruction of Jerusalem and Judah in 586 B.C.

Archaeology cannot be so precise as to date the destruction of Ashkelon to 604 B.C., but the *Babylonian Chronicle* leaves little doubt that the late seventh-century destruction we found all over the site, followed by a seventy- or eighty-year gap in occupation until the Persian period, was the work of Nebuchadnezzar in 604 B.C. In the winery, remnants of charred wood were all that remained of the paneling that once framed mudbrick doorjambs. Indeed, the path of fiery destruction could be traced throughout the building by carefully observing the crushed pottery, charcoal, vitrified mudbrick, and wall and ceiling fragments. There is no doubt that the building had come to an abrupt and catastrophic end. In the "counting house" of the marketplace, a large container of olive oil had spilled on the floor; when the fires of destruction reached that part of the building, they burned so hot that mudbricks and other clay material were vitrified. The rest of the bazaar, too, was plundered and pillaged in every area. In the winter of 604 B.C. wailing and despair replaced the joy and laughter that had once rung throughout the Ashkelon bazaar.

Evidence of just how far into the city Nebuchadnezzar's troops proceeded came to light in one of the shops of the marketplace (Room 406 in Building 406), where we found the skeleton of a middle-aged woman, about thirty-five years old, who had been crouching down among the storage jars, attempting to hide from the attackers. When we found her, she was lying on her back, her legs flexed and akimbo, her left arm reaching toward her head. The skull was badly fragmented. We removed the skeleton to the laboratory of physical anthropologist Patricia Smith of The Hebrew University of Jerusalem, who carefully reconstructed the skull and determined that the woman had been clubbed in the head with a blunt instrument (see *Ashkelon 1*, pp. 533–35).

Those fortunate enough to survive this devastation were usually deported. Philistines, Jews, and many others were exiled by Nebuchadnezzar. He needed deportees to repopulate and rehabilitate his empire after the depletion of its manpower in the earlier

Assyro-Babylonian wars (Eph'al 1978). In a "rations list" in cuneiform, dated to 592 B.C., we find prominent Ashkelonians serving Nebuchadnezzar in Babylon: two sons of Aga (the last king of Philistine Ashkelon), three mariners, several officials and chief musicians—all deportees from Ashkelon (Weidner 1939). A century and a half later, as we know from the Murashu Archive, masses of deportees from the West had been settled in the Nippur region, southeast of Babylon. Philistines from Ashkelon and Gaza were living in their own economic communities located along canals leading into Nippur, where they were doing business with a big firm run by the Murashu family (Eph'al 1978).

From the Chronicler's theological perspective, writing long after Nebuchadnezzar's destruction of Jerusalem in 586 B.C., Judah "lay desolate" for seventy years "until the land had made up for its sabbaths" (2 Chr. 36:20–23). Only with the emergence of the Persian Empire under Cyrus the Great, successor to the Babylonians, does the archaeological record begin again in Ashkelon. The Philistines did not return from the diaspora but Phoenicians resettled the site and rebuilt the city. The same period witnessed the resettlement of Jerusalem and Judah, where many Jewish exiles returned to their homeland. From an archaeological perspective, not only Judah but also Philistia and most of Palestine west of the Jordan River lay desolate for seventy years, a veritable wasteland resulting from Nebuchadnezzar's "scorched earth" policy in the West (Stern 2001:308–9).

The remainder of this volume consists of the detailed results of our excavation of the "heaps of ruins" left behind by the Babylonians in 604 B.C. Chapters 2 and 3 describe the architecture and stratigraphy of the winery (Grid 38) and marketplace (Grid 50), respectively. At the end of the volume, in Chapter 27, we provide a comprehensive spatial and quantitative analysis of the distribution of pottery and other artifacts found in these areas.

The intervening chapters report on the various categories of small finds. Chapters 4–10 describe the pottery types, both local and imported, that were unearthed in seventh-century contexts at Ashkelon. Chapters 11–22 describe other kinds of artifacts, including seals, amulets, jewelry, figurines, weights, and weapons. Chapters 23–26 describe the botanical, faunal, and microartifactual remains. Finally, in chapter 28, we offer some concluding thoughts about the broader economic and political context in which Ashkelon flourished and met its demise in the late seventh century B.C.



## 2. THE WINERY IN GRID 38

THE Grid 38 excavation area is located on the north side of the “South Tell” of Ashkelon (figures 1.1 and 2.1). It is a deep trench, 600 square meters in size. In this trench was found the most complete sequence of archaeological periods in Ashkelon (see fold-out sections), although the density and continuity of occupation were such that earlier architectural features were routinely robbed by later builders.<sup>1</sup>

Grid 38 is the primary area for understanding the Philistine period at Ashkelon, with a sequence extending from the early twelfth century B.C. through the destruction of the city at the end of the seventh century. This area also contains the best ceramic sequence for the subsequent Persian, Hellenistic, Roman, Byzantine, and Islamic periods.

At the time of the 604 B.C. destruction, there were two major buildings in the Grid 38 excavation area. **Building 776** on the west was a winery that had been remodeled at some point before its destruction. Originally, the winery contained four wine presses distributed symmetrically throughout the building (figure 2.2). The northern and southern wine presses were located on the central axis of the building, while the presses in the middle of the building were built into the eastern exterior wall. Grape juice produced in these middle presses flowed along small channels through the east wall into an alley that ran the length of the building. The alley was lined with wine jars and was an integral part of the production process.

At some point, the winery was renovated (figure 2.3). **Press 777**, the northern winepress, was covered by walls, which canceled its use. **Press 420** in Square 74, in the middle of the building, had its outlet to the alley plastered over and jars in the alley were broken and covered. In the southern part of the winery, **Press 218** in Square 94 was partially covered by a new beaten-earth floor, signaling that it had been modified in some way, although not canceled.

<sup>1</sup> Excavations of the seventh-century B.C. phases in Grid 38 were supervised by Egon Lass (1991–1994), Bryan Stone (1994–1996), and Elizabeth Bloch-Smith (1997), under the general direction of Lawrence Stager. The stratigraphy of these phases was reexamined by Daniel Master in 2001 and again by Egon Lass in 2007. Lass wrote the original version of the present chapter in 2007. The chapter was subsequently revised by Master, who altered the stratigraphic conclusions substantially, returning to an interpretation first proposed by Stager and Lass in 1993 but discarded in 1994 by Stager, Lass, and Stone. Lass, who supervised the excavation of most of the seventh-century material, has read the revised version and accepts the conclusions presented here. The fold-out section drawings are at the back of the volume.

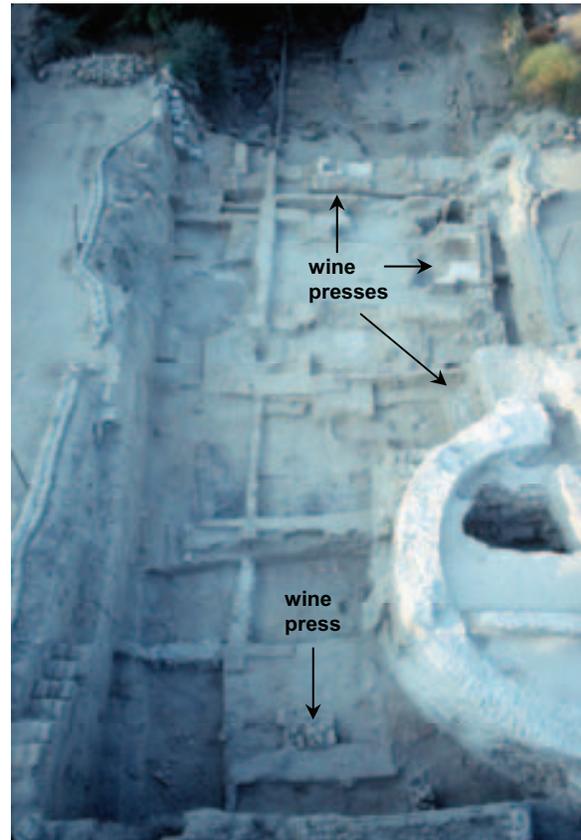


Figure 2.1: The winery at the end of the 1993 excavation season (view to the north)

**Building 7**, on the east side of the excavation area, is so poorly preserved that little can be determined about its function or development. Traces of rooms, two deep against the alley, seem to show regularity, and the walls were substantial enough for a multi-story structure, but little else can be said about this building because its floors were obliterated by later building activity in the Persian period.

The eastern building (**Building 7**) and the western building (**Building 776**, i.e., the winery) were both destroyed in 604 B.C. Destruction debris covered much of the excavation area. The debris was uniformly burned, and, in those areas where this debris was not disturbed by later building activity, abundant small finds preserve a snapshot of the life of the city in the late seventh century (figure 2.4).

After a hiatus following the destruction, this part of the city was reinhabited during the Persian period. The later builders robbed most of the stone from the walls of the winery, as well as portions of the walls in the eastern building. In the course of robbing and

rebuilding, the piles of burnt destruction debris covering the winery were raked over and leveled, a process that sometimes gouged out the floors of the seventh-century buildings and sometimes created heaps of mixed destruction debris. Robbed-out walls were usually back-filled with mixed debris stemming from

the 604 B.C. destruction. In subsequent centuries, the seventh-century remains in the Grid 38 excavation area, already disturbed during the Persian period, were periodically intruded upon by wells dug down through earlier strata and by a large Late Roman sewer (see *Ashkelon 1*, pp. 287–98).



Figure 2.2: Detailed plan of the original seventh-century B.C. winery (Building 776) and the eastern building (Building 7) that were excavated in Grid 38, Phase 14.



Figure 2.3: Detailed plan of the remodeled seventh-century B.C. winery (Building 776) and the eastern building (Building 7) excavated in Grid 38, Phase 14



Figure 2.4: Detailed plan of the 604 B.C. destruction debris layers in the winery (Building 776) and the eastern building (Building 7) excavated in Grid 38, Phase 14

*The Western Building (Building 776)*

**Building 776** took up the entire western half of the Grid 38 excavation area. The excavated portion of the building is about 30 m in length from north to south, although there is reason to believe that it extended farther in both directions. The building averaged 14.6 m in width, from east to west. Many of its walls could be traced only by locating the trenches from which stones had been robbed. In some cases, the original stone foundations remained, or occasionally there were portions of mudbrick walls. The main outer walls of the building had three components: a fieldstone base, an ashlar foundation that rose out of the ground for one course, and a mudbrick superstructure made up of staggered headers (figure 2.5).

There were four wine presses within the building. Each consisted of a treading pool and a vat; these were found in varying states of preservation.



Figure 2.5: Wall 458 showing method of construction of exterior walls in Building 776 (view to east)

## Room 739

**Room 739**, the northwesternmost room of **Building 776**, was 2 m wide from east to west and 3 m long. It was bordered on the west by mudbrick **Wall 730** in Square 63 (66 cm wide, 1.13 m high), which had a doorway 1.3 m wide at its southern end, composed of threshold **Feature 734** and door socket **Feature 765** (figure 2.6). The socket was placed in such a way that the door would have swung inward and to the left as one entered. The socket perforated the stone entirely; it is 16 cm in diameter, cut into a dressed cube 23 cm in height. Under the threshold, the foundation continued south.

The north wall of **Room 739** was completely destroyed. The room did not appear to have a southern wall but opened directly onto **Room 796** to the south. **Room 739** was bordered on the east by mudbrick **Wall 70** in Square 64, which had a stone foundation 0.6 m wide and was preserved to a height of 1.1 m.



Figure 2.6: Doorway into Room 739 (view to north)

**Room 739** had a beaten-earth surface, **Floor 739** in Square 63, upon which rested occupational debris **Layer 733** (figure 2.7). This layer was cut by a small pit filled with gray ash, **Pit 737**.

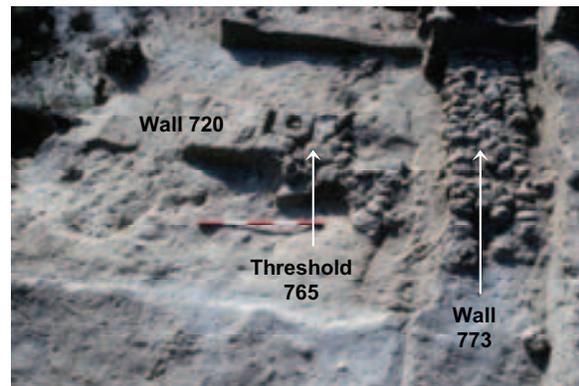


Figure 2.7: Interior of Room 739 (view to east)

## Room 780

**Room 780** in **Building 776** was 4.3 m long from east to west and 2.3 m wide. It was bordered on the north by mudbrick **Wall 54** in Square 64 (0.7 m wide, 0.95 m high). This wall had wooden beams incorporated into its structure and a timber-lined door jamb for a doorway 0.85 m wide that led into the room from the north. All that remained from the area to the north was a bit of mudbrick detritus **Layer 71** and a fragment of the foundation trench for **Wall 54**.

**Room 780** was bordered on the east by **Wall 758** in Square 64 (0.82 m wide, 0.50 m high). This wall had a fieldstone-and-ashlar core that was encased with mudbricks on its western and upper sides. **Foundation Trench 807**, into which **Wall 758** had been placed, was sealed on the east side by **Floor 806** (all in Square 64).

The southern border of **Room 780** was fieldstone-and-ashlar **Wall 773** in Square 64 (1.1 m wide, 0.30 m high). This wall sat on a sandy-silt bedding **Layer 809** in Square 64, which was the bottom part of **Foundation Trench 800**, into which the wall had been placed (figure 2.8).



Figure 2.8: Wall 773 and Press 777 (view to north)

The beaten-earth surface of **Room 780** was **Floor 780** in Square 64, which was contemporary with the original wine press and walls. **Room 780** contained **Press 777**, the best-preserved wine press in **Building 776**. It was located in the center of the room and was constructed with fine, white hydraulic plaster that was tempered with shells. A treading pool on the east side of the press measured 1.38 m (east–west) by 1.15 m. It was connected via a channel to the northeastern corner of a sunken vat on the west side of the press. This vat measured 1 m (east–west) by 1.50 m and had a depth of 0.9 m (figure 2.9).

The difference in elevation between the bottom of the treading pool and the bottom of the channel that led into the vat was 6 cm. This means that no more than 6 cm of grape juice could have accumulated in the shallow pool before it began to spill over into the vat. The vat itself was L-shaped, with a smaller northern portion that was 37 cm higher in elevation than the rest of the vat. This may have served as a settling pool. Between it and the deeper part of the vat was another 6-cm-high spillway.

The southeastern corner of the deeper portion of the vat was 10 cm lower than the other three inner corners, which would have facilitated emptying and cleaning it. The intact west wall of the vat stood 1.05 m above the floor, but at its northern end there was a step 25 cm deep that led down into the northern part of the vat. There were two layers of plaster on the inner walls of the vat and multiple applications of plaster in other areas of the press, attaining a thickness of 3.5 cm in the vat and 6 cm in the treading pool.



Figure 2.9: Sunken vat of Press 777 in Room 780 (view to south)

The plaster of the treading pool was slightly concave; the deepest part was in the middle of the pool, about 8 cm deep. As stated above, a plastered channel, the northern part of which was destroyed, led into the northeastern corner of the sunken vat. A silty fill, **Layer 764** in Square 64, had accumulated within the vat.

The walls of the vat were built of fifteen courses of cobblestones four rows wide (average size 7–10 cm in diameter), lodged in mud mortar with a high clay content, which was then covered with plaster. The treading pool had two layers of cobbles as a foundation, separated by a layer of mud mortar (figure 2.10). The bottom layer of cobbles contained several slabs of stone, one of which may have been a door socket in secondary use.

**Press 777** was canceled in a later phase by **Wall 766** (width 0.75 m; figure 2.11), a stone wall that formed a corner with another stone wall, **Wall 745** (width 0.58 m, height 0.28 m). **Wall 745** also canceled part of **Wall 773** in Square 64. The remodeled room did not contain clear surfaces. In the south, a layer of sandy silt, **Layer 774**, covered both the wine

press and the floor, but along the north side of the room were destruction debris **Layer 58** and **Layer 67** (all in Square 64). On the northern side, some evidence for multiple stories was found: above a group of collapsed mudbricks was **Layer 61**, a massive destruction layer full of smashed jars.



Figure 2.10: Cobblestone foundations of the treading platform and sunken vat of Press 777 (view to west)



Figure 2.11: Press 777 canceled by Wall 766 when the winery was remodeled (view to north)

## Room 801

**Room 801** in **Building 776** was 2.4 m long from east to west and 2 m wide (figure 2.12). It was bordered on the north by **Wall 64**, a mudbrick wall with an ashlar base (0.57 m wide, 0.49 m high); on the east by mudbrick **Wall 794** (0.65 m wide, 0.62 m high); and on the south by fieldstone-and-ashlar **Wall 773**, which is described above (all of these walls are in Square 64).

**Room 801** differed from **Room 739** and **Room 780** in that it had three superimposed beaten-earth floors. The initial floor was **Floor 806**, in which was a centrally located stone, **Feature 810**—probably a pillar base (diameter 0.34 m, height 0.16 m). **Floor 806** was followed by **Floor 802** and **Floor 801**. An ashlar, **Feature 74**, was set into the corner where **Wall 758** and **Wall 64** met; it probably served as a platform for those who walked on **Floor 802**.

These floors (all in Square 64) were capped by destruction debris **Layer 785**, which contained pottery that was concentrated on the west side of the floor (figure 2.13). Under the pottery, a row of at least eight loom weights, but perhaps as many as thirty, was aligned against **Wall 758**. Some of the loom weights were melted together into a single mass of clay. They were probably used with a loom that stood close to, and parallel to, the wall (see chapter 18).



Figure 2.12: View of Room 801 showing the pottery of destruction debris Layer 785 (view to west)

## Room 796

**Room 796** lay to the south of **Rooms 739, 780, and 801** in **Building 776**. It was a slightly asymmetrical long space, 11.5 m long and 2.8 m wide, which extended from the west side of the building all the way to the east wall. It was bordered on the north by **Wall 773** in Square 64 (described above) and, in the northwest corner, by **Wall 762** in Square 63 (width 0.75 m). It was bordered on the west by fieldstone **Wall 751** in Square 63 (1.2 m wide, 0.3 m high) and **Robber's Trench 362** in Square 73. It was bordered on the south by **Wall 457** in Square 74 (1 m high) and its western fieldstone remnant **Wall 483**, along with **Robber's Trench 497** and **Robber's Trench 502** in Square 74.

On the east, **Room 796** was bordered by **Wall 458** in Square 74, a mudbrick wall with an ashlar and cobblestone foundation (0.6 m wide, 1 m high; figure 2.13). This wall, the best preserved in the winery, had two courses of foundation cobbles, three courses of sandstone ashlars, and one preserved course of mudbricks. The ashlars were mostly laid in header-stretcher fashion. Some of the ashlars had a perforation, running obliquely from a vertical to a horizontal face, possibly for ease of transport. Additionally, the ashlars were scored lengthwise on top, in order to make a better bond with the mudbricks laid on top of them.



Figure 2.13: Cobblestone and ashlars of Wall 458 of Room 796 (view to the southeast)

A layer of silt, **Layer 574**, preceded the initial beaten-earth surface, **Floor 799**, which lay on the east side of **Room 796**. On this beaten-earth floor were a series occupational accumulations: **Floor 797, Floor 796, and Layer 795** (all in Square 64). These floor accumulations were capped by destruction debris **Layer 803**. On the west side of **Room 796** was **Floor 778**, which was partly capped by destruction

debris **Layer 776**. On the west side of the room was also a small alcove with a beaten-earth surface, **Floor 394** in Square 73. This may mark a different functional space because this alcove was open to **Room 739** to the north and perhaps led to a corridor on the south that was delineated by the continuation of **Robber's Trench 415** and **Wall 365** in Square 73.

## Room 420

**Room 420**, a large room to the south of **Room 796**, was bordered on the east by the continuation of **Wall 458** in Square 74. The south end of **Wall 458** terminated in a doorway 0.86 m wide with a threshold, **Feature 534**, that was 0.95 m across (figure 2.14). On the east side of **Wall 458** was a door socket, **Feature 512** in Square 74 (length 36 cm, width 22 cm, height 9.5 cm; socket diameter 10 cm, depth all the way through the stone); thus the door would have swung outward to the east. After this area was remodeled, the eastern face of **Wall 458** was resurfaced with a coating of cobbles and mud plaster (**Feature 515**) that lapped over the western edge of the door socket. **Room 420** was bordered on the south by the robber's trench of **Wall 476** in Square 74. On the west side, it was probably bordered by the continuation of **Wall 365** or **Robber's Trench 415** in Square 73. It is impossible to know for sure because the stratigraphy in this area is interrupted by a large well or cistern of the Islamic period.

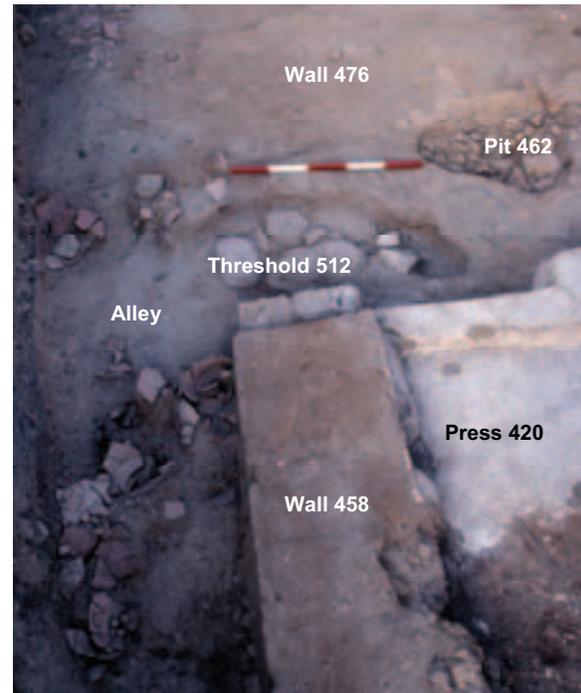


Figure 2.14: Doorway of Room 420 (view to south)

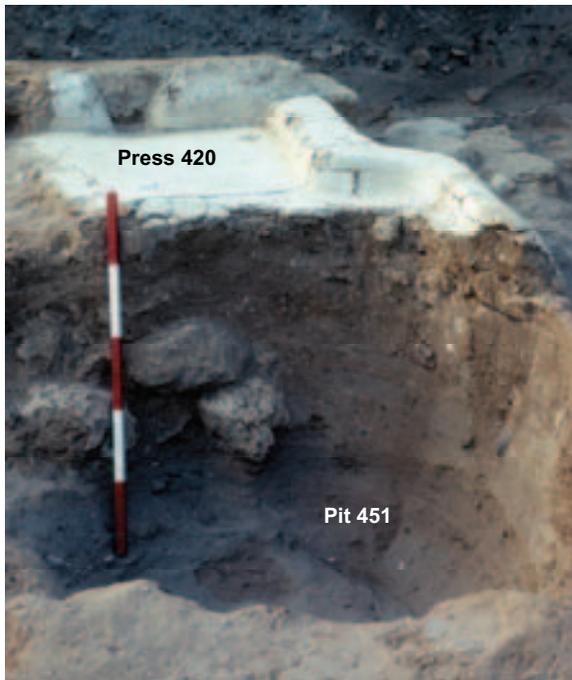


Figure 2.15: Press 420 and Pit 451 (view to east)

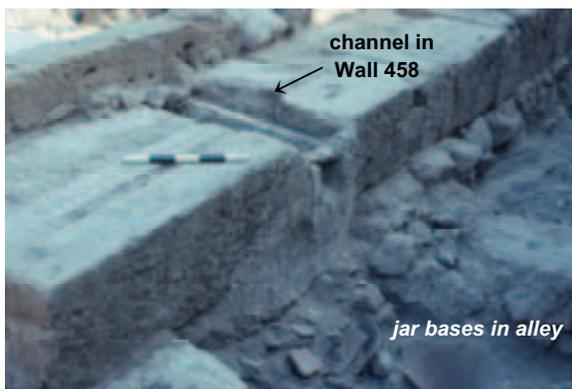


Figure 2.16: Channel Feature 518 from Press 420 through ashlar of Wall 458 (view to northwest)

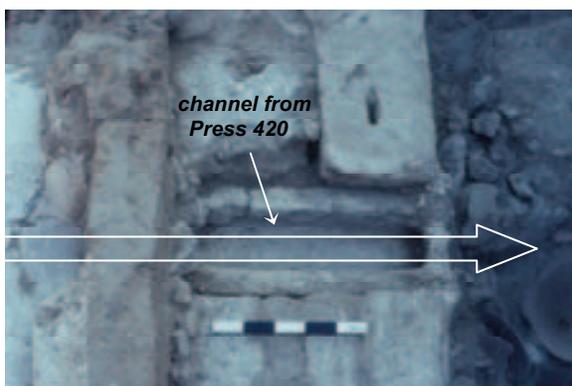


Figure 2.17: Channel from Press 420 (view to north)

**Press 420** in Square 74 was built against **Wall 458** (on the east side of the press) and against **Wall 457** (on the north side). It was made with the same kind of fine, shell-tempered plaster as was used in **Press 777** in **Room 780** (described above). **Press 420** rested on a cobblestone foundation (**Feature 589** in Square 74) that consisted of one to four courses of cobbles of uniform size packed in a mud mortar. The cobbles were preceded by a leveling fill (**Layer 591**). **Press 420** was repaired and resurfaced at least once during its period of use. Stones and sherds were packed between the plaster of the pool and the surrounding mudbrick walls.

Unfortunately, much of **Press 420** was destroyed by a later pit. All that is left is part of the treading pool on the east side of the press (figure 2.15). The preserved portion measures 2.72 m (north–south) by 1.25 m. The west side of the press was destroyed along its entire length, though the plaster curves up sharply to where it would have met its western wall.

In order to drain the grape juice from the treading pool, a channel 25 cm wide, 60 cm long, and 4–6 cm deep (**Feature 518** in Square 74) had been cut into an ashlar that was built into **Wall 458** (figures 2.16 and 2.17). This channel led from the treading pool through the topmost stone course of **Wall 458** to the alley on the east side of **Building 776**. The channel descended 6 cm toward the alley, and several jars were found in the alley which must have been intended to collect grape juice produced in the treading pool. The sediments within some of these jars contained grape pips.

The eastern, exterior face of **Wall 458** was covered with a thick layer of mud plaster, 3 cm thick, except under the place where the channel came through the wall from the press, where the wall was instead plastered with white plaster. The cobbles embedded in mud plaster (**Feature 515**) on the eastern face of **Wall 458** are evidence of later remodeling because they covered the channel (**Feature 518**) that drains **Press 420**, thereby canceling it, and they also lapped over the door socket (**Feature 512**), as described above.

**Pit 451** in Square 74, a rectangular pit 1.1 m long (east–west), 1 m wide, and 1.07 m deep, cuts across the western edge of the treading pool at the place where it begins to curve upward (figure 2.15). This pit apparently destroyed the sunken vat that was originally part of **Press 420**, assuming that it was constructed in the same fashion as **Press 777**. Perhaps the pit was dug in order to rob the foundation stones of the vat. The silty material filling the pit contained chunks of plaster from the wine press and red-fired bricks from the 604 B.C. destruction.

A small channel, **Feature 588** in Square 74, led from the treading pool into the robbed-out vat. After the stone-cut channel through **Wall 458** on the east side of the press had been blocked by the mud-and-cobble resurfacing (**Feature 515**), it seems that only the drainage channel on the west side of the treading pool was used.

Bits of destruction debris and floor material, excavated as **Floor 460** in Square 74, were found in the southeastern corner of **Room 420**, just south of **Press 420**. **Pit 462** of Square 74 was cut into **Floor 460** and lies next to the place where the room opens onto the street across a threshold (**Feature 534**). Although this pit was filled with unremarkable silt and sand, its bottom was lined with cobbles.

West of **Press 420**, the floor was churned up by later building activity. All that remained were disturbed remnants consisting of bricky silt with some plaster fragments from the wine press (**Layer 514** in Square 74). There may have been a wall against the south side of **Wall 483** in Square 74, represented by the fragmentary **Wall 365** in Square 73 (0.57 m wide). If so, there may have been a narrow corridor 1.7 m wide at the west end of the unit.

#### Room 408

**Room 408** is a small room that perhaps was situated at the end of a corridor that ran between the continuation of fragmentary **Wall 365** and **Robber's Trench 415/358** in Square 73. The room is bounded on the south by **Wall 336** in Square 83 and on the east by **Wall 507** in Square 74. A hard brown beaten-earth surface, **Floor 408** in Square 73, was the only floor detected in the room.

The only outlet from **Room 408** toward the east leads directly into **Robber's Trench 508** in Square 74, which ran immediately south of **Wall 476**. This robber's trench may mark the location of a stone staircase to the second floor, a second story which extended south over the rest of the winery. There are no clear exits in this room to the south or east at the first-floor level, so there may have been other staircases farther to the south.

#### Room 492

**Room 492** was bounded on the west by **Wall 507** in Square 74, which left an opening in the southwest to enter **Room 341**. On the east, **Room 492** was bounded by **Wall 510** in Square 74 and **Wall 307** in Square 84, which left a gap allowing entrance into **Room 460** with its wine press. On the south, **Room 492** was bounded by **Wall 425** in Square 84.

The original plastered floor of this room, **Floor 492**, was preserved in patches. In some places it was plastered; in other places it was covered with a shell surface. The floor was sealed by a mixture of silt and mudbrick detritus that had been deliberately deposited for leveling, including **Layer 482** in Square 74 and **Layer 317** in Square 84 (cut by **Pit 416** and preceded by bricky silt **Layers 420** and **431**). After the 604 B.C. destruction, **Room 492** was covered by destruction debris **Layer 429** in Square 74, which spilled into **Room 420**.

#### Room 460

**Room 460** was the third wine-pressing room in the middle section of the winery, just south of **Room 420** with its press. **Room 460** was bordered on the north by mudbrick **Wall 476** and on the east by **Robber's Trench 545** (both in Square 74). The robber's trench did not entirely rob the east wall of the winery but left a line of stones intact (**Wall 378** in Square 84). These stones appear to go with the earlier phase of the winery, when the alley on the east side of **Building 776** was being used to drain **Press 420** (and likely also **Press 282** in **Room 460**). The southern border of **Room 460** was indicated by a small wall fragment (**Wall 425** in Square 84); the rest of the original wall line was marked by **Robber's Trench 391** (also in Square 84), which veers off in a northwesterly direction in order to adjust for the irregular spacing of rooms to the west. The western border of **Room 460** was **Wall 510** in Square 74 and **Wall 307** in Square 84.

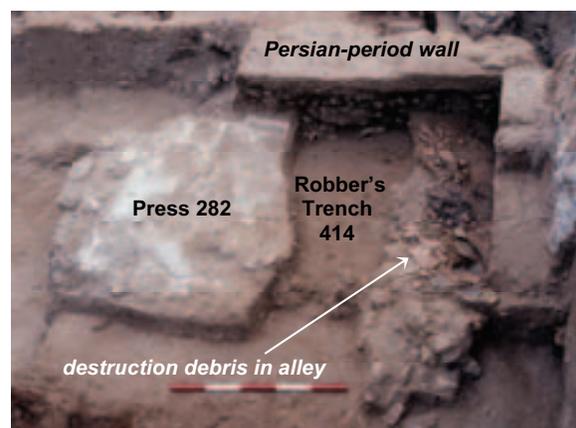


Figure 2.18: Press 282 in the southeastern corner of Room 460 (view to north)

**Press 282** in Square 84 was situated in the southeastern corner of **Room 460** (figure 2.18). Of this wine press there was preserved only a remnant of the

plastered treading pool (length 1.75 m, width 1 m), built on a cobblestone foundation set into a layer of shells and ashes. **Press 282** seems to have had the same configuration as **Press 777** in **Room 780**, at the northern end of **Building 776** (described above). The sunken vat of **Press 282**, which was not preserved, was most likely on the west side of the treading pool, which had begun to lip up slightly where it was broken off. Underneath **Press 282** were sandy silt deposits: **Layers 419** and **433** in Square 84. **Layer 419** contained carefully laid cobbles.

The only preserved floor deposit in **Room 460** was found in the northeastern corner of the room (**Floor 460** in Square 74). Although there were some intact areas of the room, including a small pit in the northwestern corner (**Pit 463** in Square 74), the floor of **Room 460** was poorly preserved, especially on the eastern side. In this area, the division between the intact floor and the destruction debris, which included complete vessels from a second story, was not always clear. Furthermore, because of the Persian-period practice of robbing wall foundations and back-filling them with nearby seventh-century destruction debris, the whole room was badly disturbed. Some of the finds attributed to **Floor 460** are actually from the Persian-period back-filling of **Robber's Trench 545**. After the 604 B.C. destruction, the northeastern portion of **Room 460** was covered with collapsed mudbricks and destruction debris, excavated as **Layer 464** in Square 74 (some of which was excavated as part of **Floor 460**). The destruction debris contained smashed pottery and fired bricks with charred beams and plaster still adhering to them.

#### Room 341

**Room 341** probably functioned primarily as a passage to **Room 492** to the northeast and **Room 312** to the southeast. Within the confines of this narrow space, **Floor 341** in Square 83 was an ephemeral surface marked by flat-lying sherds but no with occupational buildup. Most of the material excavated as **Floor 341** is really the floor makeup, a continuation of **Layer 357**, the constructional fill that was sealed below the floor.

#### Room 342

**Room 342** is bordered on the north by **Robber's Trench 346** in Square 83, on the west by **Robber's Trench 358** in Square 73, and on the east by the **Robber's Trench 323** in Square 84. The southern border was destroyed by a Late Roman sewer. Despite the vagueness of the architectural plan, this area

produced a sequence of well-preserved floors (all in Square 83). At the bottom was a layer of shells, **Floor 345**, which provided drainage. The shells were covered with a soil layer (**Floor 343**—a technical surface) sealed with beaten-earth **Floor 342**, above which was destruction debris **Layer 320**.

#### Room 312

**Room 312** lay immediately to the east of **Room 342**. It also contained a rich layer of destruction debris. The room was bounded by **Robber's Trenches 391, 396, and 323** (all in Square 84). Note, however, that **Robber's Trench 323** could not be delineated for any great distance and may indicate the robbing of a stone installation rather than a wall. The southern half of the room was destroyed by a later sewer.

**Floor 312** in Square 84 covered the southern half of **Room 312**. It lay on top of a constructional fill (**Layer 410**). During its period of use, an uneven buildup occurred on top of **Floor 312**, resulting in a deposit in the center of the room that was excavated as **Floor 402** and occupational debris **Layer 401**. To the south of this deposit were two small postholes: **Pit 421** (diameter 12 cm, depth 8 cm) and **Pit 422** (diameter 10 cm, depth 6 cm), both in Square 84. All of this was covered by **Layer 299**, a layer of destruction debris containing fired bricks, many charred wooden beams (which lay directly on the ashy floor, indicating that they were roof collapse), white plaster identical to that of the wine presses, restorable smashed pottery vessels, an Egyptian Bes figurine (figure 2.19), and seven Egyptian bronze situlae with a small model offering tray (figure 2.20).<sup>2</sup>

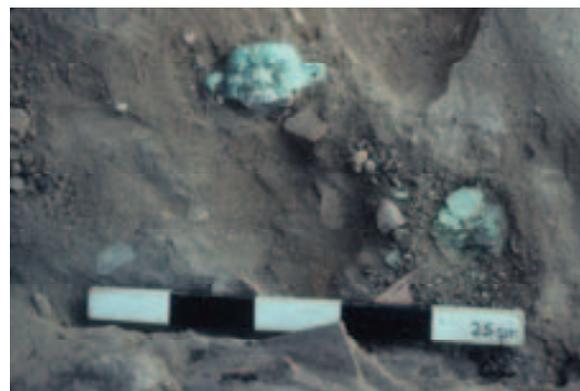


Figure 2.19: Egyptian Bes figurine (reg. no. 43694) *in situ* in the destruction debris in Room 312

<sup>2</sup> The Bes figurine is described in detail below in chapter 12 (cat. no. 8). The bronze situlae and offering table, and the Osiris statuette (see below), are described in chapter 13.



Figure 2.20: Bronze situlae and model offering tray *in situ* in Room 312 (reg. nos. 44543–44550)

#### Room 413

Like most of the rooms in this part of the winery, **Room 413** was heavily disturbed by the Late Roman sewer that ran the breadth of the excavation area before turning to the south. The northern border of the room is marked by **Robber's Trench 391**, the eastern border by robber trench **Robber's Trench 414**, and the western border by **Robber's Trench 396** (all in Square 84). It is possible that the room extended as far south as **Wall 553** in the south, but this is uncertain. **Robber's Trench 396** did not connect with **Robber's Trench 391**, leaving an opening for passage into **Room 312**. This also means that **Floor 413**, the original beaten-earth floor in **Room 413**, continued into the northeastern corner of **Room 312**. **Floor 413** was preceded by a leveling fill consisting of **Layer 427** and **Layer 459** (all in Square 84). After the 604 B.C. destruction, **Floor 413** was covered with destruction debris **Layer 295**, which contained a bronze statuette of the Egyptian god Osiris (figure 2.21).



Figure 2.21: Bronze Osiris statuette (reg. no. 44445) *in situ* in the destruction debris in Room 413

#### Room 210

**Room 210** lacks architectural boundaries except for an eastern closing wall, **Wall 259** in Square 94, and associated **Bench 263**. The primary feature in **Room 210** was a wine press (figure 2.22). It is the least well-preserved press in the winery. It has the same plastered surfaces and cobblestone substructure as the presses to the north, but is so broken up that the location of the treading platform and vat are uncertain. Its highest part was excavated as **Press 218** in Square 94. At first it was thought to be a wall because its west and east sides were lined with cut blocks. However, it is very wide (more than a meter) and was isolated in the middle of a room.

In subsequent excavation seasons, more of the press was discovered at an elevation about 30 cm lower than **Press 218**. **Feature 273** in Square 94 (width 0.7 m, length 1 m) was a plastered surface with a plaster-lined ridge (**Feature 283**; 0.15 m wide, 0.55 m long, 0.06 m high) on its east side and possibly another plaster-lined ridge (**Feature 267**; 0.15 m wide, 1.20 m long) as its western border. Neither **Feature 283** nor **Feature 267** (both in Square 94) were preserved more than a few centimeters in height. Judging by the traces of plaster found on top of the small cobbles, it appears that these features were not the base of a high vat but rather smaller ridges that bounded a treading platform. This reconstruction gives us a press with two treading platforms but no vat, so it is hypothesized that **Pit 266** is evidence of a robbed-out vat; however, this remains uncertain.

A series of beaten-earth floors was laid around the wine press: **Floor 268** to the east, **Floor 262** to the south, and **Floor 210** to the west (all in Square 94). At some point before its destruction, **Room 210** underwent a renovation in which the press was taken out of use. This renovation is visible only in the area immediately to the east of the press, where a fill layer (**Layer 261**), a subfloor layer (**Floor 236**), and finally a new beaten-earth floor (**Floor 209**) were laid over the eastern side of the highest pressing platform (**Press 218**). The new floor also covered **Bench 263** on the east side of **Room 210**. The western side of **Press 218** continued to be used for some other purpose, perhaps as a bench, but its connections to the rest of the pressing installation, particularly **Feature 273**, were completely severed.

After the 604 B.C. destruction, every part of **Room 210** was covered with destruction debris (figure 2.23). **Floor 210**, itself a poorly preserved sloping surface, was covered by **Layer 207** and **Layer 230**, which contained vitrified orange destruction debris

with many chunks of fired brick and fallen roof material. **Floor 262** was covered by destruction debris **Layer 243** and **Layer 255**. **Floor 209** had a small

silo or hearth (**Hearth 237**) cut into it at some point, but was then entirely covered by destruction debris **Layer 206**.



Figure 2.22: Press 218 in Room 210 (view to west)

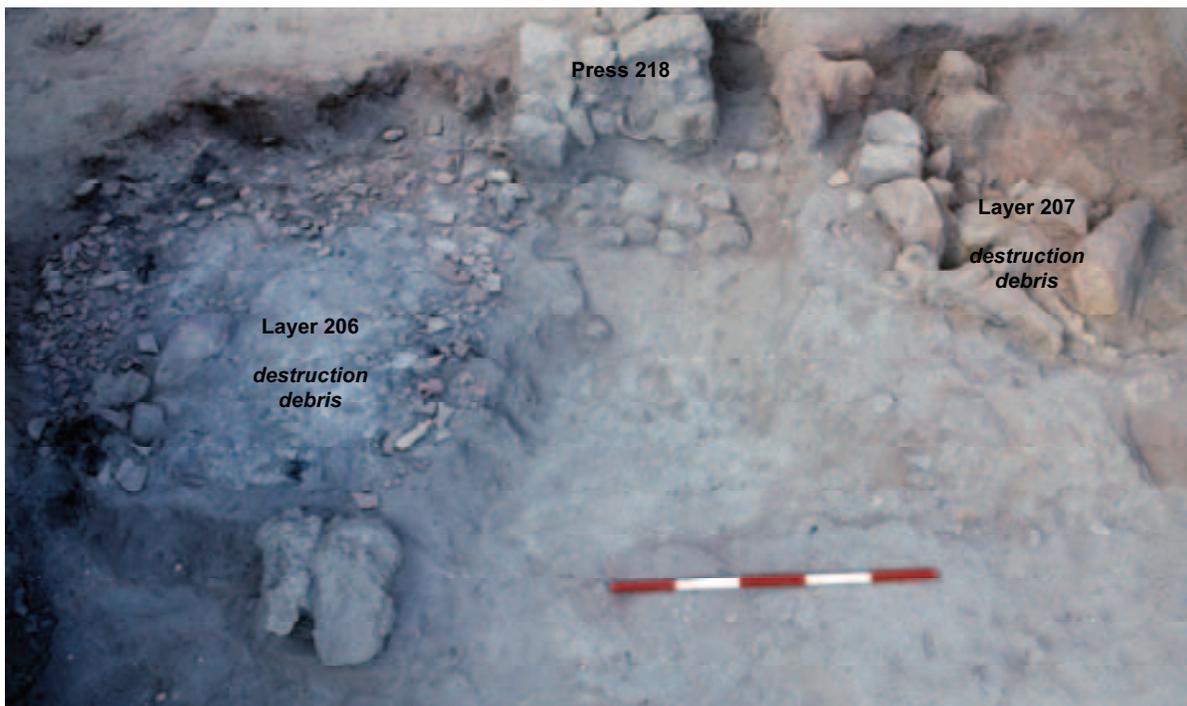


Figure 2.23: Destruction debris in Room 210 (view to south)

## Room 299

**Room 299** was east of **Room 210** at the south end of **Building 776**. It was bordered on the north by **Wall 553** in Square 84, on the west by **Wall 259** in Square 94, on the south by **Wall 264** in Square 94, and on the east by **Robber's Trench 295** in Square 94.

The beaten-earth floor surface of **Room 299** (**Floor 299** in Square 94) was covered by destruction debris (**Layer 296**). This debris layer contained black ash topped by chunks of fallen roof material, with more ash above that, indicating multiple stories. To the south of **Room 299** (i.e., south of **Wall 264**), a layer of burnt brick material (**Layer 252** in Square 94) indicates the southward collapse of the wall at the time of the destruction.

*The Area West of the Winery*

The area west of the winery became a street during the Persian period. The construction of this street seems to have destroyed the surfaces dating to the seventh century B.C. In Square 63, west of **Wall 730** at the northwestern corner of the winery building, was a deposit of collapsed mudbricks (**Layer 768**) that was covered by a layer of brown silt which contained restorable pottery (**Layer 732**). Farther south, no seventh-century layers could be found along the western façade of the winery building in Square 73 and Square 83. In Square 93, in the southwestern corner of the excavated area, all of the Iron Age layers and features had been destroyed or badly disturbed by the Late Roman sewer.

*The Alley East of the Winery*

East of the winery was an alley. It varied in width from 1.8 m to 2.6 m. This alley was first laid out as a street in the twelfth century B.C. (Phase 19). As the area around it developed, the street continued to build up between the various buildings that bordered it. This sometimes resulted in a step up into a newer building or a step down into an older structure. The alley was a patchwork of surfaces and churned sandy silt, making stratigraphic equivalences over large distances difficult. Adding to the confusion, almost the entire eastern side of the winery building was defined by robber's trenches that had severed the connections between the many laminations of the alley and the building itself.

Based upon the stratigraphic connections between the alley deposits and the single preserved eastern wall segment of the winery (the fieldstone-and-ashlar **Wall 458** in Square 74), it appears that there were

two main phases in the alley. The initial phase was contemporary with the initial phase of **Press 420**, when it drained through **Wall 458** into the alley. In this phase, the alley contained a complex buildup of jars and stones, and also waterborne silt and sand that gave evidence of drainage through the alley.

A striking feature of this phase of the alley was a row of jars that extended in a long line southward from the outlet of **Press 420**, at the point where it drained through a channel in **Wall 458**. The jars closest to the outlet were placed immediately below it, indicating a clear functional relationship. Jars were found in long rows (excavated as **Feature 509** in Square 74, **Feature 412** in Square 84, and **Feature 298** in Square 94) on a surface that sloped gently from north to south. The alley built up around the jars, with water-deposited silt on both sides of the jars.

It is not clear whether the jars were intact when they were originally placed in the alley. At some point they were cut off at the shoulder, allowing them to be filled with debris (including grape pips, sand, whole juglets, seals, and other miscellaneous finds). Stones were set alongside or immediately above the broken jars (figure 2.24). In one part of Square 84, the jars were stacked two courses deep, with the higher jars set into the bottoms of the lower jars (figure 2.25). In the far south, where the jars were lowest in elevation, the preservation of the jars was better. There were two complete jars in **Feature 298** in Square 94, which perhaps indicates that the jars had a function in the alley as whole jars before a change in the use of the area rendered them obsolete, at which point they were cut off at the shoulder. It seems likely that the jars in the alley, which are so clearly linked to the outlet of **Press 420** in Square 74, fell out of use when the winery was remodeled and this outlet to the alley was stopped up by mud-plaster **Feature 515**.

The alley east of the winery also contained the remnants of a drain that sloped downward from south to north (figure 2.26), opposite in direction to the slope of the jars, whose highest point was in the north, near the outlet of **Press 420** in Square 74. The eastern wall of the drain, **Wall 61** in Square 75, was a reused stone foundation from an earlier phase. To the south, this wall continued as **Wall 169** in Square 85, although without evidence of a drain. In the south, the wall was simply being reused to ensure that the activity in the alley did not undercut the foundations to the east (**Wall 378** in Square 84 had the same function on the west side of the alley). The western stone wall of the drain, **Wall 60** in Square 75, was much less substantial than the eastern wall because it was a new construction intended solely for the purpose of creating the drain.



Figure 2.24: Stones capping jars in the alley east of the winery building (view to northeast)



Figure 2.25: Two courses of jars stacked in the alley (view to northeast)



Figure 2.26: The drainage channel in the alley east of the winery (view to south)

The drain had a mudbrick floor, **Feature 77** in Square 75, which probably had a plastered surface in antiquity. The sediments filling the drain, which were excavated in several segments, included **Layer 54** and **Layer 65** in Square 75. The unifying element that ties together the drain and the jars is **Press 420** with its outlet to the street through **Wall 458**. Even the mudbrick platform, **Feature 513**, which was connected to **Wall 458**, seems to fit well with the jars to the south and the drain to the north.

Following the abandonment of the jars and the drain, the alley continued to build up until it was destroyed in 604 B.C. The destruction debris includes **Layer 840** in Square 64, which continues as **Layers 1** and **38** in Square 65. Farther south, the debris continues as **Layer 472** in Square 74 (collapsed mudbricks with charred beams); as **Layers 371, 540, and 552** in Square 84; and as **Layer 297** in Square 94.

#### *The Eastern Building (Building 7)*

**Building 7** was situated across the alley to the east of the winery (**Building 776**). It is a much less coherent structure than the winery in its present state of preservation. The almost complete lack of occupational

debris on floors makes it very difficult to reconstruct the activities that took place in this building. It seems to have been founded at a lower level than the winery building. This may be the result of its location on the northeastern edge of the “South Tell,” the mound that rose in the center of Ashkelon.

Prior to the construction of the winery, this area had substantial stone walls whose wall lines were reused by the seventh-century builders. Strangely, however, they did not build directly on top of the stone foundations of the earlier buildings (with the exception of the drain in the alley), but tended to lay down a small amount of leveling fill first, perhaps to compensate for the difference in elevation on the east side of the alley.

**Building 7** was 8 m in width, from east to west, and at least 12.4 m long, from north to south (this is the excavated length of **Wall 7** in Square 75, which may have extended farther to the south). This large wall was 1.2 m wide; at the northwest corner of the building it made a corner with **Wall 36** in Square 65, which was also 1.2 m wide. At a later date the stones of **Wall 36** were largely robbed, leaving **Robber’s Trench 59**; however, the stone foundations continue to the east as **Wall 35** in Square 65 (0.70 m wide), which made a corner with **Wall 25** (1.25 m wide, 0.35 m high) at the northeast corner of the building. Most of the eastern wall of **Building 7** was removed by **Robber’s Trenches 9, 39, and 35** in Square 75. Only stone foundation segment **Wall 45** (width 1 m, height 0.9 m) preserves the original construction.

The excavated part of **Building 7** was partitioned into four rectangular rooms of roughly equal size, two in the north and two in the south. Unfortunately, no floors were detectible in these rooms so it is difficult to determine their function. The eastern rooms were separated from the western rooms by a partition that ran through the middle of the building from north to south, indicated by **Wall 18** in Square 75 (width 0.7 m, height 0.55 m). After a gap created by **Robber’s Trench 40**, the line of this stone foundation extended through the north wall of the building as **Wall 27** in Square 65 (width 0.6 m, height 0.15 m).

At its southern end, **Building 7** had been obliterated by later activity. A stone wall fragment, **Wall 36** in Square 85 (width 0.40 m, height 0.22 m), was aligned with **Wall 45** in Square 75 and may have been a remnant of its southern extension. **Robber’s Trench 32** in Square 85, which was located 8 m to the west, may indicate the extension of **Wall 7** in Square 75. In the north, the area in between was filled with collapsed mudbrick material (**Layer 56** in Square 75) and with ash striations farther south (**Layers 5, 9, and 21** in Square 85).

## Room 32

**Room 32** was the northernmost of the two rooms identified on the west side of **Building 7**. It measured 3.8 by 2.8 m. In it was a base of silt (**Layer 44** in Square 65) covered by an ashy and silty fill deposit (**Layer 32**). The room was entered from the south through a doorway 0.9 m wide (the doorjambs may have been disturbed) located between **Wall 16** (width 0.65 m) and **Wall 15** (width 0.80 m) in Square 75.

## Room 57

**Room 57** in Square 75 was the southern room identified on the west side of **Building 7**. It measured 3.7 by 2.9 m. In it was **Layer 57**, which consisted of mudbrick detritus and destruction debris. The room was bordered on the south by **Wall 37** (width 0.75 m), a remnant of a stone wall foundation that had been removed by **Robber's Trenches 36** and **28**.

## Room 22

**Room 22** was the northernmost room identified on the east side **Building 7**. It measured 4.4 by 1.8 m. In it was destruction debris (**Layer 22** in Square 65) and a silty fill layer (**Layer 106** in Square 75). The room was bordered on the south by a mudbrick wall fragment (**Wall 31** in Square 75) that may have included a doorway. Over this part of the room was destruction debris (**Layer 4** in Square 75) that had likely been raked and leveled to prepare the area for reoccupation in the Persian period.

## Room 104

**Room 104** in Square 75 was the southern room identified on the east side of **Building 7**. It measured 4.4 by 2.4 m. In it were deposits of sandy silt (**Layers 89** and **104**).



### 3. THE MARKETPLACE AND QUARRY IN GRID 50<sup>1</sup>

THE Grid 50 excavation area is located on the west side of the “South Tell” of Ashkelon, overlooking the Mediterranean Sea to the west (figures 1.1 and 3.1). It is a deep trench, 600 square meters in size (see fold-out sections). This seaside area does not contain a complete sequence of the periods of occupation at the site. In some ways, it appears to have been a marginal area of the city. During the Middle Bronze Age it was the site of a necropolis consisting of rock-cut chamber tombs; in the late Iron Age it briefly became a stone quarry; and in the Byzantine and Islamic periods it was a waterfront park or open area (see *Ashkelon 1*, pp. 299–318). In the final years of the seventh century B.C., however, it was the location of a marketplace—a rare discovery at any Iron Age site and therefore one of the most important areas excavated in Ashkelon.

In terms of stratigraphy, a major event took place in the Grid 50 excavation area that reshaped the land-

scape. Sometime in the seventh century, the western slope of the site along the seashore was quarried for building stone, presumably during a period of intense constructional activity in the city. This quarrying operation extended thirty meters or more eastward toward the center of the South Tell. The south edge of the quarry cut through the center of the excavation area in Grid 50 (Phase 8), removing earlier Iron or Bronze Age occupational strata from the northern half of the excavation area (figure 3.2).

South of this cut, a few seventh-century architectural fragments survived from the time before and during the quarrying operation. But these earlier buildings were further damaged when the open quarry was filled in not long after it had been created. The massive filling operation created a new surface on which the buildings of the marketplace (Phase 7) were constructed in the final years of the seventh century B.C. (figure 3.3).



Figure 3.1: Grid 50 excavation area in 1998 (view to west); the quarry was cut into the north side of the area

<sup>1</sup> Excavations of the seventh-century B.C. phases in Grid 50 were supervised by Elizabeth Bloch-Smith (1991–1996), Egon Lass (spring 1992), and Susan Cohen (1997), under the general direction of Lawrence Stager. In 2003–2004, Lass reexamined the field notebooks and reports and wrote the first draft of the present chapter, which has been extensively revised by Daniel Master. The fold-out section drawings are at the back of the volume.



Figure 3.2: Detailed plan of the quarry and contemporary buildings in Grid 50, Phase 8

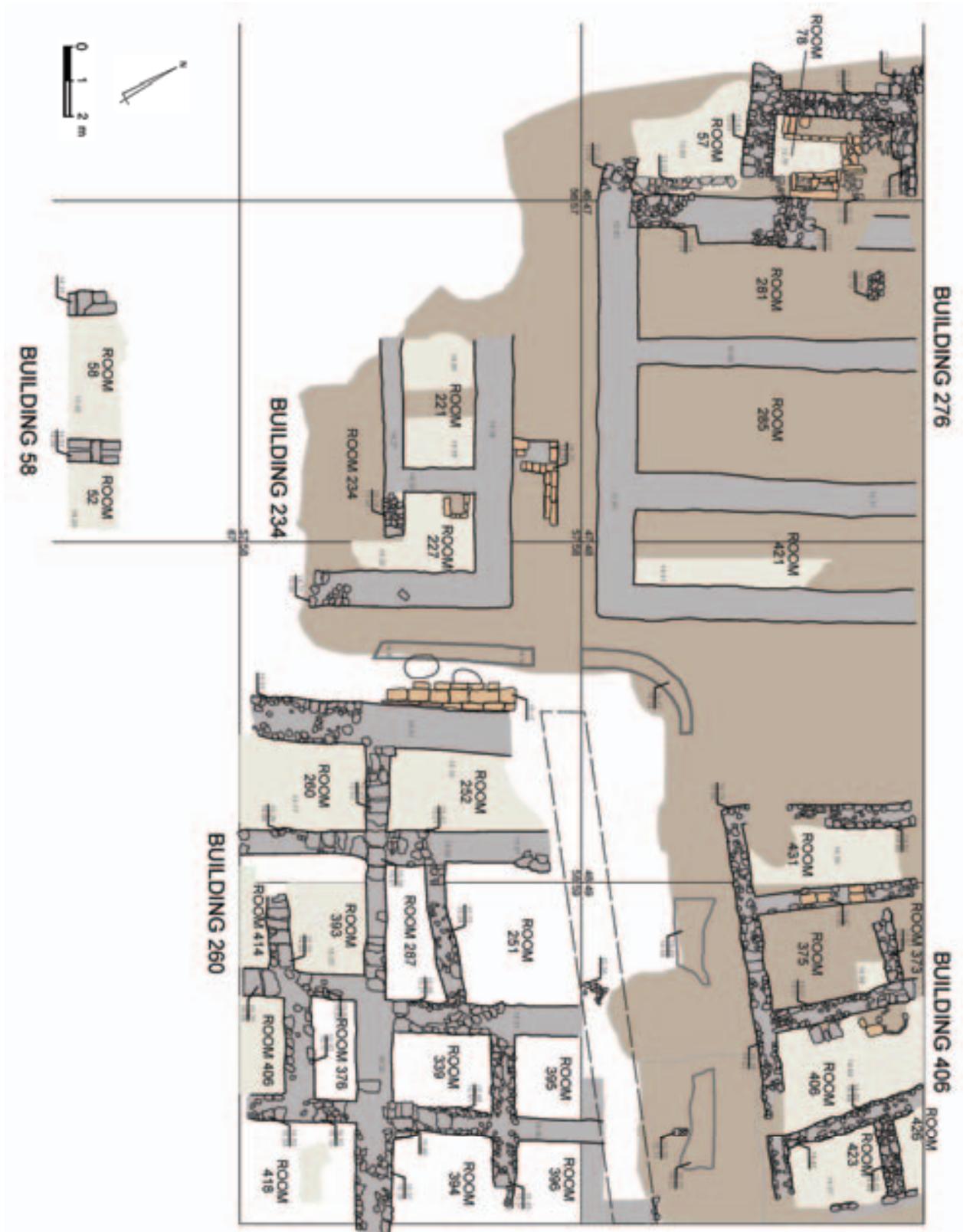


Figure 3.3: Marketplace buildings above the filled-in quarry (indicated by dark shading) in Grid 50, Phase 7

Four new buildings were built above the quarry fill in the Grid 50 excavation area (figure 3.3). They were separated by streets and an open plaza. **Building 406** in the northeastern part of the excavation area consisted of a row of four shops which fronted onto a street that had a drain (or sump) running down its middle. **Building 276** in the northwestern part of the area, most of whose foundations had been removed by later robber's trenches, had three long, parallel rooms, suggesting that it was a warehouse. **Building 234** in the southwestern part of the excavation area was also poorly preserved; however, two of its rooms could be clearly delineated. **Building 260** in the southeastern part of the area, where the quarry had not reached, shows an awkward attempt to incorporate older architectural remains into the new plan. These four buildings were separated by streets in which were found artifacts and installations that gave evidence of a thriving commercial district.

The marketplace buildings of Phase 7 were constructed on top of an unconsolidated deposit that had rapidly filled the quarry of Phase 8. As a result, they gradually sank, ultimately settling about a meter below the original surface on which they were built. Since the market was in use for only a decade or so, it is possible that much of the subsidence occurred after this area was destroyed and abandoned. Still, this problem appears to have been noticed and addressed by means of a drain built as a sump along the edge of the now-buried quarry. In 604 B.C., the marketplace was thoroughly burned and the rubble lay untouched

until the area was robbed of its stone and reworked by later builders who returned to the abandoned site in the Persian period.

#### *Before the Quarry: Early Seventh-Century Remains*

The earliest seventh-century architecture (possibly constructed in the eighth century) was preserved in the southeastern corner of the excavation area, which the quarrying operation did not destroy. **Building 307** is a poorly preserved building that measured  $13 \times 8$  m (figures 3.2 and 3.4). Unfortunately, it provides no clues concerning the function of the area. The western boundary of the building was a mudbrick wall, **Wall 297** in Square 58, which was 8.5 m long and 1.2 m wide. Only one course of bricks was preserved. The bricks rested on a layer of sand, most likely to prevent damage during earthquakes. This mudbrick wall made a corner with **Wall 296**, a mudbrick wall 2.25 m wide that extended to the east in multiple segments which joined to form a continuous wall that formed the northern boundary of **Building 307**. After running eastward for 5.5 m, **Wall 296** was interrupted by a passageway 0.6 m wide that had been blocked with stones. The north wall of **Building 307** then continued east of the passageway as a stone wall 0.6 m wide, **Wall 411** in Square 59, of which a segment 3.5 m long was preserved. **Building 307** may have been closed on the east side by a stone wall that was reduced by erosion to a stone heap, which was excavated as **Wall 450** in Square 59.

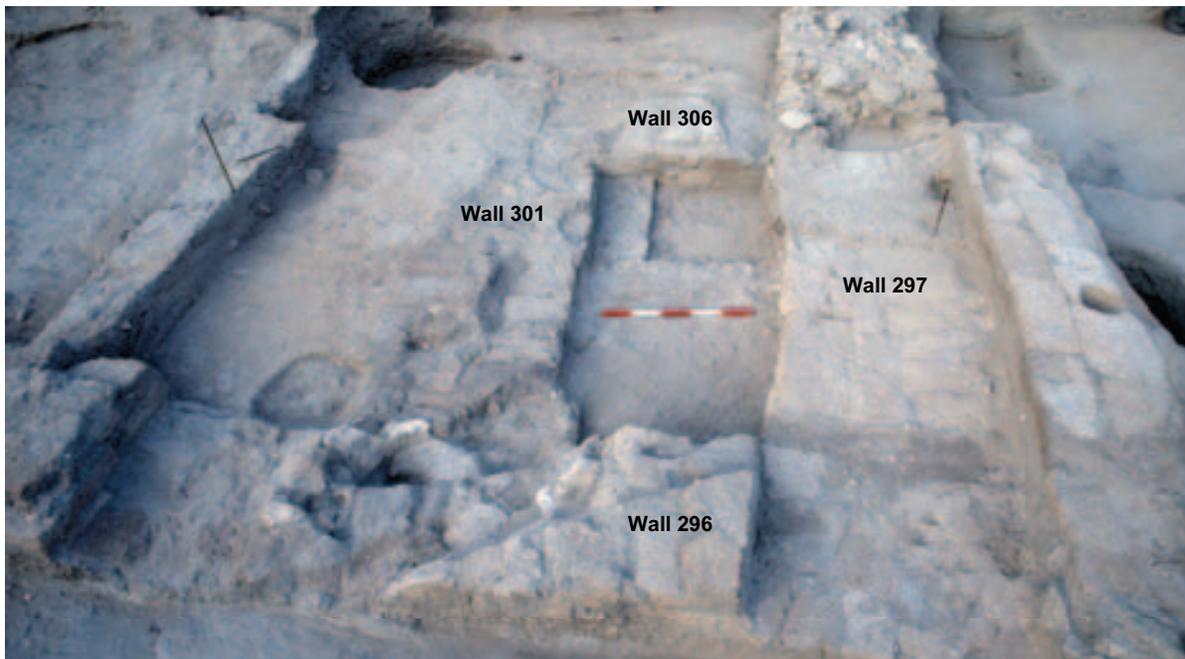


Figure 3.4: The northwest corner of Building 307 (view to south)

The large stone near the southeastern corner of the excavation area (**Wall 457** in Square 59) and the floor surfaces that ended on a line east of this stone (**Floors 442** and **447**) may attest to the southward extension of **Wall 450**. The east–west stone wall fragment **Wall 415**, which lay on a well-preserved mudbrick foundation bedded in sand (**Wall 437**), may have closed **Building 307** on the south side. Two small portions of mudbrick walls that were not preserved to their full width, **Wall 428** (which went into the east balk) and **Wall 436** (an extension of **Wall 437**), may also have belonged to this building.

The interior walls of **Building 307** included a north–south mudbrick wall (**Wall 301** in Square 58) that made a corner with another mudbrick wall (**Wall 306**) to create a narrow room in the northeast corner of the building. Just east of the blocked northern entrance was another partition wall (**Wall 445** in Square 59). In the southwestern corner, a beaten-earth floor with components of lime and shell (**Floor 307** in Square 58) and its occupational debris (**Floor 276**) met **Wall 265** and extended 4 m to the east. Subsequent debris on this floor was excavated as **Layer 279** and **Layer 291** in Square 58. Both of these layers were equated with **Layer 278**, which was under **Wall 228** in Square 58, a partition wall in the later phase of the building.

To the west of **Building 307** in Square 58, two mudbrick benches (**Bench 329** and **Bench 78**) opened onto a street or alley buildup (**Layer 327**). North of **Building 307**, an east–west alley ran along the northern face of the building. In this alley was an outdoor surface (**Layer 390** in Square 59) that was preceded by a street deposit consisting of ash and silt (**Layer 465**).

The southern wall of a fragmentary building to the north of the alley appears in the form of several east–west robber’s trenches: **Robber’s Trench 293** in Square 58, **Robber’s Trench 458** in Square 59, and **Robber’s Trench 407** in Square 49. At least four walls abutted this robbed wall from the north: a stone wall (**Wall 345** in Square 48), a mudbrick wall (**Wall 420** in Square 48), a stone foundation (**Wall 387** in Square 49, width 0.5 m), and **Robber’s Trench 408** in Square 49. These three walls were all cut on their north ends by the quarry. **Silo 373** in Square 48 was probably within the building, although its relationship to **Wall 420** is unclear. The silo was filled with mudbrick detritus and sand (excavated as **Layer 403**) and was the latest architectural feature clearly cut by the quarrying activity. Within the layer cut by the quarry was a mortarium typical of the seventh century (see p. 108). This provides a post-eighth century date for the quarrying that destroyed the building.

### *An Isolated Installation in Square 67*

In the southwestern corner of the excavation area was a large plastered installation that cut into earlier Iron Age material (figures 3.5 and 3.6). Seventh-century pottery was found below its lowest foundations, yet the entire installation was placed out of use by the construction of the marketplace buildings destroyed in 604 B.C. The precise chronological position of this installation relative to the other structures excavated in Grid 50 is unclear; however, it must represent an earlier phase of seventh-century occupation.

**Wall 158** in Square 67, which was detected within the balk at the southern edge of the excavated area, is the earliest element of this installation. It was constructed in a different fashion than the other parts of the installation, with larger, drafted blocks; it may be an earlier wall that was reused as the foundation against which the rest of the installation was built.

Other walls clearly buttressed a deep cut on each excavated side though the full southern extent of this installation was not reached. **Walls 159, 67, and 66** (all in Square 67) were laid at the bottom of the cut, but only **Wall 66** and **Wall 67** were preserved high enough to show evidence of the plastering that covered the entire installation. At the bottom, the same plaster ran horizontally over **Wall 158**.

Other than the poorly preserved plaster (visible primarily in cross-section), the only material associated with this installation was the collapsed mudbrick material that filled it when it went out of use, which contained burnt bricks and ash (excavated as **Layers 61, 76, 77, 78, and 80** in Square 67). The entire room was subsequently covered by **Layer 59**, which was made up of mudbrick collapse, also with pieces of burnt bricks and ash. Of particular note are two large, complete storage vessels that were placed in the debris inside the installation: a Greek amphora from the Aegean island of Chios (see chapter 10, cat. no. 517) and a basket-handled amphora, probably from Cyprus (see chapter 7, figure 7.57).

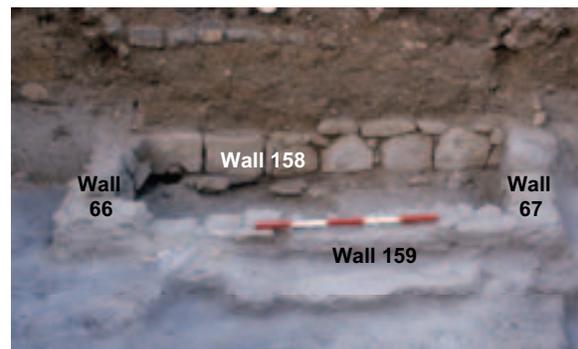


Figure 3.5: Foundation of installation (view to south)

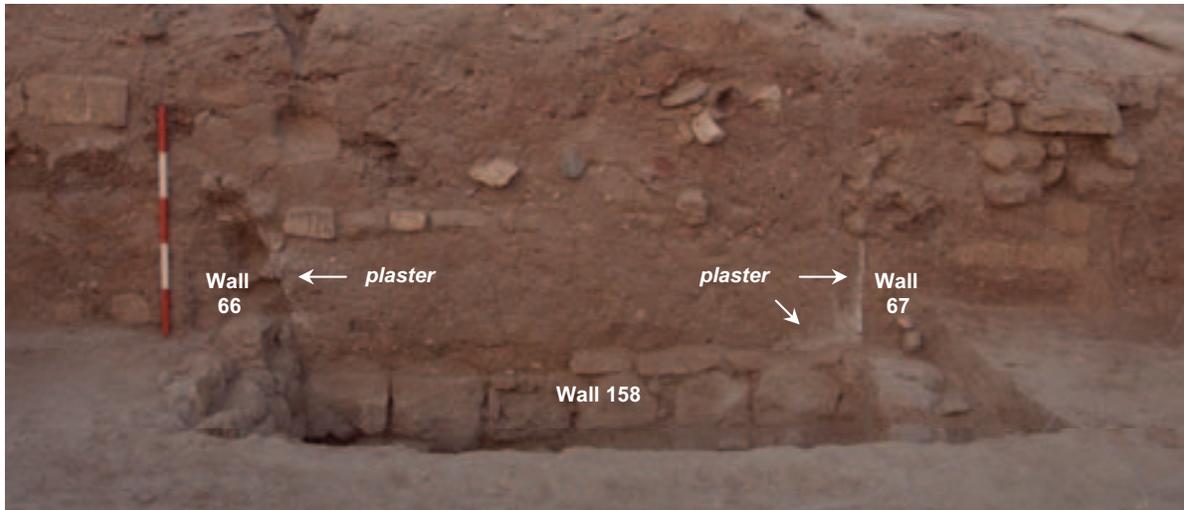


Figure 3.6: Section showing plaster traces on interior of the installation in Grid 50, Square 67 (view to south)

### *The Quarry and Its Fill*

If the mortarium found in a pre-quarry deposit is correctly understood as a seventh-century type, the large quarry that intruded on the Grid 50 excavation area must have been dug sometime during the seventh century. This quarry was cut down into bedrock from the seaside cliff on the west to a point an unknown distance inland to the east. Soon after the quarry was dug, it was filled in with a large deposit consisting of alternating layers of clay, sand, and silt that contained a great deal of pottery and other discarded items. The alternating layers in the quarry fill, which included several examples of puddling created by standing water, show that the quarry was open for at least one winter rainy season and possibly more. However, the finds within the fill were quite homogeneous in date: all of the pottery belongs to the last decade or two of the seventh century, which indicates a rather short period of accumulation, in ceramic terms.

When these alternating layers were first excavated, they were not recognized as part of a massive deposit in a back-filled quarry (whose existence was not yet suspected). The fill deposit was therefore separated by the excavators into a large number of units and excavated quite carefully, especially in rooms of the marketplace that lacked clear floor surfaces. This was encouraged by the fact that the fill deposit consisted of distinct layers of very different composition—clay, silt, and sand—creating a welter of technical surfaces. Only after extensive probing was it clear that they belonged to a single fill deposit that was more than five meters deep.

The earliest layers in the quarry fill (**Layers 468, 471, 474, 495, 475, and 496**—all in Square 48) were

deposited directly on top of Middle and Late Bronze Age tombs chambers that had been cut into the bedrock long before. As a result, there was some Late Bronze Age material mixed into these layers. In general, however, the quarry fill deposit contained a remarkably homogeneous assemblage dated to the late seventh century B.C.<sup>2</sup>

Several architectural features emerged from the quarry fill, some ephemeral and some substantial (figure 3.2). Two rows of stones seem haphazardly placed. One of them, **Wall 447** in Square 48 (2.53 m long, 0.38 m wide, 0.25 m high), was interpreted as a windbreak. The other, excavated as **Wall 301** in Square 47 and **Wall 458** in Square 48, could not be associated with any other feature. A more substantial structure, excavated as **Wall 255** in Square 57 and **Wall 324** in Square 58, was preserved over two meters high (figure 3.7). It appears to have been the southern retaining wall of a structure that lay just south of the quarry. It is the largest structure directly associated with the open quarry and is the only evidence that it remained unfilled for any length of time.

<sup>2</sup> In addition to the layers already listed, the quarry fill deposit was divided into the following technical layers: **Square 46**—Layers 75, 79, 80, 81, 84, 85, 88, 100; **Square 47**—Layers 281, 283, 284, 285, 300, 302, 303, 304, 305, 306, 307, 308, 309, 310, 313; **Square 48**—Layers 405, 408, 414, 419, 426, 427, 434, 436, 439, 444, 445, 446, 448, 449, 450, 451, 452, 453, 454, 460, 461, 462, 465, 466, 467, 469, 491, 492; **Square 49**—Layers 420, 421, 425, 432, 436, 437, 438, 439, 440, 441, 443, 444, 445, 446, 449, 451, 453; **Square 56**—Layers 205, 212; **Square 57**—Layers 197, 213, 221, 227, 239, 240, 244, 245, 248, 252, 254, 256, 258, 259, 272, 274; **Square 58**—Layers 271, 313, 314, 316, 318, 320, 321, 322, 323, 325, 326, 362, 396.

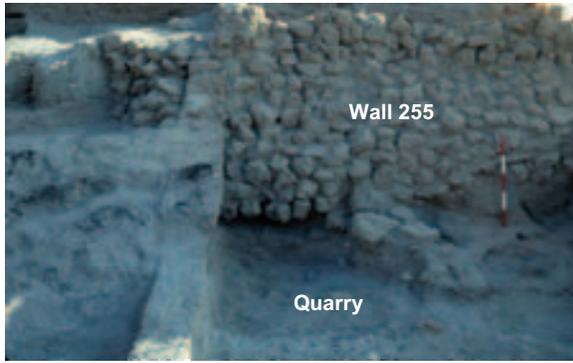


Figure 3.7: Retaining Wall 255 (view to south)

In the northeastern corner of the quarry in Square 49, three walls were constructed above the almost completely filled quarry. Fieldstone **Wall 433** (5 m long, 0.5 m wide) and **Wall 434** (3.3 m long, 0.8 m wide) joined with **Wall 435** to form a U-shaped enclosure. Collapsed material to the west of **Wall 433** tumbled down into the open quarry, demonstrating that the quarry was not completely filled when these walls were built. No occupational remains were discovered in association with these walls. They appear to have been used by the later builders of the row of shops (**Building 406** of the marketplace) both as foundations for the main southern wall of the shops

(**Wall 358**) and as north–south benches within the second shop. These walls may represent an abortive attempt to build a new building on top of the quarry fill deposit—an attempt that was arrested for some reason in order to continue filling the quarry.

In most cases, the sides of the late Iron Age quarry consisted of a vertical cut through earlier strata downward into the bedrock. In the eastern part of the quarry in Square 49, however, the quarry was cut at an angle, slicing through some, but not all, of the earlier strata and never fully reaching bedrock (the fill layers in this corner were **Layer 399** and, above it, **Layer 390**). This may be an indication that quarry did not extend much farther to the east.

*The Marketplace*

After the filling of the quarry, four new buildings were constructed in the Grid 50 excavation area: **Buildings 260, 406, 276, and 234** (figure 3.3). These buildings are reasonably coherent in plan and function despite extensive robbing and the presence of only ephemeral beaten-earth floors in several of the rooms. Furthermore, the construction of later Persian-period buildings in the area completely destroyed the the seventh-century marketplace in the southeastern corner of the Grid 50 excavation area.

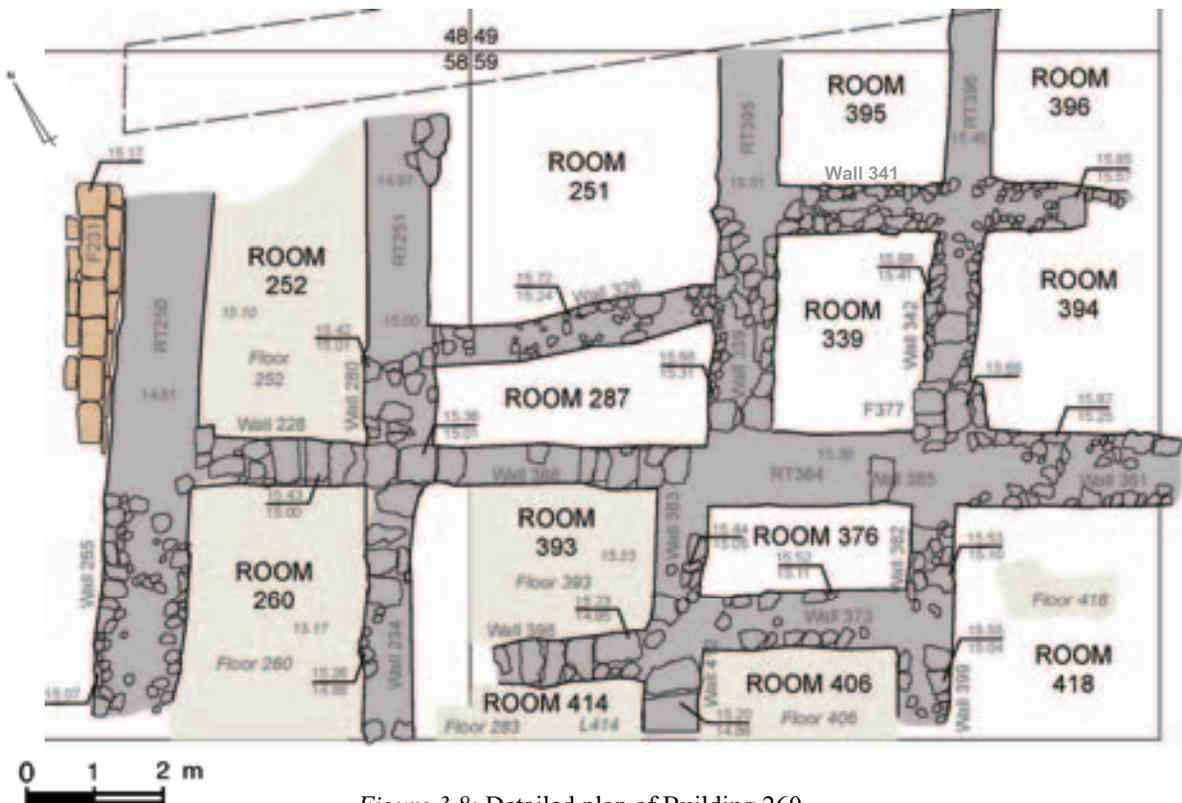


Figure 3.8: Detailed plan of Building 260

## BUILDING 260

The excavated portion of **Building 260** in the southeastern corner of the Grid 50 excavation area measured 14.5 m from east to west and an estimated 11 m from north to south (figures 3.8 and 3.10). The northern closing wall was not found, so these measurements are approximate. The preserved portions of the building show an awkward attempt to follow the orientation of the earlier building in this area (**Building 307** in Phase 8; see figure 3.2) while accommodating the orientation of the new east–west street that ran north of **Building 260**. Along the eastern end of this building, accumulations of naturally deposited waterborne sediments indicate a hiatus of some duration between the occupation of **Building 307** in Phase 8 and the construction of **Building 260** in Phase 7.

The main east–west partition wall running through the middle of **Building 260** was excavated as **Wall 228** in Square 58, **Walls 368, 385, and 361** in Square 59, and **Robber’s Trench 364** in Square 59. The maximum width of this wall was 1 m at its eastern end. From this central wall, northern and southern walls branched out to form a total of fourteen possible rooms of various sizes. Most of these walls had stone foundations ca. 0.7 m in width.

## Room 252

In Square 58 in the northwest corner of **Building 260** was **Room 252**, a rectangular room 2.45 m wide from east to west. A layer of naturally deposited waterborne sediment had accumulated over and through the 604 B.C. destruction debris in this room during the period when Ashkelon was abandoned after the Babylonian conquest and deportations. This deposit was made up of sand and many large potsherds that may have come from a floor.

**Room 252** was bounded on the west by **Robber’s Trench 250** and on the east by **Robber’s Trench 251** and **Wall 280**. The north wall of the room was totally destroyed and could not be detected. The room was bounded on the south by **Wall 228**. Underneath the floors in this room (**Floors 252 and 253**) was a sandy fill layer (**Layer 255**).

## Room 251 and Room 287

East of **Room 252** were **Rooms 251 and 287**, most of which lay within Square 59. These rooms were 4 m wide from east to west. No floors were preserved. **Room 251** originally occupied the entire space until a partition was inserted (**Wall 326**) in order to create **Room 287**. The space occupied by these rooms was

bordered on the south by **Wall 368** and on the east by **Wall 339**, whose northward extension was indicated by **Robber’s Trench 395**.

The initial phase of **Room 251** is indicated by sandy fill layers and mudbrick detritus (**Layers 288, 289, and 290** in Square 58). No clear floor was detected. Subsequently, an oblique partition wall was added from east to west (**Wall 326** in Square 59). This wall was built on a slope that rose toward the north, so a small step was cut into the slope on the north side of the wall in order to allow **Wall 326** to rest on a level surface. Along its northern face was sandy fill **Layer 365** and south of it was mudbrick collapse **Layer 380**. These layers were preceded by a sandy fill **Layer 405**. South of **Wall 326**, in **Room 287**, was sandy fill **Layer 274**, which was very similar to **Layer 365** on the north side of the wall.

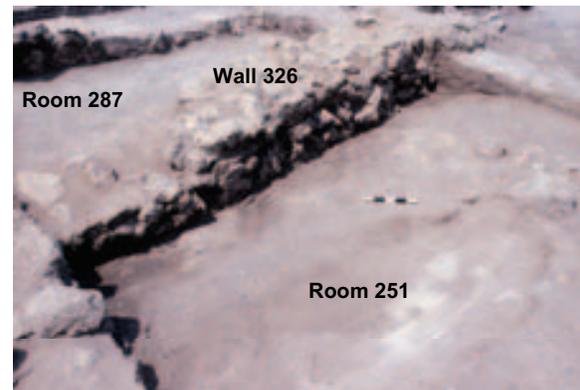


Figure 3.9: Wall 326 between Rooms 251 and 287 in Building 260 (view to southwest)

Room 395, Room 396, Room 339, and Room 394

East of **Wall 339** in Square 59 was a group of four rooms. None of the floors of these rooms was preserved. Bounded on the west by **Robber’s Trench 395**, the northern extension of **Wall 339**, was **Room 395**, which contained nothing but a sandy fill deposit (**Layer 337**). East of **Room 395**, separated from it by **Robber’s Trench 396**, was **Room 396**, which was largely destroyed by a later well. **Robber’s Trenches 395 and 396** were visible in the south section of Square 49, so the north–south walls of which they give proof must have continued at least into the southern part of Square 49.

South of **Room 395** was **Room 339**, which was bounded on the east by **Wall 339**. It contained only mudbrick collapse **Layer 386**. East of **Room 339**, separated from it by **Wall 342**, was **Room 394**, which lay directly south of **Room 396**. It contained a sandy fill deposit (**Layers 371 and 379**).

At the south end of **Wall 342** were a number of slabs (**Feature 377**), which may have served as the base for a doorsill. Both **Wall 341** and **Wall 342** had a large stone 1.1 m from the corner where they met, indicating perhaps a strengthening pillar in each wall.

#### Room 260

In the southwest corner of **Building 260** in Square 58 was **Room 260**, which was bounded on the west by **Wall 265**, on the north by **Wall 228**, and on the east by **Wall 234** (in which a tuyère was embedded, vitrified at the broad end of the clay tube). Within the room was a sandy deposit full of smashed pottery (**Layer 260** in Square 58). It lay over occupational debris made up mostly of brown, sandy material that contained much less pottery (**Layer 272**). This in turn was deposited on top of **Floor 276**, which consisted of small depositional lenses from the first phase of the building. Below the floor were **Layers 279** and **291**; both of these were equated to **Layer 278**, which ran under—and thus was earlier than—**Wall 228**.

#### Room 393 and Room 414

East of **Wall 234** on the south side of **Building 260** were two rooms separated by east–west partition

**Wall 398** in the southwest corner of Square 59. Both rooms were 3.5 m long from east to west. **Room 414**, south of **Wall 398** and bounded on the east by **Wall 412**, was only partially excavated. It had a poorly preserved beaten-earth floor (**Floor 283** in Square 58) covered by occupational debris (excavated as **Layer 282** in Square 58 and **Layer 414** in Square 59). **Room 393**, north of **Wall 398** and bounded on the east by **Wall 383**, was 2 m wide. Its beaten-earth **Floor 393** was capped by brick collapse **Layer 392**; below it was natural wash **Layer 404**.

#### Room 376

**Room 376** lay east of **Wall 383** in Square 59. It was 2.9 m long from east to west and 1.3 m from north to south. It was bordered on the north by **Wall 385**, on the east by **Wall 382**, and on the south by **Wall 373**. No floor was found in this room—only sandy fills **Layers 372** and **376**.

#### Room 406

South of **Room 376** was **Room 406**, a partially preserved room bordered by **Wall 412** on the west and **Wall 399** on the east. It had a poorly preserved beaten-earth floor (**Floor 406**).

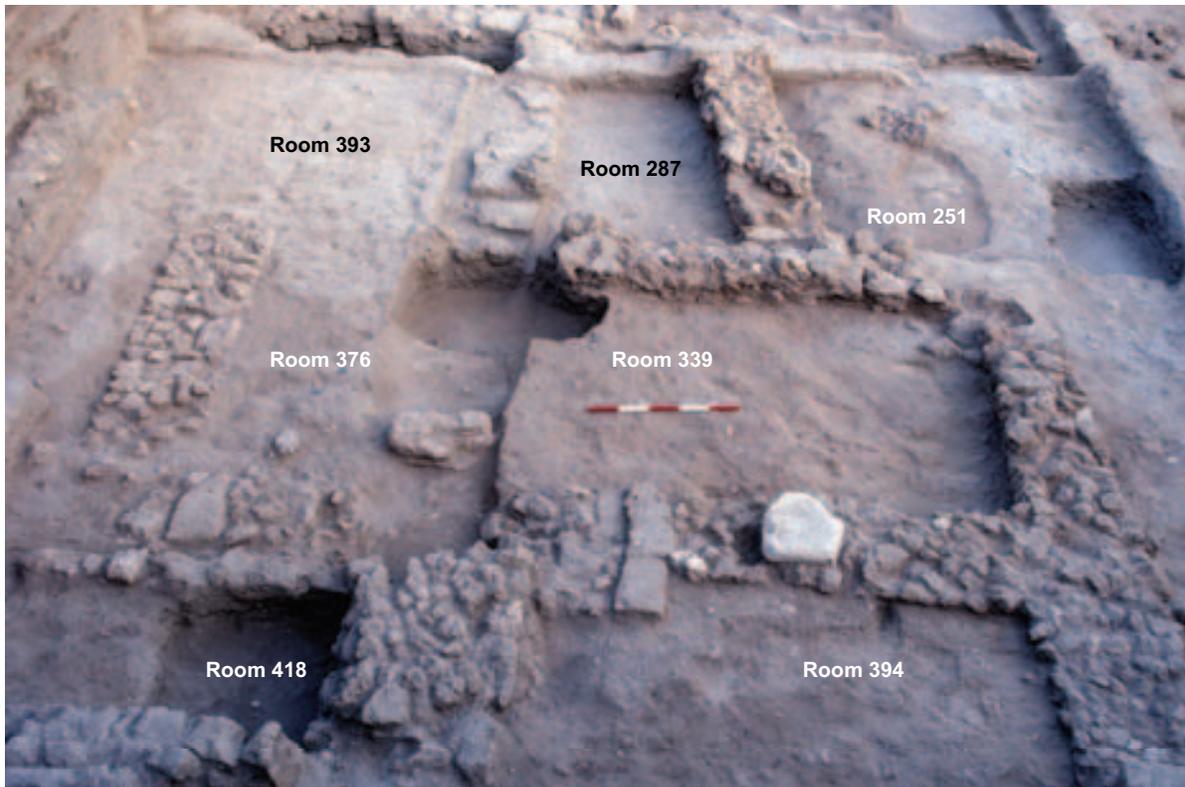


Figure 3.10: The eastern part of Building 260 (view to west)

## Room 418

**Building 260** was quite poorly preserved in **Room 418**, which lay east of **Walls 382** and **399** in the southeast corner of Square 59 (i.e., east of **Rooms 376** and **406**). Erosion in this area, which occurred both before and after the seventh century, appears have been severe. A series of naturally deposited waterborne accumulations (**Layers 417**, **419**, and **432**) were topped by mudbrick detritus (**Layer 420**). Above these the only evidence of occupation was **Layer 418**, a small patch of floor preserved over an area of only  $1.7 \times 0.9$  m.

## BUILDING 406

**Building 406** lay in the northeastern corner of the Grid 50 excavation area in Squares 48 and 49 (figures 3.11 and 3.12). It was not completely excavated on its northern and eastern edges but was exposed to a length of 12.4 m (east–west) and a width of 5.9 m (north–south). It has been interpreted as a row of four shops. Most of its stone walls are ca. 0.6 m wide. **Wall 358**, the long stone wall that ran along the street to the south of the building, was common to all four rooms. It had a thin mud coating on its south face.

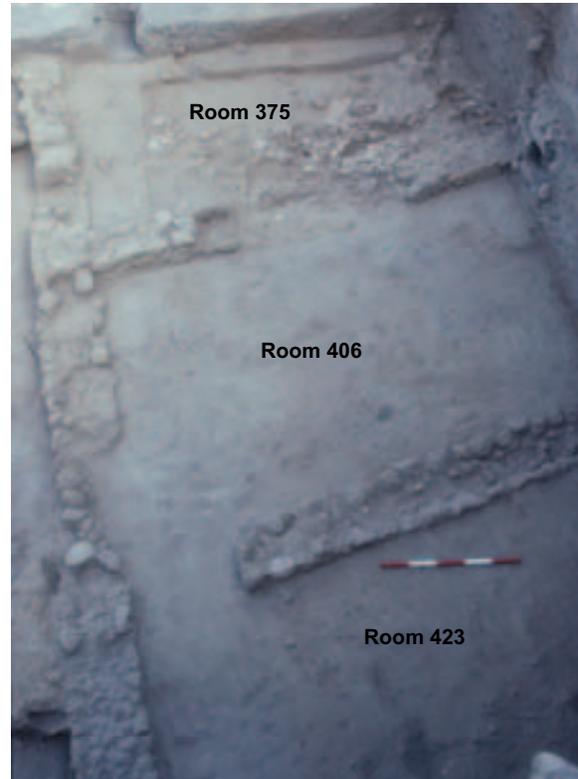


Figure 3.11: Building 406 (view to west)

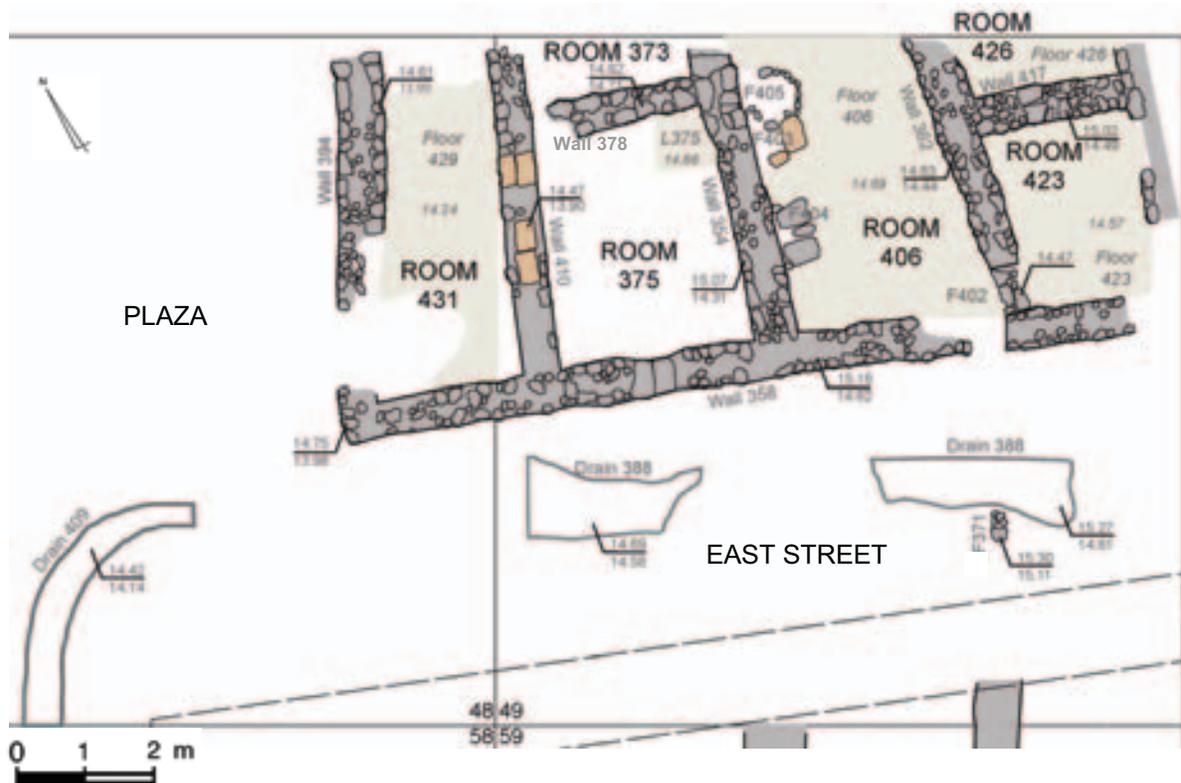


Figure 3.12: Detailed plan of Building 406, the East Street south of it, and the Plaza west of it

## Room 423 and Room 426

**Room 423** was the easternmost room excavated in **Building 406**. It lies in Square 49. It was bounded by **Wall 362** on the west and **Wall 424** on the east. **Wall 362** had a threshold (**Feature 402**) at its south end whose flat stone surface was 0.8 m wide, making a doorway into **Room 406** to the west.

**Room 423** was partitioned from **Room 426** by east–west **Wall 417** (figure 3.13). This created a front room on the street (**Room 423**) measuring  $2.8 \times 1.9$  m, and a back room (**Room 426**) that was not fully excavated and whose size is not known. The front room had a beaten-earth floor (**Floor 423**) whose subfloor makeup included crushed *kurkar*, the local soft sandstone. On this floor was found destruction debris **Layer 418**, which consisted of mudbrick material and ash and contained a number of smashed jars and dipper juglets. A storage jar remained in place against the wall with its toe embedded in the ground. Other storage jars were positioned against the walls but had toppled over from their original upright positions. The destruction debris was covered by collapsed mudbrick wall material (excavated as **Layers 411, 413, and 414**).

**Room 426**, the back room north of **Wall 417**, also had a beaten-earth floor with *kurkar* bedding (**Floor 426**). No artifacts were found on it. It was covered by wall fall (excavated as **Layers 416 and 419**).



Figure 3.13: Room 423 and Room 426 (view to west)

## Room 406

**Room 406** was west of **Room 423** in Square 49 (figure 3.14). It was bounded on the east by **Wall 362** and on the west by **Wall 354**. On top of its beaten-earth surface (**Floor 406**) was destruction debris consisting of collapsed mudbrick wall material, plaster, and charcoal (excavated as **Layers 392 and 401**). The destruction debris was covered by brick collapse in a

sandy matrix (excavated as **Layers 386 and 391**). Of particular interest is a complete human skeleton (**Feature 400**) that lay on the floor amid the debris. The skeleton was of an adult female who was lying in an extended posture with her right leg and left arm flexed and left leg semiflexed. All of her long bones were broken at the time of the collapse (for a description of this skeleton, see *Ashkelon 1*, pp. 533–35).

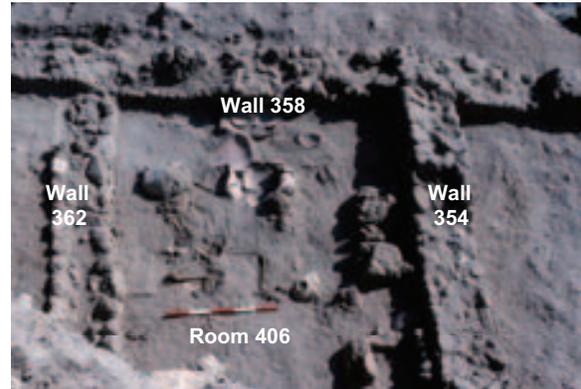


Figure 3.14: Room 406 with skeleton (view to south)

Up against **Wall 354** on the west side of **Room 406** were several installations: **Feature 404**, a small platform of squared stones (length 1 m, width 0.5 m, height 0.2 m) at the south end of the wall; **Feature 403**, a mudbrick bin (length 0.7 m, width 0.5 m, depth 0.3 m); and **Feature 405**, a stone circle (diameter 0.6 m). In addition, the excavators thought that two stones resting on the east wall of the bin (**Feature 403**) may have been grinding stones.

## Room 375 and Room 373

**Room 375** was west of **Room 406** in Square 49. This room was bounded on the west by **Wall 410**. It was partitioned by **Wall 378**, forming a front room on the street (**Room 375**) that measured  $3.4 \times 2.7$  m and a back room (**Room 373**) that was not fully excavated and whose size is unknown. An ash layer 5 cm thick (**Layer 375**) was concentrated in the northeast corner of **Room 375**; this may be evidence of a hearth.

A sandy fill deposit which covered the two rooms was excavated as **Layer 374** south of the partition-**Wall 378** in **Room 375** and as **Layer 373** north of the partition in **Room 373**. These sandy fills were topped by collapsed mudbrick material that contained smashed, restorable pottery (excavated as **Layers 364, 353, and 360**). The sequence of floor, sandy fill, and then brick collapse and restorable pottery may indicate multiple stories.

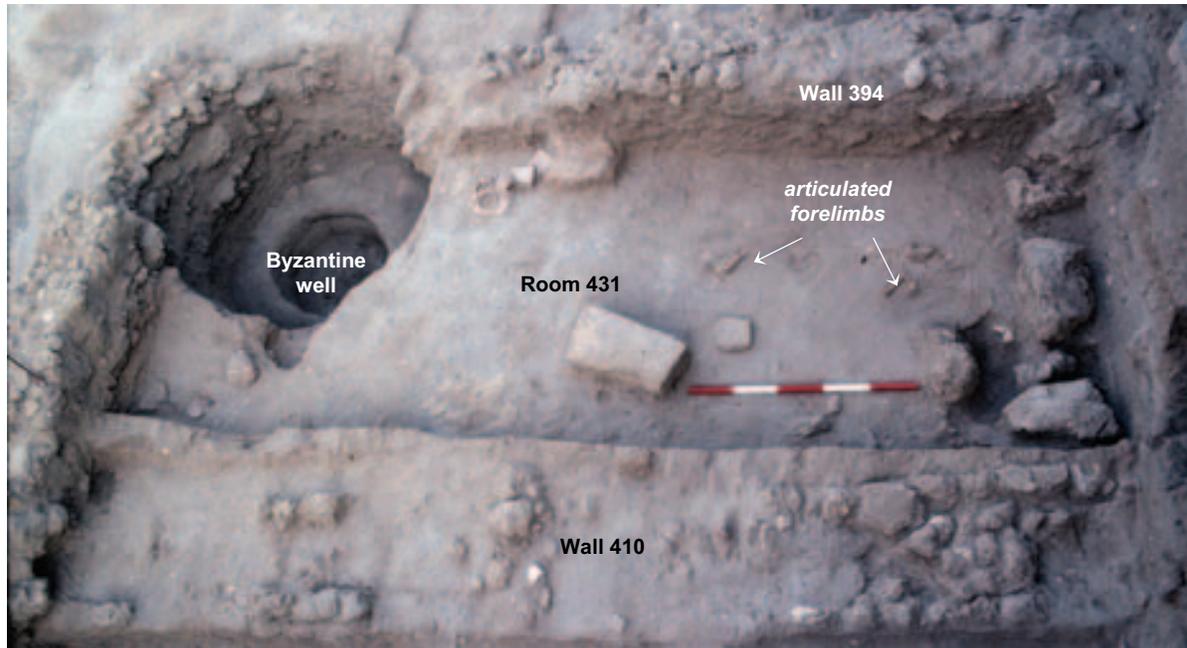


Figure 3.15: Room 431 (view to west)

Below the floor, a pit 40 cm deep (**Pit 422**) had been filled with naturally deposited sand and puddled clay. This pit extended underneath the partition wall (**Wall 378**) and marks the highest point of the Phase 8 quarry fill in this area.

#### Room 431

**Room 431** in Square 48 was the westernmost room of **Building 406** (figure 3.15). It was bounded on the west by **Wall 394**, which had an entrance and threshold ca. 0.5 m wide at its south end (**Feature 437**). **Room 431** had two superimposed beaten-earth floors. The upper floor was **Floor 429**, which had a *kurkar* bedding. This floor was destroyed in 604 B.C. On it were found some flat-lying shells and restorable potsherds, as well as a cow's leg that was fully articulated from hip to hoof and five articulated sheep's feet. Occupational debris on top of the floor (**Layer 428**) also contained some restorable sherds. A layer of collapsed mudbrick material (**Layer 390**) in turn covered the occupational debris in this room and in much of the adjoining plaza to the west.

Below **Floor 429** was **Floor 431**. This was an earlier beaten-earth surface that was identified by the presence of flat-lying sherds.

#### BUILDING 276

**Building 276** was located across the plaza about 5 m west of **Building 406**, in the northwestern portion of the Grid 50 excavation area (figure 3.18). It con-

sisted of three long rooms, the walls of which had all been robbed out. The plan of the building suggests that it was a warehouse. It was 9.5 m long from north to south but it was not completely excavated on its north side, so its complete length is unknown; it was excavated for a distance of 16 m from east to west and may have extended farther to the west.

#### Room 421

**Room 421** was the easternmost room in **Building 276**. It was 2.3 m wide. On the east it was bounded by **Robber's Trench 400** in Square 48 (containing **Layers 402** and **432** as backfill); on the south, by **Robber's Trench 407** in Square 48 (containing **Layer 406** as backfill), which continued as **Robber's Trench 279** in Square 47; and on the west, by **Robber's Trench 277** in Square 47. There was evidence of a beaten-earth floor (**Floor 421**), of which only the *kurkar* bedding remained. The floor was covered by occupational debris (**Layer 392**). A small pit (**Feature 268** in Square 47) was probably cut from this floor.

#### Room 285

**Room 285** in Square 47 was the middle room of **Building 276**. It was 2.6 m wide. On the east it was bounded by **Robber's Trench 277**; on the south, by **Robber's Trench 279** (a continuation of **Robber's Trench 407** in Square 48); and on the west, by **Robber's Trench 276** in Square 47. No floor was found.

## Room 281

**Room 281** was the westernmost room in **Building 276**. It was 2.8 m wide. On the west it was bounded by **Robber's Trench 278** in Square 47 and by two wall fragments in places where the wall had not been completely robbed (**Wall 94** and **Wall 95**). No floor was found in this room.

## THE TERRACE WEST OF BUILDING 276

West of **Building 276** were structures in Square 46 that were constructed before, or at the same time as, the building (figures 3.16–18). Two chambers were preserved: **Room 57** to the south and **Room 78** to the north. The east wall of **Room 57** (**Wall 92**) lay partly beneath the southern fragment of the west wall of **Building 276** (**Wall 95**). Rather than indicating two successive phases, it is more likely that these walls were built in such a way as to support **Building 276**, which was perched at the edge of a seaside bluff. **Wall 92** did not rise above foundation level—its stone courses were covered by bins in **Room 78** and by **Floor 57** in **Room 57**. Although subsequent erosion of the bluff destroyed much of the structure, it is likely that **Rooms 57** and **78** constituted the first in a series of stone terraces descending toward the beach.

## Room 57

**Room 57** was bounded on the south by **Wall 93** (width 1 m), on the east by **Wall 92** (width 0.50 m, with mud plaster on its western face), and on the north by **Wall 91**. Beaten-earth **Floor 57** was covered by collapsed mudbrick material (**Layer 56**).

## Room 78

**Room 78** was bounded on the west by **Wall 90**, on the south by **Wall 91** (width 0.85 m, coated with mud plaster on both sides), on the north by **Wall 86** (width 0.65 m), and on the east by **Wall 89** (width 0.62 m). A group of stones south of the north wall (**Wall 86**) was interpreted as the remnant of a stone pavement (**Feature 96**; lateral extent 0.90 × 0.65 m).

**Room 78** was lined on three sides by mudbrick bins (figure 3.17). **Feature 70** was a bin on the west side, **Feature 59** on the east side, and **Feature 68** on the north side south of the stone pavement. **Feature 70** had a beaten-earth base. **Feature 59** may have had an earlier phase later partitioned into two bins.

The bins and the walls of **Room 78** were associated with a beaten-earth surface (**Floor 78**), which was covered by ashy silt (**Layer 73/Layer 61**)—

probably from the collapsed walls of **Building 276**, assuming that the bricks from these walls slid westward down the slope onto the terrace that had buttressed the building.

There was evidence of another room on the eroded slope to the west of **Room 78**. Only two wall stubs remained: a continuation of **Wall 91** on the south end of **Room 78**, and **Wall 76**, which abutted **Wall 90** on the north end of the room.

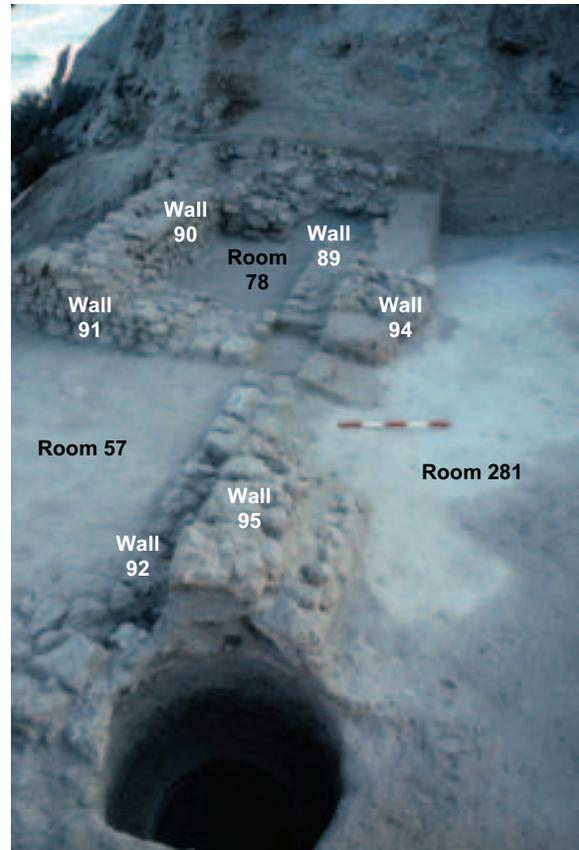


Figure 3.16: Terrace Rooms 57 and 78 (view to north)



Figure 3.17: Room 78 (view to west)

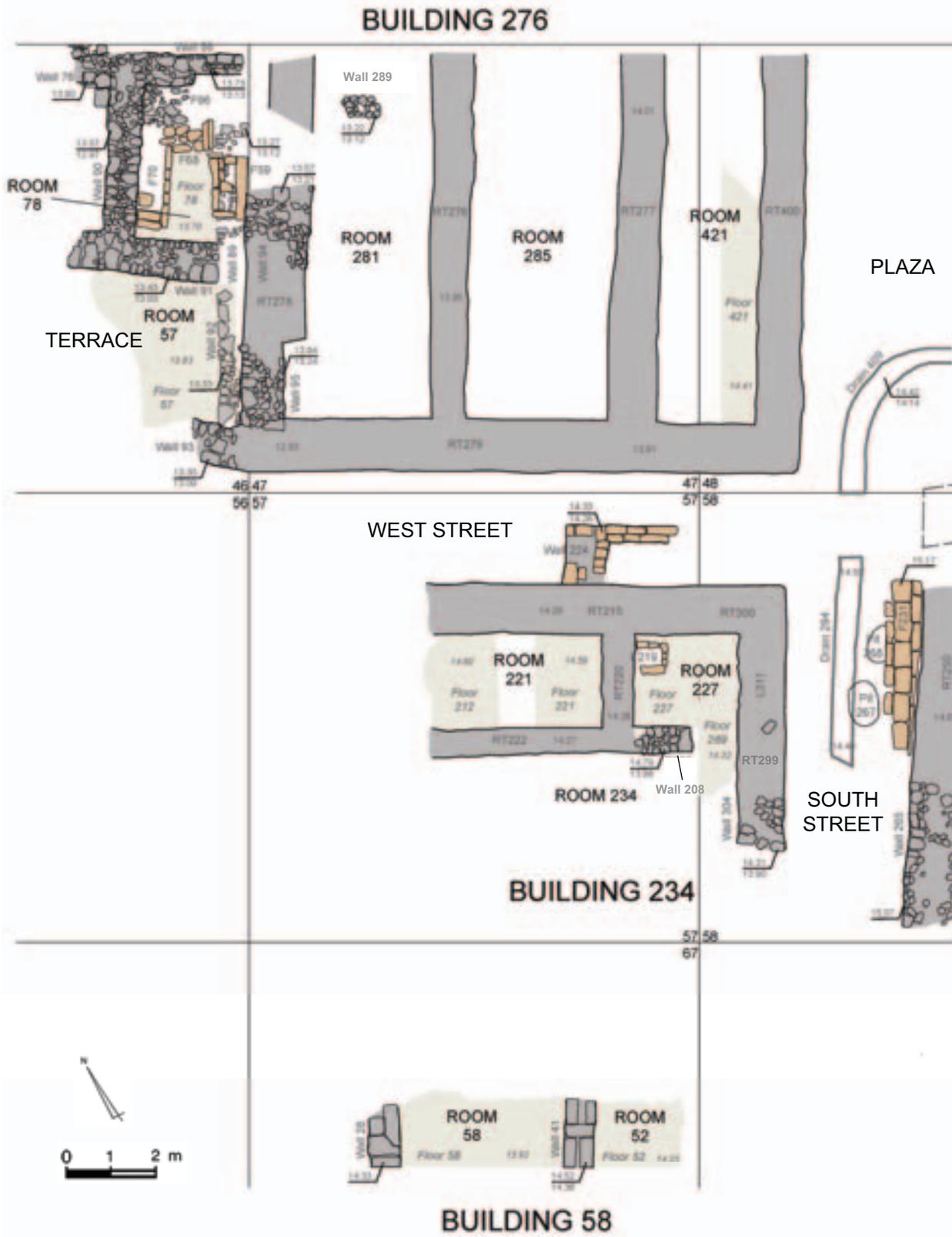


Figure 3.18: Detailed plan of Building 276 and the Terrace west of it (Rooms 57 and 78); Building 234, the South Street east of it, and the West Street north of it; and Building 58 in Square 67



Figure 3.19: Destruction debris in Room 221 of Building 234 (view to south)

#### BUILDING 234

The excavated portion of **Building 234** measured 8 m from east to west and 7 m from north to south (figure 3.18). Most of the walls had been robbed of their stone; only a few fragments remained. The line of the building's northern wall was indicated by **Robber's Trench 215** in Square 57 and by its eastward continuation in Square 58, **Robber's Trench 300**. The line of the eastern wall was indicated by **Robber's Trench 299** in Square 58. The western end of the building had been destroyed by the erosion of the tell, which slopes toward the sea on that side.

At the bottom of the robber's trenches were layers consisting of crushed *kurkar*, the local soft sandstone (**Layers 308 and 312 in Robber's Trench 300** and **Layer 311 in Robber's Trench 299**). These may be the surviving beddings of the stone foundations that had been robbed out. A fragment of the original foundations (**Wall 304**) survived only at the south end of **Robber's Trench 299**. It consisted of two rows of medium and large stones, ranging in diameter from 20 to 40 cm, arranged along the faces of the wall, with smaller stones in the middle, with a total width of 0.85 m.

An east–west partition wall subdivided **Building 234**. It was indicated by **Robber's Trench 222** in Square 57 and by a mudbrick wall fragment (**Wall 208**) consisting of three bricks (total length 1.04 m, width 0.43 m) which continued along the same line to

the east. The space north of the partition wall was further subdivided by a wall whose location is indicated by north–south **Robber's Trench 220**.

#### Room 221

**Room 221** in Square 57 lay in the northwestern corner of the preserved part of **Building 234**. This room was disturbed by an intrusive later wall (**Wall 229**) that ran across it, making it impossible to draw stratigraphic connections across the entire room. West of the intrusive wall was **Floor 212**, a plaster floor whose plaster had been partly vitrified by the intense heat of the fire that accompanied the 604 B.C. destruction. The floor was covered by **Layer 196**, which contained destruction debris made up of reed-impressed roof clay, some of it still bearing a thatch pattern. The destruction debris was disturbed by a natural gully (**Layer 203** in Square 57) formed by the drainage of water through this area on the western slope of the site during the years when Ashkelon was abandoned following the 604 B.C. destruction.

In the destruction debris were vitrified fragments of clay with distorted, liquefied forms still impressed in them, as well as charred wood from roof beams, smashed pottery, and a group of loom weights with strips of charred wood between them that may have been the beams of a loom. A partially preserved vat was sunk into **Floor 212**, propped up on its west side by a dressed stone. Not far west of it, among the

loom weights, lay a large clay jar stopper that had been accidentally fired during the destruction.<sup>3</sup> Other finds in **Layer 196** included an Egyptian amulet depicting the goddess Isis with the Horus-child.<sup>4</sup>

East of the later intrusive **Wall 229** in **Room 221** was a plaster floor fragment (**Floor 221**, probably the continuation of **Floor 212**) on which was found a layer of collapsed roof material (**Layer 225**), including fallen charred beams that were oriented in an east–west direction. On top of the roof material lay a sandstone incense altar (figure 3.19).<sup>5</sup> It must originally have been situated on the roof or an upper floor and have fallen when the building collapsed.

#### Room 227

**Room 227** occupied the northeastern corner of **Building 234**. It measured ca. 2 by 2.3 m. In the northwestern corner of this room was a mudbrick bin (**Feature 219** in Square 57; length 0.92 m, width 0.73 m) which had been built against the east side of the wall that was robbed by **Robber's Trench 220**. There were no indications of what this bin was used for; however, a nearly complete lamp was found in the debris that filled it. Under the plaster floor associated with the bin (**Floor 227** in Square 57 and **Floor 269** in Square 58) was a layer of carefully placed shells, round side up (**Layer 270**).

On top of the floor was a layer of destruction debris excavated as **Layers 206** and **226** in Square 57 and as **Layer 262** in Square 58. The debris contained a large amount of fired clay in which were reed and beam impressions, indicative of collapsed roofing material mixed with charred wooden beams.

**Layer 262** is problematic because **Robber's Trench 299**, which forms the eastern boundary of **Building 234**, was not initially recognized during the excavation, with the result that finds from the **South Street** east of **Building 234** were mixed with some of the finds from inside the building. Among the items scattered on the floor of **Room 227** amid the destruction debris were an ostrakon recording a grain transaction (reg. no. 39594)<sup>6</sup> and a variety of smashed storage jars, cooking pots, and juglets.

<sup>3</sup> The loom weights and jar stopper are described in detail below in chapter 18.

<sup>4</sup> The Egyptian amulet is described in chapter 12, cat. no. 2.

<sup>5</sup> This incense altar is described and illustrated below in chapter 22 (altar no. 1).

<sup>6</sup> This ostrakon is published in *Ashkelon 1*, pp. 336–39 (inscription no. 1.2).

#### Room 234

**Room 234** lay south of **Rooms 221** and **227**, separated from them by the east–west partition wall whose existence was indicated by **Robber's Trench 222** and the fragmentary **Wall 208**. In this room was found destruction debris that was excavated as **Layers 134**, **136**, **223**, and **234** in Square 57. However, these layers were occasionally contaminated by later building activity in the Persian period.

**Wall 255** in Phase 8 (figure 3.2), which was built as a retaining wall for the southern edge of the quarry in the period before the marketplace, was immediately below the earliest Persian-period walls in this area. This suggests a long period of visibility and use for the stones of this wall, during both the quarry phase (Phase 8) and the marketplace phase (Phase 7). **Wall 255** may therefore have functioned as a foundation for the southern wall of **Room 234**; that is, for the southern closing wall of **Building 234**. This cannot, however, be demonstrated stratigraphically.

#### THE SOUTH STREET

The **South Street** in Square 58 was a north–south street on the east side of **Building 234**, between it and **Building 260** (figure 3.18). It showed every sign of having been the locus of an open-air street market. At its southern end, between **Wall 304** and **Wall 265**, it was ca. 2.6 m wide; from there it widened toward the north to a width of ca. 3.2 m (it was bounded by robber's trenches so these measurements are approximate). The street accumulation, excavated as **Layers 302** and **266**, was often difficult to distinguish from the top of the quarry fill.

On the east side of the street, built up against the western wall of **Building 260** (now robbed out) was a mudbrick bench or platform 2.4 m in length and 0.65 m wide (**Feature 231**). This bench was composed of three rows of headers. It was cut on its eastern side by **Robber's Trench 250**, so it may originally have been wider. Quite possibly, it served as a place for displaying wares that were sold in the street. A small pit containing mudbrick detritus (**Pit 273**; diameter 0.23 m, depth 0.16 m) was cut into the bench; it was probably used to hold a large jar.

Running down the middle of the **South Street** was **Drain 294** (width 0.55 m, depth 0.15 m). This drain led into the street from the north, curving at a 90° angle from the east–west **East Street** that ran between **Building 406** and **Building 260**. The drain was intermittently lined with yellow *kurkar* and brown clay. **Layer 303** may have been a cover for **Drain 294**, but its preservation was ephemeral.



Figure 3.20: Destruction debris in Drain 294 in the South Street (view to south)

Two small pits were cut into **Layer 266**, directly in front of the mudbrick bench (**Feature 231**) on the east side of the street: **Pit 267** (diameter  $0.95 \times 0.65$  m, depth 1.38 m) and **Pit 268** (diameter  $0.95 \times 0.75$  m, depth 0.44 m). These pits contained botanical remains, including wheat.<sup>7</sup>

Above the sandy street accumulation in the **South Street** in Square 58 was **Layer 262**, which contained a large quantity of collapsed mudbrick material and destruction debris. This debris layer (as excavated) extended from the northern part of the street into **Building 234**, as explained above. **Layer 262** contained many artifacts of all types. Of particular interest are several scale weights and the remnants of a bronze balance scale.<sup>8</sup> These are what gave rise to Lawrence Stager's interpretation of **Building 234** as a "counting house." Under **Layer 262**, directly on top of **Layer 302**, was ashy destruction debris (**Layer**

**274**). The southern part of the street was covered by **Layer 275**, an ashy sandy fill, and by **Layer 264**, a mudbrick collapse.

#### THE WEST STREET

The **West Street** ran from east to west between **Building 276** and **Building 234** (figure 3.18). It was ca. 2.6 m wide (an approximate figure because the street was bounded on both sides by robber's trenches). It intersected the **South Street** at a  $90^\circ$  angle from the west.

The latest street accumulation, a patchwork of sand, silt, and crushed *kurkar*, was excavated as **Layers 310** and **330** in Square 58, as **Layer 269** in Square 47, and as **Layer 422** in Square 48. These layers were similar to those of the quarry fill beneath the marketplace, which made it difficult to distinguish the earliest street layers from the latest layers of the quarry fill.

**Wall 224** in Square 57 projected northward into the **West Street** from the north face of **Building 234**. It was a poorly built mudbrick wall that presumably created a small windbreak in the open area between **Building 276** and **Building 234**, partially blocking

<sup>7</sup> The botanical remains in the South Street, which included a significant concentration of wheat, are described below in chapter 23.

<sup>8</sup> See chapter 1. The scale weights and balance pan found in Layer 262 are described and illustrated below in chapter 17 (figure 17.1 and cat. nos. 2–6, 11–13, 24, 26).

the street. East of **Wall 224** was **Floor 218**, an ashy beaten-earth surface on which olive pits (reg. nos. 44014 and 44092) and grape pips (reg. no. 44090) were found. The floor was covered by destruction debris **Layer 217**, which consisted of fired mudbricks and various in-situ artifacts. In the street to the north of **Wall 224** was more destruction debris (also excavated as **Layer 217** since this destruction debris covered the intact portions of the wall) in which was found reed-impressed roofing material and charred wood from fallen roof beams.

#### THE EAST STREET

The **East Street** ran from east to west between **Building 406** and **Building 260** (figure 3.12). **Drain 409** in Square 48, in the plaza at the west end of the **East Street**, is the place where the drainage channel in the center of the street turned 90° to run south through the **South Street**, where it was excavated as **Drain 294** in Square 58 (figure 3.20). Farther east, the drainage channel was excavated as **Drain 388** in Square 49. This drainage feature dominated the middle of the **East Street**. During its period of use and especially after the destruction and abandonment of the city in 604 B.C., it became filled with a sandy accumulation (excavated as **Layers 377** and **379** in Square 49) which was washed in by seasonal water flows. Over time, the built lining of the drain eroded away so that only a ragged gully was left.

North of **Drain 388** was a street accumulation consisting of sand and silt lenses, excavated as **Layers 365, 369, 389, 394, and 398**. A stratigraphic connection was traced from **Layer 389**, in particular, to **Layer 415** farther west in Square 48, which was a street deposit in the **Plaza** (see below). A mudbrick bench or platform (**Feature 374** in Square 48) sat at the western end of the street accumulation in the **East Street**, perhaps only for a short period early in the lifespan of the street. A hearth (**Feature 371** in Square 49) was found in **Layer 369**. A small patch of crushed *kurkar* formed a surface (**Feature 367** in Square 49) that connected directly to **Wall 358**, the southern wall of **Building 406** and the northern border of the **East Street**.

Lying on top of the street accumulation to the north of **Drain 388** was collapsed mudbrick material from **Building 406**, which was excavated as **Layers 368, 370, and 393** in Square 49. These layers also contained occupational and destruction debris. Restorable pottery was found in **Layer 368** and **Layer 370**. A set of intact bricks was visible in **Layer 370**.

South of **Drain 388** was another street accumulation that was contemporary with the accumulation on

the north side of the street. The earliest deposit was a black clay surface with a crushed *kurkar* bedding (**Layer 385** in Square 49). Above this surface were silt and sand striations (**Layers 383** and **384** in Square 49), topped by a naturally deposited waterborne clay (**Layer 382**). This was covered in turn by another layer of sand (**Layer 381** in Square 49). As on the northern side of the **East Street**, the southern street accumulation was sealed by collapsed mudbrick material (**Layer 380** in Square 49), in this case the fallen north walls of **Building 260**.

#### THE PLAZA

The **Plaza** was an open area between **Building 276** and **Building 406** (figure 3.12). It contained multiple lenses of material that were resting immediately on top of the deep quarry fill. The latest accumulations in the plaza (before the 604 B.C. destruction) were stratigraphically connected to **Layer 422** in Square 48 in the **West Street** and to **Layer 389** in Square 49 in the **East Street**. The plaza accumulation included the following layers (all in Square 48): **Layer 393** and its *kurkar* bedding (**Layer 417**), **Layer 415**, and **Layer 430**.

As noted earlier, the portion of the drainage channel which was excavated as **Drain 409** in Square 48 was the place where the channel that began in the **East Street** cut through the south end of the **Plaza** and changed direction from its east–west bearing to a north–south orientation in order to flow through the **South Street**. The continuation of the drainage channel to the south was excavated as **Drain 294** in Square 58 and its continuation to the east was excavated as **Drain 388** in Square 49.

**Drain 409** was filled with a sandy deposit (**Layer 433**), on top of which was a mixture of naturally deposited silt and destruction debris containing restorable pottery (excavated as **Layers 388** and **398**). The destruction debris in the drain was capped by a sandy material that had been washed in (**Layer 397**).

The **Plaza** as a whole was covered by collapsed mudbrick material, no doubt from the surrounding buildings, which was excavated as **Layers 387, 396, and 418** (all in Square 48). On top of this collapsed mudbrick were naturally deposited sand and silt deposits, including **Layers 383, 384, 385, 389, 391, and 404**, as well as a build-up of ash and silt lenses (**Layer 412**).

#### BUILDING 58

Additional evidence of the 604 B.C. destruction of Ashkelon was uncovered in **Building 58** in Square

67, in the southwestern corner of the Grid 50 excavation area (figure 3.18). It has proved very difficult to determine the relationship between this building and the marketplace buildings described above. Only a small part of **Building 58** was excavated. Moreover, Persian-period building activity broke the stratigraphic connections between this building and the others in the same phase.

Two rooms were identified in this building, **Room 52** on the east and **Room 58** on the west, separated by **Wall 41**. The western wall of **Room 58** was **Wall 28**, which may have served as the western closing

wall of the entire building. The northern closing wall was probably destroyed by the construction of a later wall during the Persian period.

**Room 52** was bounded on the west by **Wall 41**. It had a beaten-earth floor (**Floor 52**) with a subfloor bedding (**Layers 53, 64, and 70**). On top of the floor was destruction debris (**Layer 42**).

**Room 58** was bounded by **Wall 28** on the west and **Wall 41** on the east. It had a plastered floor (**Floor 58**). On top of the floor was occupational debris (**Layer 56**) and above that was destruction debris (**Layer 46**).



## PART TWO

## POTTERY



## 4. POTTERY CLASSIFICATION AND PETROGRAPHIC ANALYSIS

THE LOCATION of Ashkelon on the shore of the Mediterranean Sea and its role as a seaport in contact with distant regions have resulted in a diverse assemblage of pottery produced in many different eastern Mediterranean locales in the seventh century B.C. For this reason, the pottery published in this volume is arranged first of all according to place of origin rather than by function or form. In the present chapter, we summarize the petrographic analyses of clay fabrics that were an important basis for the classification of the pottery by place of origin, augmenting identifications made on the basis of form and decoration. Then, in chapters 5 through 10, we treat, in turn, the various types of local pottery produced in the Philistine coastal plain in which Ashkelon lies and from the Shephelah foothills that border this plain to the east (ch. 5); the Phoenician pottery from the coastal region to the north (ch. 6); the pottery from even farther north in Cyprus and North Syria (ch. 7); the pottery from the Negev and other regions to the southeast of Ashkelon (ch. 8); the pottery from Egypt (ch. 9); and, last but not least, the large and highly distinctive corpus of Greek pottery, which was produced mainly in Ionia and the eastern Aegean.

The Greek pottery is of special importance and merits extended treatment, which it has been given by Jane Waldbaum, a leading expert on this material. In chapter 10, she catalogues 560 pieces of Greek pottery found in late seventh-century contexts at Ashkelon and she discusses in detail the variety of forms, functions, and production centers they represent. In her introduction to this catalogue, she provides an up-to-date and insightful discussion of the significance of this material in light of its find-contexts at Ashkelon and elsewhere, and she reviews the various interpretations that have been proposed to account for it—in particular, the theory that this material was brought to the Levant by Greek mercenaries in the employ of the Egyptian pharaohs Psammetichus (Psamtik) I and Necho II, who were bent on imperial expansion in Palestine and Syria in the wake of the retreating Assyrian Empire in the final decades of the seventh century B.C.

In the following chapters, we illustrate and discuss representative examples of each major type and subtype, based on the most complete specimens. A total of 189,199 potsherds were sorted and studied in the course of preparing this publication. In chapter 27, we give estimates of vessel quantities and relative proportions by functional class or type, geographic origin, and findspot. This information appears in con-

junction with a broader synthesis and locational analysis of the various finds, including not only pottery but other artifacts and faunal remains found in association with the pottery.

### *Arrangement of Pottery by Geographic Origin*

The geographically based arrangement of the pottery adopted in this volume is useful because it highlights the political and economic interactions in which the inhabitants of Ashkelon participated at a time of considerable flux, both politically and economically. The late seventh century was characterized by the waxing and waning of great empires and new movements of goods and people around the eastern Mediterranean. The weakening of the Assyrian regime had left a power vacuum in the Levant and set in motion a fateful rivalry between Egypt and Babylon for control of the area, a contest in which the inhabitants of the region were called upon to play a part. In the years before the destruction of Ashkelon by the Babylonians in 604 B.C., the Egyptians dominated the Levantine coast through alliances with local vassals. There is artifactual evidence in Ashkelon itself of close ties to Egypt (e.g., the Egyptian amulets catalogued in chapter 12 and the collection of Egyptian bronzes presented in chapter 13).

On the economic level, the lifting of the Assyrian yoke and the rise of the Egyptians led to new patterns of interaction among the inhabitants of the eastern Mediterranean, from Philistia to Greece. This can be seen in the diversity of pottery and other artifacts of disparate origin discovered in the precisely dated destruction level at Ashkelon, which were all in use at that time. The total destruction and abandonment of the flourishing seaport of Ashkelon in 604 B.C. is itself a grim emblem of the sudden extinction of this nascent Mediterranean interaction sphere, when the Babylonian army defeated the Egyptians and drove them out of the Levant, sealing them off from access to their erstwhile allies in the eastern Mediterranean and carving out a swath of destruction across the southern Levant that reduced economic activity to a low ebb.

The drawback of a primarily geographic arrangement of material, however, is that a reader interested in a particular functional class (e.g., storage jars or cooking pots), regardless of place of origin, must consult several different chapters. On the other hand, it can be argued that the geographic origin of a vessel has considerable bearing on our understanding of its

function, in the broader sense—that is, in terms of its particular social, economic, and political significance for those who acquired and used it. For example, a Greek cooking pot or wine pitcher may well have been used in different contexts, and by different social groups, than its locally made functional equivalent. We have therefore retained the geographically based organization of the material and in the remainder of this chapter we discuss the determination of place of production that results from the detailed petrographic analysis of pottery fabrics undertaken by Daniel Master (2001; 2003).

### *Petrographic Analysis*

Pottery is ubiquitous in the archaeological record, so considerable work has been done over the years to investigate pottery production systems. The pioneer in this research, who first examined pottery production systems within their ecological contexts, was Frederick R. Matson (1965). Matson built on the “cultural ecology” approach of Julian Steward, arguing that, by looking at ecological factors such as the presence of water, fuel, and clay, much could be learned about pottery production systems. In addition to these basic ecological factors, one may also examine pottery in light of the cultural systems pertaining to transportation, subsistence, and other related subsystems. Matson showed that considerable information about cultural systems could be gleaned through close analysis of pottery fragments and their contexts.

Matson’s ecological approach was developed further by Dean Arnold (1985), who collated a wide variety of ethnographic information about traditional potters in order to determine general patterns that characterize the relationships between pot, potter, and environment. Arnold worked out a threshold model, showing that there is typically a preferred territory of exploitation and a maximum area of exploitation for the different resources associated with pottery production. For example, in the case of clay, the preferred territory of exploitation is normally within a radius of less than 1 km from the potter’s base of operation. Potters prefer to obtain their clay from very close at hand. The maximum territory of exploitation is usually within a radius of less than 7 km.

In his research, Arnold has attempted to account for geographical and technological differences that might affect the preferred territories of pottery resource exploitation in different parts of the world. He considered climate, the level of technology, and other factors in order to arrive at a robust cross-cultural model that can be used by archaeologists who study pottery production systems.

Archaeological work in and around Ashkelon has revealed that ancient potters there had ample access to all of the elements necessary for pottery production. This can be shown purely by means of paleoenvironmental reconstruction, drawing on the work of Matson and Arnold, but direct evidence is even more conclusive. In late Iron Age contexts at Ashdod, less than 20 km from Ashkelon, excavators found a series of pottery workshops, each containing a kiln. A total of seven kilns were discovered, each roughly two meters in diameter (Dothan 1971:90–91, 116). They appear to have been used for a considerable length of time because the area around them underwent changes during their period of use and the kilns themselves were rebuilt on several occasions.

Even though no kilns were found in the excavations at Ashkelon, there is little doubt that they existed in that city and were used to produce much of the locally made pottery found at the site. However, petrographic analysis has shown that a substantial portion of the Ashkelon pottery assemblage was produced, not at the site, but in a variety of other production centers, near and far (Master 2001; 2003). Following a preliminary analysis of stylistic similarity and difference on the basis of form, decoration, and macroscopic examination of the fabric, specimens of each type were chosen for petrographic analysis.<sup>1</sup>

Petrography involves identifying the fine mineral inclusions in pottery. A 30-micron slice of the pottery specimen is fixed to a glass slide and this “thin section” is examined using a polarizing microscope. Because of their atomic properties, minerals have different optical properties when analyzed under this kind of microscope, allowing them to be identified and characterized (Rice 1987:376–82). The minerals found in the thin section can usually be meaningfully associated with a particular geographical region. By determining the suite of minerals present and the degree of weathering they have undergone, the general mineralogical character of the clay bed from which the clay was taken can often be identified.

At the very least, description of the mineral content of pottery provides comparative data for future studies. In other words, even when petrography is insufficient for the geographical identification of a particular piece, considered by itself, it may be used for this purpose in concert with subsequent analyses of related material.

<sup>1</sup> The pottery was studied by David Schloen, Jane Waldbaum (the Greek pottery), and Charles Adelman (the Cypriot pottery). Daniel Master’s subsequent petrographic analysis made use of the typological, stratigraphic, and quantitative results reached by these researchers.

If the mineralogy is distinctive enough, the petrographer can ascertain the specific location of the clay beds that produced the raw materials of which the pottery was made (Whitbread 1995b:98). The determination of the clay sources, in comparison to the findspots of the pottery, is helpful for understanding the movements of pottery vessels and, more broadly, patterns of ancient trade and migration. Systematic petrographic analysis of a well-quantified assemblage can be used, as it is here, to determine relative proportions according to place of manufacture, distinguishing local production centers from those in neighboring regions and from those in distant locales.

In addition to determining the place of production, the orientation, size, and frequency of the inclusions found in the pottery fabric can yield valuable information about the technology used to produce the pottery. For example, petrography can be used to determine the method of construction (wheelmade or handmade) and the temperature and method of firing the clay.

The petrographic testing of the Ashkelon assemblage began as part of a project at the Center for Materials Research in Archaeology and Ethnology at the Massachusetts Institute of Technology. During this phase, most of the Aegean fabrics were described. Later, the project continued as the dissertation of Daniel Master (2001), which involved multiple consultations at the laboratory for microarchaeology at Tel Aviv University under the direction of Yuval Goren, and a consultation at the Fitch Laboratory in Athens with Ian Whitbread. The choice of samples was made by Daniel Master and David Schloen based on the typology established previously by Schloen and Stager. Over the course of time, as this typology was refined, a few gaps emerged in the petrographic sample set; but by and large, each typological category was sampled. Thin sections were made at MIT or by the technicians of Spectrum Petrographics, Inc.

In keeping with the qualitative and often rather general picture produced by petrographic analysis, we have been relatively cautious in our classification of the pottery and have grouped it into quite broad, rather than highly specific, geographical categories. For example, although Master (2003) identified several distinct clay fabrics in the region around Ashkelon, in chapter 5 these have been combined into a single “local” category, which includes vessels that originated from anywhere in the ancient Philistine coastal plain and Shephelah. Likewise, although Yuval Goren has done much to distinguish between North Syrian and Cypriot fabrics (Goren, Finkelstein, and Na’aman 2004:58–69), in our discussion of imports from Cyprus and North Syria in chapter 7, we

have grouped into a single category the pottery from these two regions, whose fabrics share the ophiolite complexes of the northeast Mediterranean.

#### *Local Fabrics from the Philistine Coastal Plain and Shephelah Foothills*

##### 1. Brown or red alluvial soil with coastal inclusions

The most common pottery fabric at Ashkelon is made of an isotropic, noncarbonatic clay and has a brown-to-black core and a black-to-red fabric on the edges (figure 4.1). While the pottery-making process obscures the parent soil to some extent, it is likely a dark brown grumusol (brown xererts [Brady and Weil 2002:100–2]). The fabric is dominated by coarse sand-sized, rounded quartz fragments (beach sand), accompanied by smaller angular fragments of silt-sized quartz and a variety of birefringent accessory minerals. This local fabric, in addition to being the most common at Ashkelon, is also found at Ashdod in pottery taken from Iron II kiln loci (Dothan 1971:pls. 41.9, 11; 43.3).

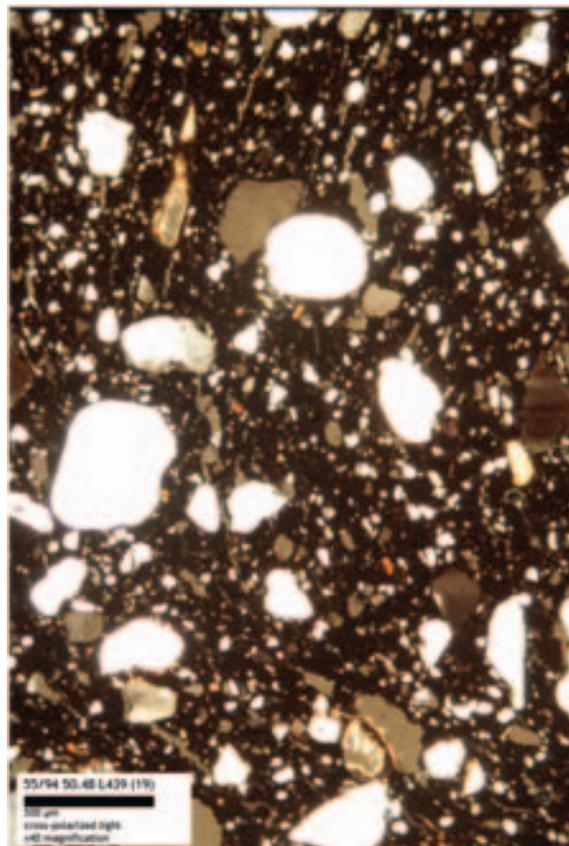


Figure 4.1: Photomicrograph of local pottery fabric made of alluvial soil with coastal inclusions

Goren argues that this fabric is merely a form of coastal loess that has been altered during firing, which was of sufficiently high temperature to alter the fabric and hornblende inclusions but did not last long enough to substantially degrade the calcite. As he notes, this firing would be very unusual for a cuneiform clay tablet (Goren, Finkelstein, and Na'aman 2004:295–96). This was once accepted by Master (2001: Category 1a–d), but he is now of the opinion that different soil types (Master 2003) rather than different firing temperatures account for the differences between this alluvial fabric category and the coastal loess category discussed below.

In an attempt to refine the provenience of this fabric, samples were sent for chemical analysis (ICP) to compare them to Byzantine wasters found at different places in the southern coastal plain, including Ashkelon and Ashdod. The samples clustered chemically with the Byzantine wasters from Ashkelon as opposed to Ashdod; however, the control sample, an Ashdod waster (Dothan 1971:pl. 44.17), also clustered with the Ashkelon Byzantine wasters. Thus, it is difficult to distinguish Ashdod fabrics from Ashkelon fabrics.

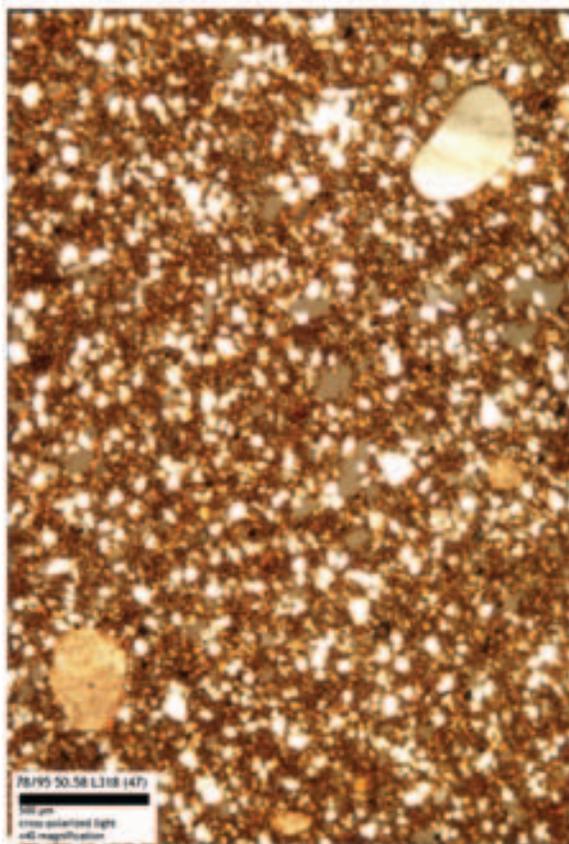


Figure 4.2: Photomicrograph of local pottery fabric made of loess with coastal inclusions

## 2. Loess with coastal inclusions

Coastal loess is the most common loessial soil in the Ashkelon area. Among the inclusions found in pottery fabrics made with this kind of soil are beach sand and abundant heavy minerals (figure 4.2). They match Goren's "coastal matrix" (Mazar and Panitz-Cohen 2001:18; Goren, Finkelstein, and Na'aman 2004).

An Ashdod waster (Dothan 1971:pl. 39.5), which was analyzed as part of the reference collection for this fabric, falls into the same category. Goren has demonstrated that this fabric extends along the southern Levantine coast from Gaza to Ashdod (for Ashkelon, see Goren, Finkelstein, and Na'aman 2004: 295).

## 3. Loess with inland inclusions

Loess from the Shephelah foothills inland from Ashkelon has the same carbonatic soil as coastal loess but is dominated by the chalk and chert inclusions typical of the southern Shephelah (figure 4.3; Goren 1996: 54).

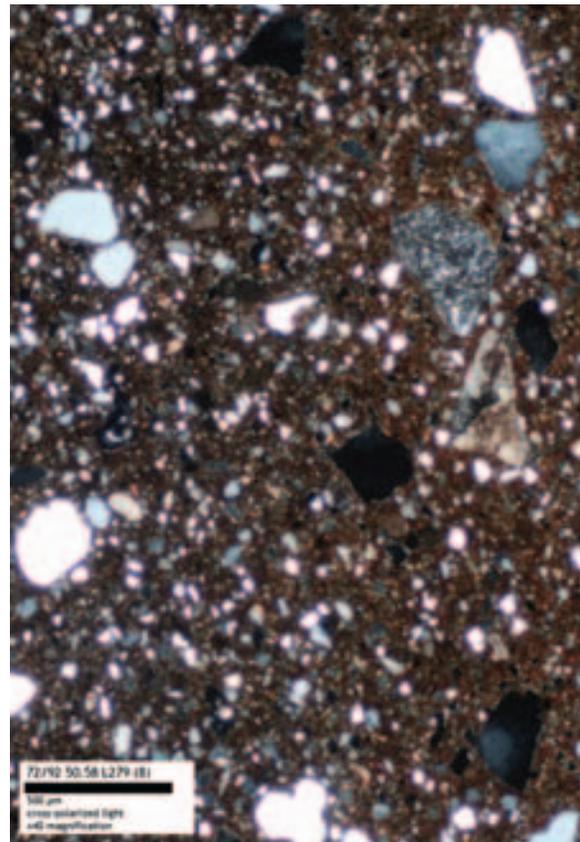


Figure 4.3: Photomicrograph of local pottery fabric made of loess with inland inclusions

#### 4. Terra rossa

Several samples in this study contained clays derived from the terra rossa soils typical of the highland region east of Ashkelon. Goren has shown that while this soil is indeed typical of the highlands (Goren, Kamaiski and Kletter 1996), it was also alluvially transported to the foothills of the eastern Shephelah, if not farther. The terra rossa clay matrix is mixed with inclusions of windblown coastal sand, Eocene chalk, and cherts. The closest, but by no means the only, clay sources that exhibit this combination of parent soil and inclusions are in the Shephelah (Goren, Finkelstein, and Na'aman 2004: 284–85).

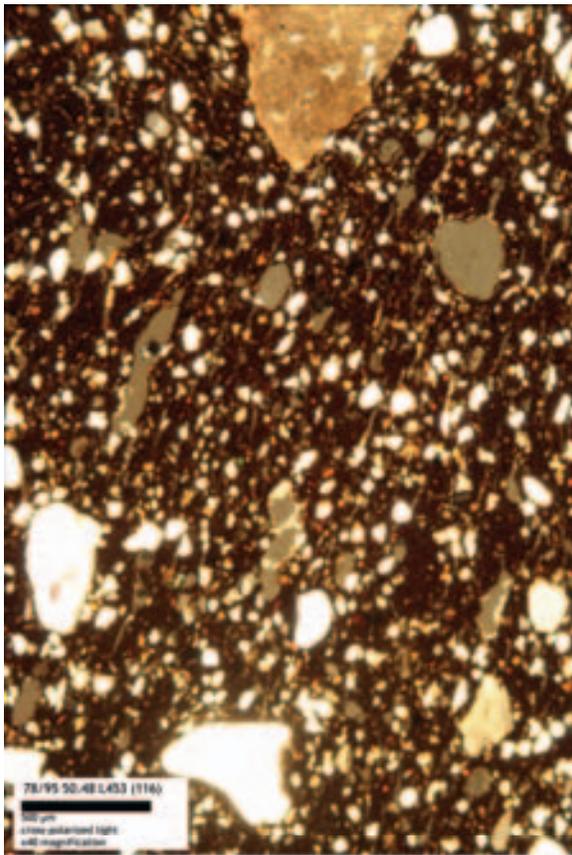


Figure 4.4: Photomicrograph of local pottery fabric made of terra rossa

#### 5. Cooking-pot fabric

“Cooking-pot fabric” may be a subset of the brown or red alluvial soils that characterize much of the local pottery at Ashkelon, although Goren sees it as a subset of the *hamra* group (Mazar and Panitz-Cohen 2001:20, Fabric Group 15). In any case, it is widely agreed that this is a specialized fabric made exclusively for use in cooking pots. The cooking-pot fabric

is orange in color, has coastal inclusions (beach sand and accessory minerals), and is characterized by many parallel cracks surrounding the inclusions.

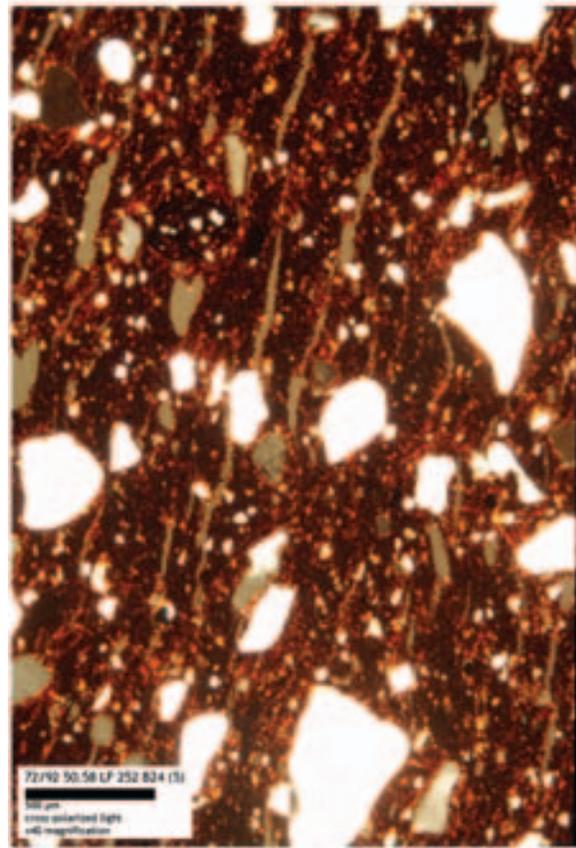
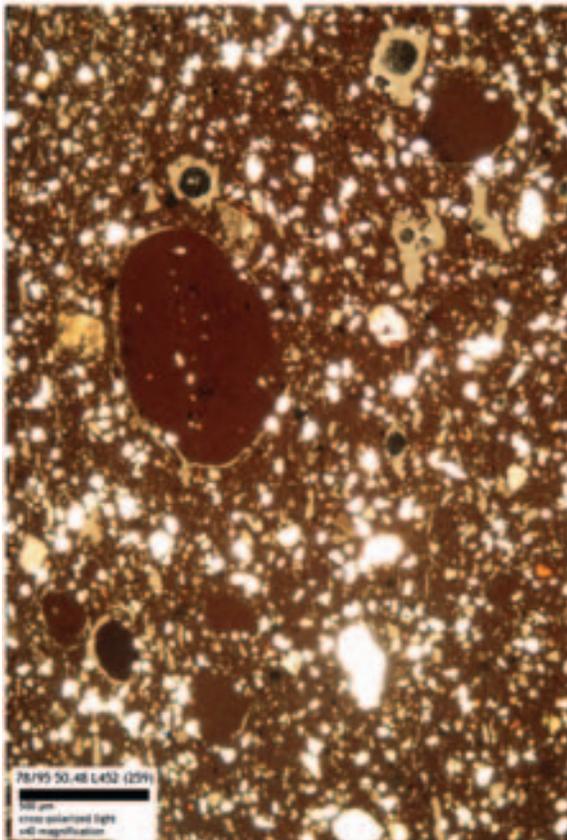
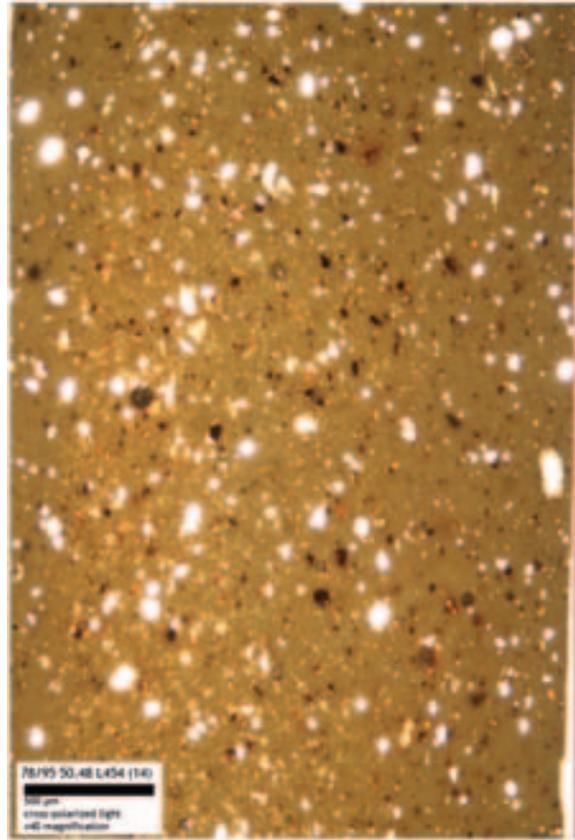
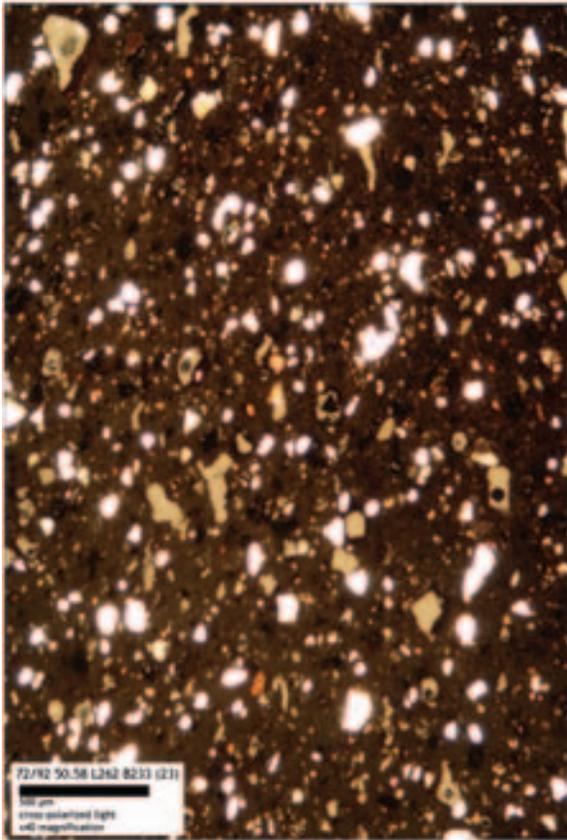


Figure 4.5: Photomicrograph of local cooking-pot fabric

#### *Clays from the Negev or Southeastern Philistia*

Some Ashkelon pottery was made with loess from the Negev or southeastern Philistia. This type of loess may reflect several clay sources (note the variability in Goren’s “western Negev cluster” in Gilead and Goren 1989:8, fig. 2). The inclusion suite consists of the angular quartz fragments typical of loessial parent soils and argillaceous rock fragments of unknown composition (figures 4.6–8).

The vessels in this category are either Assyrian bottles or have the white-green fabric typical of Iron II ceramics of the Negev (see Freud 1999). No clear match for this fabric was found in the reference material that was examined, so no precise provenience is possible. One sherd of “Assyrian Palace Ware” is so well levigated that it is hard to assign it to a petrographic category. Judging by the fabric, it could quite easily have been made with a well-levigated clay of the Negev group; however, it is also possible that it was made with levigated clay from another source.



Figures 4.6–8: Photomicrographs of pottery fabrics made of clays from the Negev or southeastern Philistia

#### *Edomite Clays*

A small quantity of pottery in the Ashkelon assemblage is made of clay characterized by quartz and angular fragments of plagioclase feldspar, with rare small fragments of pyroxenes (figure 4.9). There are no clasts with smaller grain sizes, indicating that the feldspar inclusions likely have a phaneritic parent such as a diorite or gabbro. The presence of dolomite rhombs is indicative of the limestones in the hills of central Israel and highland Transjordan; however, the cooccurrence of feldspar and dolomite inclusions strongly supports a provenience in southern Transjordan or the Aravah, namely, ancient Edom.

#### *Phoenician Clays*

Phoenician clays are characterized by biomicritic sand in a highly calcareous orange clay matrix (figures 4.10–11). The presence of *Amphiroa* algae, among other microfossils, points to a provenience on the coast of northern Israel or southern Lebanon (Sivan 1996; Buchbinder 1975; Goren, Finkelstein,

and Na'aman 2004:166). Master (2001) was formerly under the mistaken impression that this clay should be sought north of Tripoli, and this error is repeated by Barako (2008); it was corrected in Master 2003 in light of Goren's work on material from Sidon, Tyre, and the Akko Plain (Goren 2004:161–66).

#### *Cypriot or North Syrian Clays*

It is relatively easy to detect the ultrabasic inclusions characteristic of the ophiolite complexes of the northeastern Mediterranean (figures 4.12–13). However, it is much more difficult to differentiate among the Troodos, Kızıldağ, and Beer-Bassit geological complexes. In Goren's discussion of the Amarna tablets, he notes several ways to subdivide samples from these ophiolite complexes, including subdivisions based on the proportion of basalt clasts and the appearance of radiolarian chert (Goren, Finkelstein, and Na'aman 2004:58–60).

In the Ashkelon assemblage are three subtypes of the northeastern Mediterranean fabric, which may represent different proveniences in Cyprus and/or North Syria. The first subtype combines fossiliferous limestones, micrites, and chalks; fresh ultrabasic igneous rocks; and occasional basalt clasts. The combination of limestones, ultramafic rocks, and basalt clasts mirrors the pattern described by Goren for south-central Cyprus (*ibid.*, pp. 61–63); however, in light of other studies of the forms in question, which include mortaria (Blakely and Bennett 1989:56; Blakely, Bennett and Vitaliano 1992:204), we cannot be certain about the specific provenience of this fabric. The second subtype, found in a basket-handled amphora, was harder to distinguish, because its inclusions of polycrystalline quartz, glass, and various minerals typical of the basic igneous repertoire, provided little to go on. The rarity and well-weathered nature of the igneous inclusions, however, might support the NAA studies which have attributed this form to eastern Cyprus (Courtois in Keisan: 353; Gunneweg and Perlman 1991). The third subtype includes a temper of heavily weathered, heavily serpentinized peridotite or similar ultramafic olivine-rich rock. The weathering of this rock produced examples of pure serpentine as well as peridotites with the olivine almost completely removed. Small amounts of several other igneous materials occur, including hornblende, clinopyroxene, and various feldspars. This might be the best candidate for a provenience in the <sup>c</sup>Amuq, according to Goren's summary (2004: 59), although the forms in questions—band-handled cooking pots and a polychrome painted body—are also present in Cyprus.

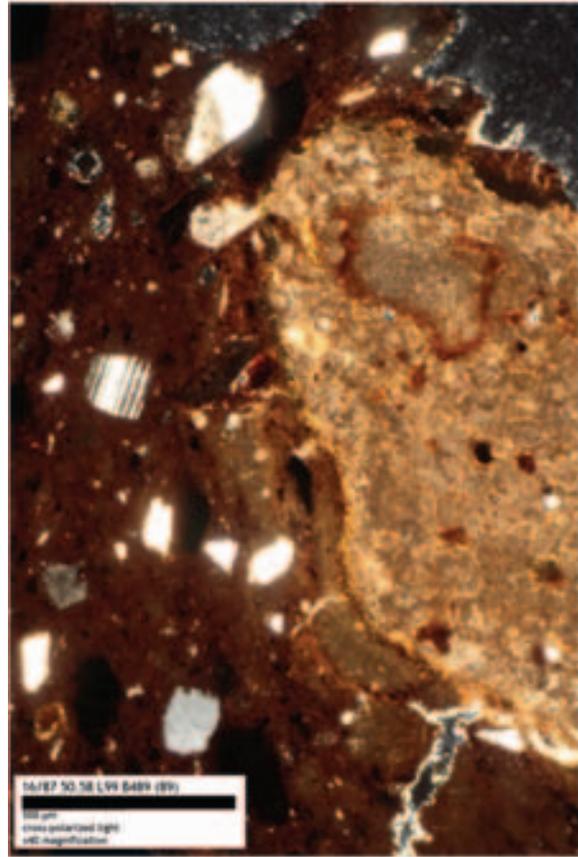


Figure 4.9: Photomicrograph of Edomite clay fabric

#### *Aegean Clays*

The Ashkelon pottery assemblage includes more than 1,570 pieces of Greek pottery of many different forms and types, of which 560 are catalogued below in chapter 10. Several different Aegean clay types have been identified by petrographic analysis.

##### 1. Highly micaceous Aegean clays

The Ashkelon samples in the “highly micaceous” category contain moderately active clay with a random/parallel striated birefringent fabric (Whitbread 1995a:Table A3.5) whose primary inclusions, both coarse and fine, are monocrystalline quartz and muscovite, a white mica (figures 4.14–15). In addition, these sherds also have rare igneous inclusions of biotite, feldspar, and polycrystalline quartz. As Whitbread notes, several places in the Aegean region produce similar micaceous fabrics. Although Samos is known for the dominance of muscovite within its clays, muscovite and quartz also dominate Whitbread's Rhodian Class 3, Knidian Class 2, and Koan Class 4 amphoras (Whitbread 1995a:129–30).

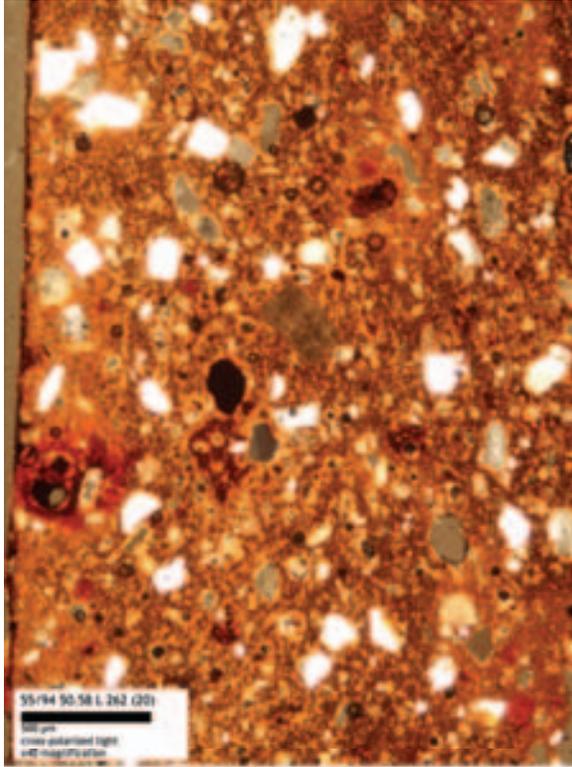


Figure 4.10: Photomicrograph of Phoenician fabric

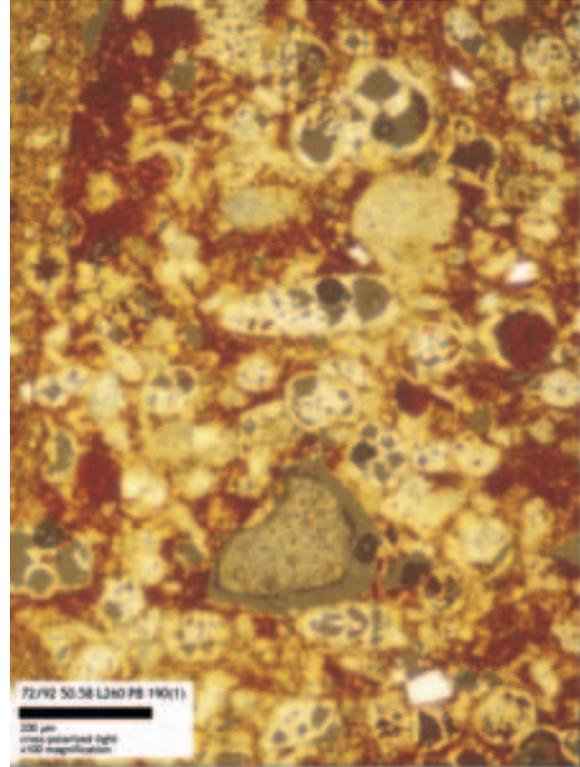


Figure 4.11: Photomicrograph of Phoenician fabric

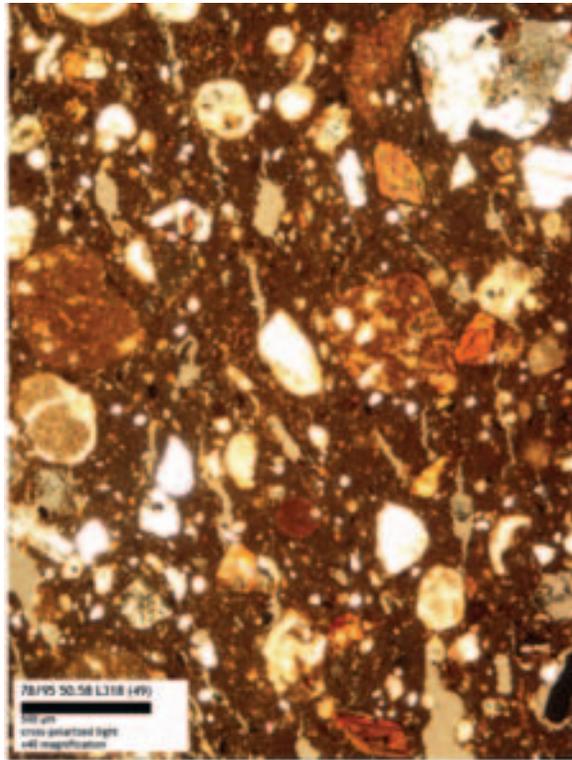


Figure 4.12: Photomicrograph of Cypriot or North Syrian (northeastern Mediterranean) fabric

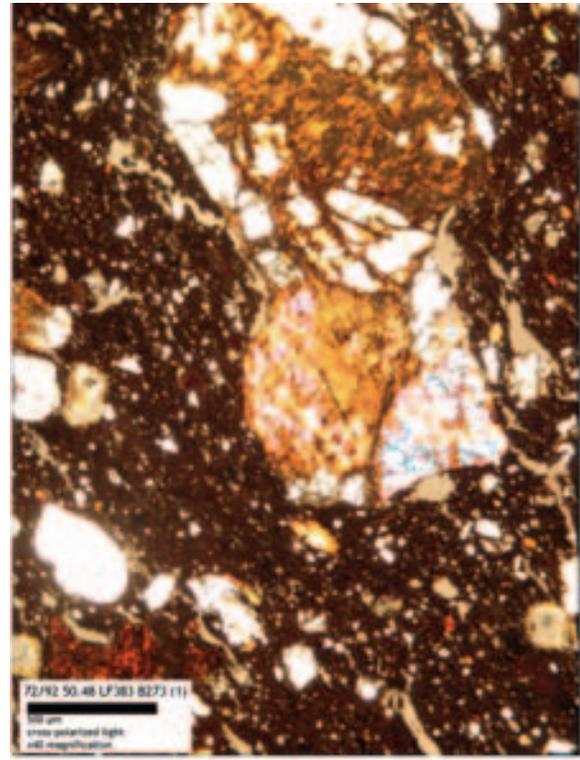


Figure 4.13: Photomicrograph of Cypriot or North Syrian (northeastern Mediterranean) fabric

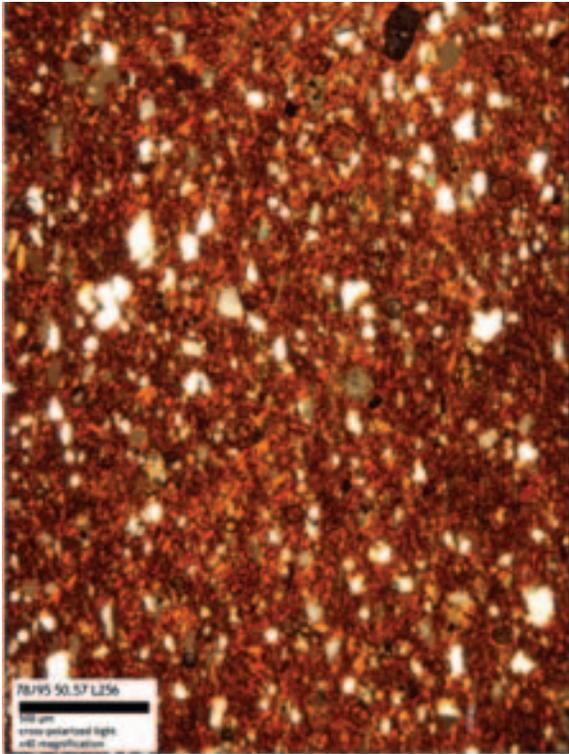


Figure 4.14: Photomicrograph of highly micaceous Aegean fabric (probably Samian or Milesian)

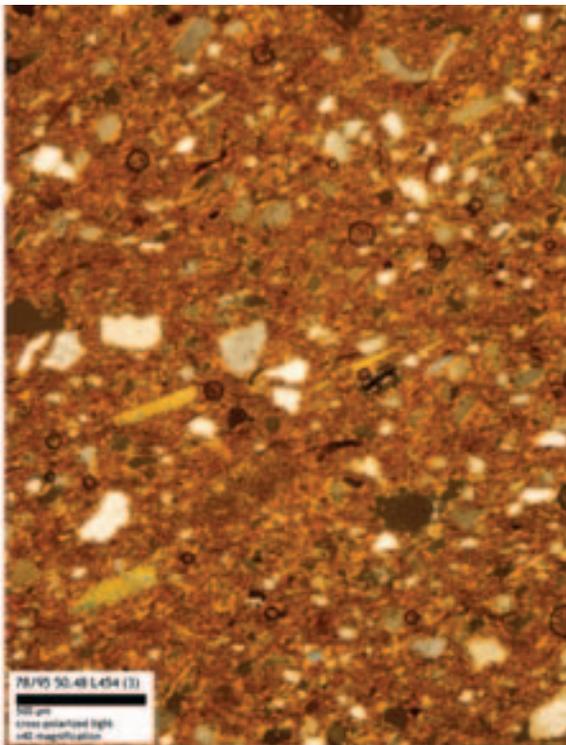


Figure 4.15: Photomicrograph of highly micaceous Aegean fabric (probably Samian or Milesian)

Attempts have been made to distinguish Samian fabrics from Milesian fabrics, which are dominated by the same minerals (Domingo and Johnston 1995). Because of the variety of clay beds in these areas, Domingo and Johnston worked backward from the stylistic attributions to the petrography. Similarly, Whitbread utilized stamped amphora handles: if the stamp said “Rhodes,” it was assumed that the jar was made there. This method is not entirely unproblematic but it probably works in the majority of cases.

The identification of Samian versus Milesian fabrics was made on the basis of Dupont’s work on style, together with jar stamps that match those found on the coinage of Samos. Whitbread observed “a distinct similarity” among all of these micaceous fabrics (Whitbread 1995a:63). On stylistic grounds, Jane Waldbaum has attributed at least one of the Ashkelon vessels in the “highly micaceous” fabric category to Miletos (cat. no. 498 in chapter 10 below). Whitbread (pers. comm.), when consulted regarding the Ashkelon samples, suggested that many of these samples, particularly the storage jars, would be best grouped with the Koan micaceous fabrics because many highly micaceous Aegean fabrics are accompanied by other minerals that have a very small grain size, whereas the Koan fabrics often have larger sand-sized grains of quartz and other minerals. Nonetheless, the form of the Ashkelon vessels, which correspond to Milesian forms, and the historical situation of Miletos in the seventh century B.C., point toward a Milesian provenience for the Ashkelon examples, even though a range of Aegean proveniences, from Samos to Kos, is possible.

## 2. Aegean clay with quartz-mica schist

This fabric is dominated by the intentional inclusion of sand-sized fragments of a quartz-mica schist (figure 4.16). A number of Aegean locales could be the source for the Ashkelon samples; very little distinguishes one from another. The process that produced the metamorphic rocks is related to the collision of the African and European plates in the Aegean, a geographically widespread phenomenon that produced similar transformations over a large area. The angularity and freshness of the mica schist suggest that it was added as a temper after having been specifically collected from larger formations.

This creates some difficulty in determining provenience. Unless clay is transported an abnormal distance (Arnold 1985), it generally reflects the geological environment in which the pottery is produced. In this case, however, material was consciously mined and transported to be added to an otherwise relatively

well-sorted clay. This caveat aside, the mica schist that dominates this fabric comes from a well-defined metamorphic belt: the Median Crystalline Belt, which begins in the southern part of Euboea and extends past Aegina, Naxos, Mykonos, and Samos, and on into the Anatolia interior around Miletos (Whitbread 1995a:fig. A1.1). Stylistically, this specialized fabric is found at Ashkelon only in Greek cooking pots similar to those found in the late seventh-century B.C. destruction of Meşad Ḥashavyahu. A brief examination of a cooking pot from the latter site showed that its mineralogy is identical to that of the Greek cooking pots found at Ashkelon (Waldbaum 2002a).

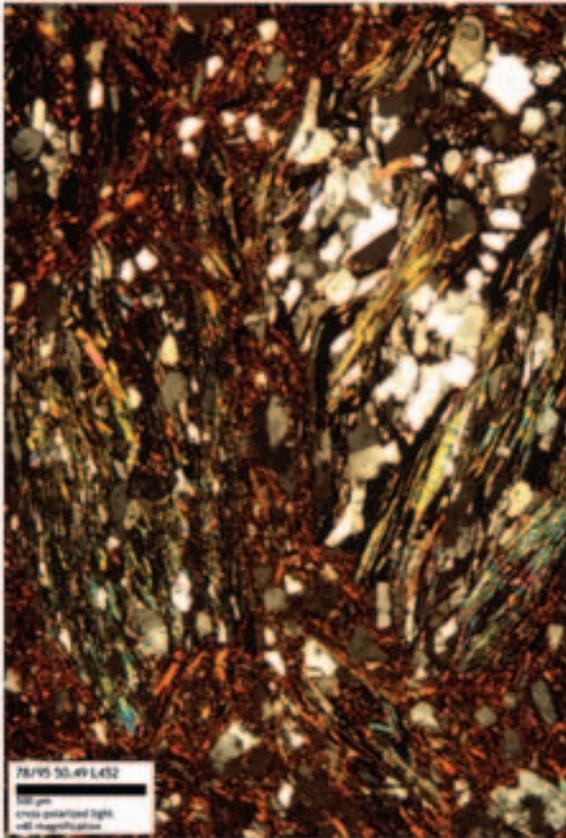


Figure 4.16: Photomicrograph of Aegean cooking-pot fabric containing quartz-mica schist

### 3. Aegean clay with andesite inclusions

Clay with andesite inclusions comes from a volcanic environment dominated by acid-intermediate igneous rocks (figure 4.17). Stylistically, the Ashkelon samples of this fabric are from East Greek “coarse ware” amphoras that likely originated in the igneous region that includes Lesbos and most of northwestern Anatolia.

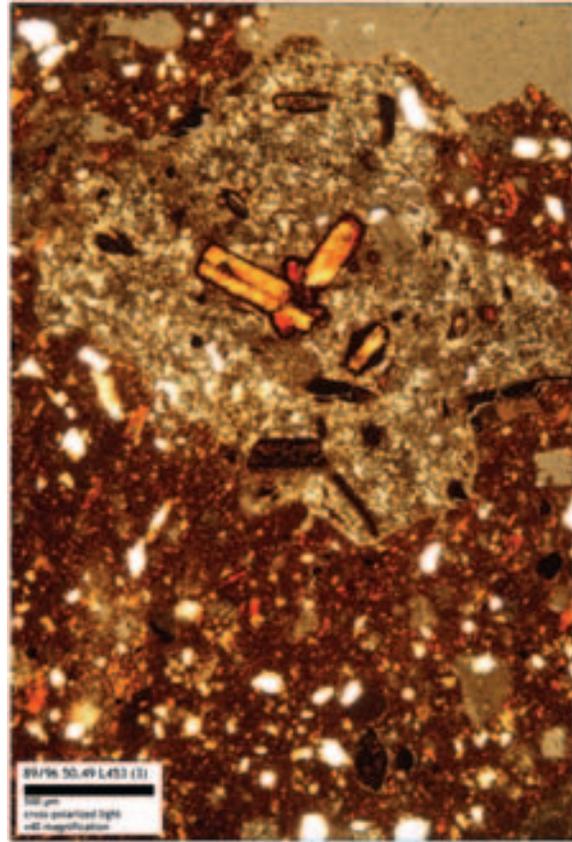


Figure 4.17: Photomicrograph of Aegean fabric with andesite inclusions

### 4. Aegean clay with a weathered mix of sedimentary and metasedimentary inclusions

This fabric contains a mixture of various types of rock, all well worn (figure 4.18). There is nothing in this mixture that can be definitively matched with any geological region. All of the minerals appear in one form or another in many of the petrographic samples from Ashkelon. From a stylistic standpoint, however, the two Ashkelon samples of this fabric come from highly distinctive vessels: one sample comes from a completely restored Chian amphora and the other comes from a different amphora that is coated with the distinctive Chian white slip.

An examination of the geology of Chios reveals that all of the mineral inclusions found in the fabric, including the various types of limestone, the chert, and even rare bits of serpentine, are present on Chios. The petrography of these samples closely matches the inclusions of “sedimentary and metasedimentary origin” described by Whitbread in his Chian Fabric Class 2, and the similarity is visible even in his photographs of this fabric (Whitbread 1995a:pl. 4.38,

143). Ian Whitbread was kind enough to examine the Ashkelon data and, without the benefit of stylistic information, he picked out these two samples as matching his Chian fabrics.

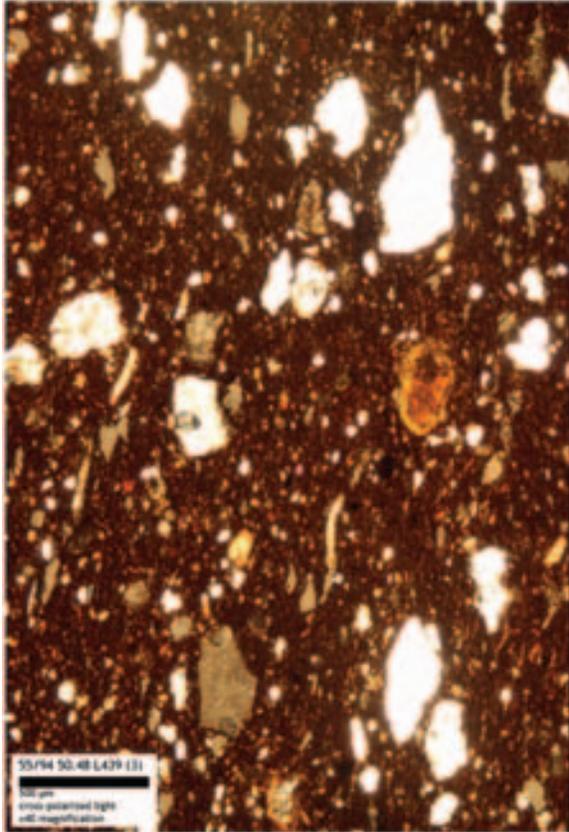


Figure 4.18: Photomicrograph of Aegean fabric with mixed inclusions (probably Chian)

##### 5. Aegean clay with trachyte inclusions

A petrographic sample was taken from the base of a storage jar that appeared to be Aegean in form. The vessel is not preserved above the shoulder so its stylistic identification is unclear. The fabric contains trachyte, an extrusive igneous rock dominated by feldspar (figure 4.19). Fragments of trachyte and loose fragments of feldspar are the most dominant inclusions in the sample. It is possible that the quartz component is overestimated, as some of the feldspars do not show clear signs of twinning.

Whitbread has found this particular fabric only in the Sinope region along the north Black Sea coast, but its distribution is potentially much wider, because extrusive acid-igneous rocks are found throughout northwestern Anatolia and the Aegean, including Lesbos.

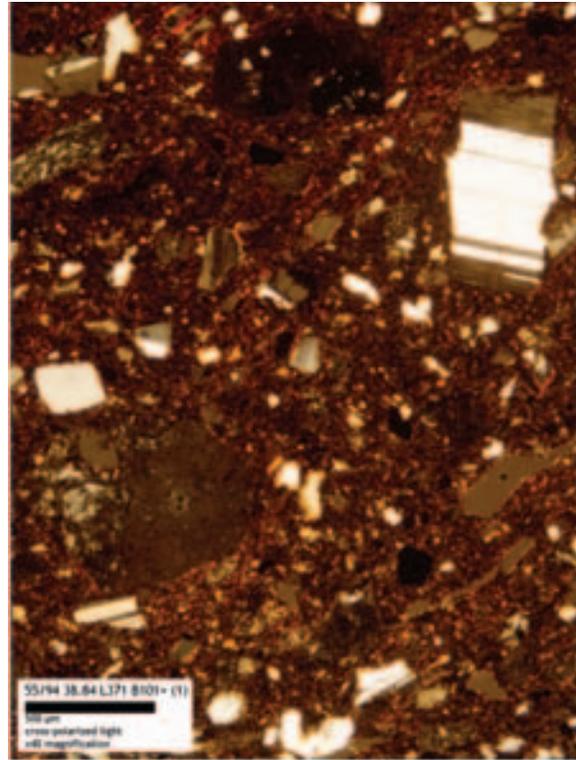


Figure 4.19: Photomicrograph of Aegean fabric with trachyte inclusions

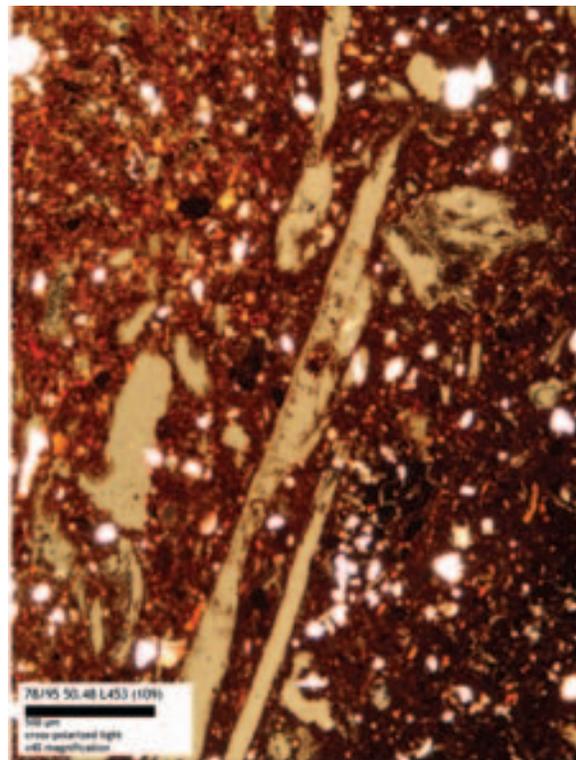


Figure 4.20: Photomicrograph of "Nile mud" fabric

*Egyptian “Nile Mud”*

A number of pieces in the Ashkelon pottery assemblage are made of Egyptian “Nile mud.” This fabric consists of a silty clay with a variety of sedimentary and igneous inclusions (figure 4.20). The inclusions do not constitute a narrow suite of materials that point to a specific region, but their very diversity is an excellent indicator of provenience. All of the geological regions touched by the Nile are present in the fabric, including sandstones, mudstones, and igneous materials. Quartz, which best survives the weathering, is the most common mineral. The Egyptian fabrics found at Ashkelon are recognizable to the naked eye as the “Nile C” fabric of the Vienna system (Nordstrom and Bourriau 1993:170, plate 2:f, i) and thin-section analysis confirmed this assessment.

*Conclusions*

Petrographic analysis has been used to classify the seventh-century B.C. pottery found at Ashkelon in a way that reflects the diverse origins of the clays from which the vessels were made. In some cases, thin sections of very different appearance were determined to be “local” in origin and were grouped to-

gether. In other cases, the geological profile of the pottery does not match the Ashkelon area, so a combination of mineralogical and stylistic evidence was used to determine the origin of the vessels. Sometimes, stylistic information is so overwhelming and specific that petrography is almost unnecessary, as in the case of the amphora from Chios discussed above. Conversely, petrographic examination sometimes demonstrates that the geographical name traditionally attached to a style has nothing to do with the provenience of the vessels. Most pottery lies somewhere between these two extremes.

Neither stylistic nor petrographic analysis is necessarily conclusive, but each can suggest a geographical region in which to look for the place of manufacture. Moreover, for pottery that originated far afield in the Aegean region or in the northeastern Mediterranean region (Cyprus and North Syria), the combination of distinctive styles and petrographic data often provides a good indication of the particular area in which the pottery was made, despite the great distance between the proposed provenience and the pottery’s final resting place in Ashkelon. The Ashkelon pottery presented in the following chapters is therefore a useful indicator of changing patterns of trade and migration in the eastern Mediterranean.

Table 4.1: Petrographic Samples of Pottery of the Seventh Century B.C. Found at Ashkelon

The unique field registration number contains the following items of information, separated by periods:

1. The Israel Antiquities Authority license number and the last two digits of the year of excavation.
2. The 100-meter grid location.
3. The 10-meter square within the grid.
4. The layer and/or feature number, prefixed by “L” or “F.”
5. The 1-meter fine-grid number within the square, prefixed by “FG” (optional).
6. The pottery bucket number, prefixed by “B” (optional).
7. The registration number of the sherd(s) or, in rare cases, an intact vessel.

For example, the field registration number A72/92.50.58.L262.FG13.B72.(14) indicates the findspot of the piece and the year it was excavated; in this example, the findspot is Grid 50 Square 58 Fine-grid 13 Layer 262, excavated in 1992. (See chapter 11 of *Ashkelon 1* for a detailed explanation of the recording system.)

Note that “Ir2c” in the type names refers to the “Iron Age IIC,” the conventional name for the archaeological period that encompasses the seventh century B.C. in the southern Levant.

<i>Field Registration Number</i>	<i>Type</i>	<i>Petrographic Category</i>
<b>Local Pottery (chapter 5)</b>		
A72/92.50.58.L262.B166.(4)	Ir2c:Bowl 1 (fig. 5.4)	Loess with inland inclusions
A72/92.50.58.L262.FG12.(25)	Ir2c:Bowl 1	Loess with coastal inclusions?
A78/95.50.48.L453.(104)	Ir2c:Bowl 2b	Terra rossa with chalk
A72/92.50.48.L384.B302.(6)	Ir2c:Bowl 3	Loess with coastal inclusions
A89/96.50.48.L453.(59)	Ir2c:Bowl 4 (fig. 5.15)	Loess with coastal inclusions
A72/92.50.49.L392.FG36.B286.(1)	Ir2c:Bowl 4 (fig. 5.16)	Loess with coastal inclusions
A72/92.50.48.L393.B353.(16)	Ir2c:Bowl 5	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L452.(258)	Ir2c:Bowl 5	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L453.(105)	Ir2c:Bowl 5	Brown/red alluvial soil with coastal inclusions

<i>Field Registration Number</i>	<i>Type</i>	<i>Petrographic Category</i>
<b>Local Pottery continued</b>		
A89/96.50.49.L453.(38)	Ir2c:Bowl 5	Brown/red alluvial soil with coastal inclusions
A78/95.50.58.LF318.(43)	Ir2c:Bowl 6	Brown/red alluvial soil with coastal inclusions
A55/94.50.48.L444.B93.(31)	Ir2c:Bowl 6	Loess with coastal inclusions
A78/95.50.58.LF318.(48)	Ir2c:Bowl 6 (fig. 5.22)	Loess with coastal inclusions
A78/95.50.48.L453.(107)	Ir2c:Bowl 6 (fig. 5.23)	Loess with coastal inclusions
A72/92.50.49.L389.B349.(2)	Ir2c:Bowl 8	Loess with inland inclusions
A72/92.50.58.L274.B316.(9)	Ir2c:Bowl 9	Loess with coastal inclusions
A73/93.50.48.L405.FG15.B4.(3)	Ir2c:Bowl 9 (fig. 5.32)	Loess with coastal inclusions
A72/92.50.58.L279.B245.(8)	Ir2c:Bowl 11 (fig. 5.34)	Loess with inland inclusions
A72/92.50.48.L405.FG18.B433.(4)	Ir2c:Bowl 12	Loess with inland inclusions
A72/92.38.94.LF207.FG12.B144.(1)	Ir2c:Bowl 12 (fig. 5.36)	Loess with coastal inclusions
A78/95.50.48.L461.(20)	Ir2c:Bowl 13 (fig. 5.37)	Indeterminate
A73/93.50.57.L290.B62.(17)	Ir2c:Bowl 13 (fig. 5.38)	Loess with inland inclusions
A72/92.50.58.LF252.B16.(3)	Ir2c:Bowl 13 (fig. 5.39)	Loess with inland inclusions
A73/93.50.49.L389.B90.(3)	Ir2c:Krater 1 (fig. 5.41)	Loess with coastal inclusions
A78/95.50.48.L453.(112)	Ir2c:Krater 2	Terra rossa with chalk
A55/94.50.48.L439.(19)	Ir2c:Cooking Pot 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.LF252.B24.(5)	Ir2c:Cooking Pot 1	Terra rossa with chalk
A72/92.50.58.L262.FG34.B83.(9)	Ir2c:Cooking Pot 1 (fig. 5.48)	Terra rossa with chalk
A89/96.50.49.L449.(16)	Ir2c:Cooking Pot 2	Brown/red alluvial soil with coastal inclusions
A55/94.50.48.L439.(18)	Ir2c:Cooking Pot 2	Loess with coastal inclusions
A78/95.50.58.LF318.(47)	Ir2c:Cooking Pot 2	Loess with coastal inclusions
A72/92.50.49.L353.B84, 85, 88.(4)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.49.L353.FG34.B62+.(2)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.57.L206.FG49+50.B197+.(3)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.57.L206.FG50.B232.(2)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.L262.(13)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.L262.B68+.(16)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.L262.B74+.(18)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.L262.B74+.(18)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.L262.FG43.B100.(26)	Ir2c:Storage Jar 1	Brown/red alluvial soil with coastal inclusions
A72/92.50.57.L206.FG49.B216.(1)	Ir2c:Storage Jar 1	Loess with coastal inclusions
A72/92.50.58.L262.FG43.B100.(22)	Ir2c:Storage Jar 1	Loess with coastal inclusions
A72/92.50.58.L262.FG54.B103	Ir2c:Storage Jar 1	Loess with coastal inclusions
A72/92.50.58.L262.(12)	Ir2c:Storage Jar 1 (fig. 5.56 l.)	Brown/red alluvial soil with coastal inclusions
A73/93.50.49.L418.FG18+.B33+.(7)	Ir2c:Storage Jar 1 (fig. 5.56 m.)	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L453.(113)	Ir2c:Storage Jar 2	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L453.(114)	Ir2c:Storage Jar 2	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L453.(115)	Ir2c:Storage Jar 2	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L453.(116)	Ir2c:Storage Jar 2	Brown/red alluvial soil with coastal inclusions
A78/95.50.48.L453.(116)	Ir2c:Storage Jar 2	Terra rossa with chalk
A73/93.50.49.L418.FG18.B71.(6)	Ir2c:Storage Jar 3 (fig. 5.58)	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.LF252.B7.(4)	Ir2c:Amphora 1	Brown/red alluvial soil with coastal inclusions
A73/93.50.46.L56.FG60.B133.(1)	Ir2c:Amphora 1	Loess with coastal inclusions
A72/92.38.64.L764.B38.(5)	Ir2c:Amphora 1 (fig. 5.59)	Loess with inland inclusions
A73/93.50.49.L389.B16.(4)	Ir2c:Decanter 1 (fig. 5.64)	Indeterminate
A89/96.50.49.L453.(14)	Ir2c:Decanter 2	Loess with coastal inclusions
A78/95.50.58.LF318.(54)	Ir2c:Jug 1	Brown/red alluvial soil with coastal inclusions
A89/96.50.48.L453.(110)	Ir2c:Jug 1	Brown/red alluvial soil with coastal inclusions
A78/95.50.58.LF318.(53)	Ir2c:Jug 1 (fig. 5.61 left)	Brown/red alluvial soil with coastal inclusions

<i>Field Registration Number</i>	<i>Type</i>	<i>Petrographic Category</i>
<b>Local Pottery continued</b>		
A78/95.50.58.LF318.(52)	Ir2c:Jug 1 (fig. 5.61 right)	Terra rossa with chalk
A73/93.38.64.LF785.FG87.B34+37.(1)	Ir2c:Jug 2	Brown/red alluvial soil with coastal inclusions
A55/94.50.48.L444.B51.(33)	Ir2c:Juglet 1	Brown/red alluvial soil with coastal inclusions
A61/91.38.94.L429.FG23.B88	Ir2c:Juglet 2	Loess with coastal inclusions
A72/92.50.58.L264.FG82.B219	Ir2c:Juglet 2	Loess with inland inclusions
A55/94.50.58.L262.B3.(15)	Ir2c:Lamp	Brown/red alluvial soil with coastal inclusions
A72/92.50.58.L262.B156.(16)	Ir2c:Lamp	Brown/red alluvial soil with coastal inclusions
A73/93.38.83.L320.FG49.B34.(2545)	Painted stand? (fig. 5.73)	Brown/red alluvial soil with coastal inclusions
<b>Phoenician Pottery (chapter 6)</b>		
A72/92.50.58.L262.FG44.B19.(24)	Ir2c:Phoenician Bowl 1	Phoenician clay
A55/94.50.58.L262.B1.(20)	Ir2c:Ph. Bowl 1 (fig. 6.1)	Phoenician clay
A89/96.50.49.L451.(31)	Ir2c:Ph. Bowl 1 (fig. 6.2)	Phoenician clay
A72/92.50.48.L384.B302.(7)	Ir2c:Ph. Bowl 1 (fig. 6.3 left)	Phoenician clay
A78/95.50.48.L453.(118)	Ir2c:Ph. Bowl 1 (fig. 6.3 right)	Phoenician clay
A89/96.50.49.L453.B130.(18)	Ir2c:Ph. Bowl 2 (fig. 6.4)	Phoenician clay
A89/96.50.49.L451.(32)	Ir2c:Ph. Bowl 3 (fig. 6.5)	Phoenician clay
A73/93.50.57.L245.B123.(2)	Ir2c:Ph. Bowl 4 (fig. 6.6)	Phoenician clay
A72/92.50.58.LF260.FG86.B190.(1)	Ir2c:Ph. Cooking Pot (fig. 6.7)	Phoenician clay
A72/92.50.58.L262.FG34.B77.(7)	Ir2c:Ph. Amphora 1 (fig. 6.10)	Phoenician clay
A55/94.50.58.L262.B3.(30)	Ir2c:Ph. Amphora 2	Phoenician clay
A78/95.50.58.LF318.(55)	Ir2c:Ph. Amphora 2	Phoenician clay
A78/95.50.58.LF318.(56)	Ir2c:Ph. Amphora 2	Phoenician clay
A72/92.50.58.L262.FG23.B84.(8)	Ir2c:Ph. Amphora 2 (fig. 6.11)	Phoenician clay
A55/94.50.58.L262.B3.(121)	Ir2c:Phoenician Jug	Phoenician clay
A72/92.50.58.L262.B3.(18)	Ir2c:Phoenician Jug	Phoenician clay
A72/92.50.58.L262.FG53.B118.(19)	Ir2c:Ph. Jug, ext. black paint	Phoenician clay
<b>Cypriot and North Syrian Pottery (chapter 7)</b>		
A72/92.38.64.L764.B38.(5)	White Painted IV	Cypriot or North Syrian clay
A78/95.50.47.L285.(16)	Bichrome IV (fig. 7.28)	Cypriot or North Syrian clay
A89/96.50.49.L453.(32)	Bichrome IV (fig. 7.32)	Cypriot or North Syrian clay
A72/92.50.59.L419.B186.(1b)	Polychrome White Ware (fig. 7.40)	Coastal Syrian clay? (Goren 2004:58–69)
A89/96.50.48.L453.(111)	Black-on-Red II jug (fig. 7.44)	Cypriot or North Syrian clay
A72/92.50.58.L272.FG76.B268.(1)	Black-on-Red II jug	Indeterminate
A55/94.50.46.L75.B56.(2)	Bichrome Red I Ware (fig. 7.48)	Cypriot or North Syrian clay
A78/95.50.58.LF318.(49)	Ir2c:Cypriot/North Syrian Mortarium	Cypriot or North Syrian clay
A78/95.50.58.LF318.(50)	Ir2c:Cypriot/North Syrian Mortarium (fig. 7.53)	Cypriot or North Syrian clay
A78/95.50.58.LF318.(7)	Ir2c:Cypriot/North Syrian Mortarium	Indeterminate
A72/92.50.48.LF383.FG28.B273.(1)	Ir2c:Cypriot/North Syrian Cooking Pot 1 (fig. 7.55)	Cypriot or North Syrian clay
A73/93.50.49.L418.FG38.B72.(8)	Ir2c:Cypriot/North Syrian Cooking Pot 2 (fig. 7.56)	Cypriot or North Syrian clay
A73/98.50.67.L61.FG37.B93+(2)	Ir2c:Cypriot/N. Syrian Basket-handled Amphora (fig. 7.57)	Cypriot or North Syrian clay

<i>Field Registration Number</i>	<i>Type</i>	<i>Petrographic Category</i>
<b>Southeastern Pottery (chapter 8)</b>		
A55/94.50.48.L439.B52.(20)	Ir2c:Southeastern Bowl 1	Clay from Negev or SE Philistia (like fig. 4.6)
A72/92.50.58.L262.FG13.B72.(14)	Ir2c:SE Bowl 1 (fig. 8.1)	Clay from Negev or SE Philistia (like fig. 4.7)
A73/93.38.64.LF785.FG87.B34+37.(6)	Ir2c:SE Bowl 1 (fig. 8.2)	Clay from Negev or SE Philistia (like fig. 4.6)
A78/95.50.48.L452.(259)	Ir2c:SE Bowl 2	Clay from Negev or SE Philistia (like fig. 4.6)
A73/93.38.84.L299.FG53.B165.(5)	Ir2c:SE Bowl 2 (fig. 8.3)	Clay from Negev or SE Philistia (like fig. 4.6)
A16/87.50.58.L99.B489.(82)	Ir2c:SE Bowl 3 (fig. 8.4)	Edomite clay
A55/94.50.48.L444.B23.(32)	Ir2c:SE Bowl 4	Clay from Negev or SE Philistia (like fig. 4.6)
A73/93.38.64.LF801.B39.(1)	Ir2c:SE Bowl 4 (fig. 8.5)	Clay from Negev or SE Philistia (like fig. 4.6)
A16/87.50.58.L99.B489.(89)	Ir2c:SE Bowl 5 (fig. 8.7)	Edomite clay
A72/92.50.58.L262.B233.(23)	Ir2c:SE Bowl 6 (fig. 8.8)	Clay from Negev or SE Philistia (like fig. 4.6)
A78/95.50.48.L454.(14)	Assyrian Bowl (fig. 8.11)	Clay from Negev or SE Philistia (like fig. 4.7)?
A72/92.50.48.L384.B320.(5)	Assyrian Bowl	Clay from Negev or SE Philistia (like fig. 4.6)
A72/92.50.58.LF252.B8.(6)	Ir2c:SE Jug (fig. 8.13)	Clay from Negev or SE Philistia (like fig. 4.6)
A89/96.50.49.L453.(37)	Assyrian Bottle (fig. 8.14)	Clay from Negev or SE Philistia (like fig. 4.6)
A89/96.50.48.L453.(108)	Assyrian Bottle (fig. 8.15)	Clay from Negev or SE Philistia (like fig. 4.7)
<b>Egyptian Pottery (chapter 9)</b>		
A89/96.50.48.L453.(106)	Ir2c:Egy. Bowl 1 (fig. 9.2)	Egyptian "Nile mud"
A72/92.50.58.L264.(14)	Ir2c:Egy. Bowl 1 (fig. 9.3)	Egyptian "Nile mud"
A78/95.50.48.L452.(257)	Ir2c:Egy. Bowl 2 (fig. 9.4)	Egyptian "Nile mud"
A78/95.50.48.L453.(109)	Ir2c:Egyptian Bowl 2	Egyptian "Nile mud"
A78/95.50.58.LF318.(51)	Ir2c:Egy. Bowl 3 (fig. 9.5)	Egyptian "Nile mud"
A78/95.50.58.LF318.(46)	Ir2c:Egy. Jar 2 (fig. 9.8)	Egyptian "Nile mud"
<b>East Greek and Corinthian Pottery (chapter 10)</b>		
A78/95.50.48.L453	Ionian cup (cat. no. 55)	Indeterminate
A78/95.50.48.L454	Ionian cup (cat. no. 56)	Indeterminate
A89/96.50.49.L449.B2	Ionian cup (cat. no. 57)	Indeterminate
A55/94.50.48.L439.B71	Ionian cup (cat. no. 100)	Indeterminate
A78/95.50.58.LF318	Ionian cup (cat. no. 101)	Indeterminate
A78/95.50.48.L452	Ionian cup (cat. no. 249)	Highly micaceous Aegean clay
A78/95.50.48.L461	Ionian cup (cat. no. 250)	Indeterminate
A89/96.50.49.L451.B24	Ionian cup (cat. no. 251)	Highly micaceous Aegean clay
A78/95.50.57.L256	Ionian cup (cat. no. 252)	Indeterminate
A55/94.50.48.L444.B16	Ionian cup (cat. no. 253)	Highly micaceous Aegean clay
A55/94.50.58.L302.B6.(2)	South Ionian Archaic stemmed/footed dish (cat. no. 258)	Highly micaceous Aegean clay
A72/92.50.58.L274.B406	"Wild Goat" oinochoe body sherd (cat. no. 289)	Highly micaceous Aegean clay
A73/93.50.48.L405.FG14.B26	"Wild Goat" oinochoe shoulder (cat. no. 320)	Highly micaceous Aegean clay
A55/94.50.48.L439.B48	"Wild Goat" oinochoe shoulder (cat. no. 321)	Highly micaceous Aegean clay
A78/95.50.48.L452	"Wild Goat" oinochoe shoulder (cat. no. 322)	Highly micaceous Aegean clay
A55/94.50.48.L439.(60)	"Wild Goat" oinochoe body sherd (cat. no. 356)	Highly micaceous Aegean clay
A55/94.50.48.L444.(40)	"Wild Goat" oinochoe body sherd (cat. no. 357)	Highly micaceous Aegean clay
A78/95.50.48.L452.(50)	"Wild Goat" oinochoe body sherd (cat. no. 358)	Highly micaceous Aegean clay

<i>Field Registration Number</i>	<i>Type</i>	<i>Petrographic Category</i>
<b>East Greek and Corinthian Pottery</b> <i>continued</i>		
A78/95.50.48.L453.(19)	“Wild Goat” oinochoe body sherd (cat. no. 359)	Highly micaceous Aegean clay
A72/92.50.48.L392.FG22.B360	“Wild Goat” oinochoe base sherd (cat. no. 377)	Highly micaceous Aegean clay
A73/93.50.49.L413	“Wild Goat” oinochoe body sherd (cat. no. 395)	Highly micaceous Aegean clay
A78/95.50.48.L453	“Wild Goat” oinochoe body sherd (cat. no. 396)	Highly micaceous Aegean clay
A78/95.50.48.L454	“Wild Goat” oinochoe body sherd (cat. no. 397)	Highly micaceous Aegean clay
A78/95.50.57.L256	“Wild Goat” oinochoe body sherd (cat. no. 398)	Highly micaceous Aegean clay
A78/95.50.58.LF318	“Wild Goat” oinochoe body sherd (cat. no. 399)	Highly micaceous Aegean clay
A89/96.50.49.L461.B20.(3)	Aiolian black polychrome oinochoe (cat. no. 415)	Highly micaceous Aegean clay
A78/95.50.48.L398.B361	East Greek cooking pot (cat. no. 487)	Aegean clay with quartz-mica schist
A78/95.50.48.L452	East Greek cooking pot (cat. no. 488)	Aegean clay with quartz-mica schist
A78/95.50.48.L453	East Greek cooking pot (cat. no. 489)	Aegean clay with quartz-mica schist
A78/95.50.48.L461	East Greek cooking pot (cat. no. 490)	Aegean clay with quartz-mica schist
A78/95.50.57.L256	East Greek cooking pot (cat. no. 491)	Aegean clay with quartz-mica schist
A78/95.50.49.L451.B30	East Greek cooking pot (cat. no. 492)	Aegean clay with quartz-mica schist
A78/95.50.58.LF318	East Greek cooking pot (cat. no. 493)	Aegean clay with quartz-mica schist
A78/95.50.57.L259.B112	East Greek cooking pot (cat. no. 494)	Aegean clay with quartz-mica schist
A78/95.50.48.L454.(3)	Mortarium (cat. no. 495)	Highly micaceous Aegean clay
A78/95.50.48.L452.(53)	South Ionian transport amphora (cat. no. 498)	Highly micaceous Aegean clay
A78/95.50.48.L452.(52)	South Ionian transport amphora (cat. no. 504)	Indeterminate
A72/92.50.58.L262.FG11.B163	South Ionian transport amphora (cat. no. 514)	Highly micaceous Aegean clay
A55/94.50.48.L444.B40	South Ionian transport amphora (cat. no. 515)	Highly micaceous Aegean clay
A89/96.50.49.L449.B2	South Ionian transport amphora (cat. no. 516)	Highly micaceous Aegean clay
A73/98.50.67.L61.(1)	Chian transport amphora (cat. no. 517)	Aegean clay with a weathered mix of sedimentary and metasedimentary inclusions
A55/94.50.48.L439.B69.(3)	Chian transport amphora (cat. no. 519)	Aegean clay with a weathered mix of sedimentary and metasedimentary inclusions
A55/94.38.84.L371.FG20/30.B101+.(1)	Northeast Aegean transport amphora (cat. no. 522)	Aegean clay with trachyte inclusions

<i>Field Registration Number</i>	<i>Type</i>	<i>Petrographic Category</i>
<b>East Greek and Corinthian Pottery</b> <i>continued</i>		
A89/96.50.49.L453.B46.(3)	Northeast Aegean transport amphora (cat. no. 523)	Aegean clay with andesite inclusions
A89/96.50.48.L453.B7	Northeast Aegean transport amphora (cat. no. 527)	Aegean clay with andesite inclusions
A89/96.50.48.L453.B9.(6)	Hydria (cat. no. 549)	Highly micaceous Aegean clay
A78/95.50.58.LF318.(4)	Hydria (cat. no. 550)	Highly micaceous Aegean clay
A72/92.50.48.L393.B349	Hydria or amphora (cat. no. 558)	Highly micaceous Aegean clay
A78/95.50.48.L452	Hydria or amphora (cat. no. 559)	Highly micaceous Aegean clay
A78/95.50.57.L256	Hydria or amphora (cat. no. 560)	Highly micaceous Aegean clay



## 5. LOCAL POTTERY

THE LOCAL POTTERY of the seventh century B.C. excavated at Ashkelon was produced in the Philistine coastal plain and, in some cases, in the Shephelah foothills that border this plain on the east. Lawrence Stager and David Schloen developed a typology of the pottery and Schloen and his students subsequently sorted and quantified it on this basis. Daniel Master then further refined the typology in light of his petrographic analysis and comparisons to recently published pottery found at other sites in the region. In this chapter, we discuss each type in turn, citing relevant parallels at other sites.<sup>1</sup> These seventh-century types belong to the Iron Age IIC (according to the conventional terminology for the southern Levant); this period designation is incorporated into the pottery type names in this volume using the abbreviation “Ir2c” (e.g., “Ir2c:Bowl 1”).

The “local” pottery includes vessels made in Ashkelon itself and in the surrounding region, as far east as Lachish, as far north as Ashdod or Ekron, and as far south as Gaza. Although several petrographically distinct fabrics are found within this geographical area, it is a well-defined region, both topographically and culturally, with excellent comparative material dated to the late Iron Age now published from Ashdod, Meşad Ḥashavyahu, Gezer, Ekron, Tel Batash, and Lachish. We therefore restrict ourselves to relatively brief summaries of pottery types found at Ashkelon that are well documented at these other sites, indicating the range of forms attributed to each basic type. The Ashkelon types are sometimes wider or narrower in scope than the corresponding types in the publications of related sites; however, every effort has been made to make the Ashkelon types commensurable with those of other sites.

In Gitin’s (1985; 1989) studies of the Iron Age pottery of Ekron, he makes a basic distinction between “coastal” and “inland” forms, a distinction that has underpinned recent discussions of the pottery of the region. But Singer-Avitz (1999) subsequently showed that Gitin’s coastal-versus-inland stylistic distinction, when applied to sites outside the Shephelah, does not always correspond to the actual place of production. For example, she found that so-called Edomite bowls were made in the Shephelah and some “coastal” forms came from the highlands.

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<sup>1</sup> Quantitative estimates and relative proportions of the types of pottery found in various architectural contexts are presented below in chapter 27, as part of a general analysis of the spatial distribution of finds of all kinds.

With this in mind, we made no assumptions about provenance in the course of developing our typology and instead began with a petrographic analysis of all forms. In the end, we determined that much of what Gitin would define as coastal is indeed present in our local pottery assemblage at Ashkelon, as might be expected. But some of Gitin’s inland types, such as the “Judean” cooking pot, are also found among the locally produced pottery of Ashkelon.

The greater problem with the the coastal-versus-inland distinction is that it does not adequately capture the regional variation within the coastal region, broadly defined. For instance, Ashkelon and Ashdod share forms that are not found at other seventh-century sites thought to exhibit a “coastal” assemblage, such as Ekron and Tel Batash, and vice versa.<sup>2</sup>

A lack of understanding of this regional variation among the “coastal” sites led Finkelstein and Singer-Avitz (2001) to argue that Ashdod was a populous settlement only in the eighth century B.C. and was largely abandoned in the seventh century, on the grounds that it lacks certain key ceramic forms typical of Tel Batash and Ekron, which are also considered to be “coastal” sites. It is true that certain well-known forms, such as the ridged-neck bottle, the decanter with sloping shoulder, and lamps with a heavy disk base, are either quite rare or are completely absent at Ashdod, but they are also missing in the seventh century at Ashkelon. Since the Ashkelon chronology is clear, the absence of these forms at both sites is more plausibly interpreted as evidence of regional variation than as a chronological indicator.

Unfortunately, it is difficult to be sure about the situation at Ashdod. The seventh-century remains are a confusing assortment of phases that were severely disrupted by later Hellenistic building activities. Moreover, the publication of the finds, although quite extensive, has been done in a piecemeal fashion over the years, giving rise to some uncertainty with regard to the internal correlations among the phases excavated at the site and, more broadly, causing problems for the reconstruction of Ashdod’s settlement history.

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<sup>2</sup> Although Ashdod and Ashkelon belong to the same ceramic subregion, their pottery assemblages differ in some respects. In particular, Ashdod lacks the East Greek imports found in substantial quantities at Ashkelon (see chapter 10). Herodotus (*Histories* ii.157) may well be correct that Ashdod (Azotus) was subjected to a long Egyptian siege in the reign of Psamtik I (664–610 B.C.) and was thus presumably destroyed or greatly diminished just before Greek pottery began to arrive in Palestine at the end of the seventh century.

Still, we find close parallels between the Ashkelon local pottery and the pottery from Ashdod Area A, Phase 6; Area D, Phase 3a-2; Area G, Phase 4; Area H, Phase 1; Area K, Phase 5; and Area M, Phase 7b-a. These constitute some, but not all, of the phases typically grouped in Ashdod “General Strata” VII and VI (see the summary chart in Finkelstein and Singer-Avitz 2001). For example, Ir2c:Bowl 5, the most abundant plainware bowl, is also common at Ashdod but is rare elsewhere. Ir2c:Bowls 6, 7, and 14 are even more narrowly confined to Ashkelon and Ashdod.

In light of these close ceramic parallels between Ashkelon and Ashdod, we conclude that some of the architectural phases of Iron Age Ashdod should be dated to the seventh century B.C. The coastal-versus-inland distinction has worked well, but it should be modified to take account of the existence of ceramic subregions with their own distinctive pottery traditions. Ashkelon and Ashdod belonged to one such subregion, and Ekron and Tel Batash belonged to another.

To the south and southeast of Ashkelon, many stylistic parallels can be drawn between the local pottery at Ashkelon and pottery found at seventh-century sites such as Tel ʿIra and Qitmit. Unfortunately, there are no published pottery plates from recent excavations at nearer neighbors to the southeast, such as Tell Jemmeh, Tel Sera, and Tell er-Ruqeish. But it is already apparent that several of the most common bowl forms found at Ashkelon have their closest parallels in vessels excavated by Petrie long ago at Tell Jemmeh, including Ir2c:Bowl 2 (parallel to Petrie 1928:Type 3j, pl. 48) and Ir2c:Bowl 4 (parallel to Petrie 1928:Type 2j and “Assyrian”-style bowls, pl. 48, pl. 65:15–23). Other typical seventh-century forms are common to Ashkelon and various southeastern sites (see chapter 8), but the Tell Jemmeh examples are highlighted here because they are the best parallels for types which are abundant at Ashkelon (and presumably at Tell Jemmeh) but are very rare elsewhere. Forms found at Ashkelon that are paralleled at sites to the southeast probably belong to a ceramic subregion centered in Gaza.

#### A. BOWLS

##### **Ir2c:Bowl 1—Simple Hemispherical Bowl**

The simple hemispherical bowl is a common form at Ashkelon. Almost 80 percent of them (calculated on the basis of rim fractions) have a red slip and are burnished. Many examples of this type are preserved only as small fragments, making it difficult to determine the relative frequencies of the morphological variations within the hemispherical bowl repertoire. The whole examples show, however, that several different pottery traditions are combined in this type.

Vessels that are similar to Ekron Bowl 3.2/3b (Gitin, Dothan, and Garfinkel, in press:Type IIBL3.2/IIBL3B) and Tel Batash Bowl 12 (Mazar and Panitz-Cohen 2001:Type BL12), which have a very slight carination, were probably present at Ashkelon; however, none of the whole examples from Ashkelon has the slightly raised disk or ring base that is typical of the Ekron and Tel Batash forms. Ekron Bowl 10

(Gitin, Dothan, and Garfinkel, in press:Type IIBL10/IIBL10A) is a better parallel, although it, too, has a different base.

The simple hemispherical bowl type is also present at Ashdod (Dothan 1967:40.7; Dothan 1971:37.8; Dothan and Ben-Shlomo 2005:3.106.5), where it has a red slip and burnish and the gentler curve that characterizes the Ashkelon examples. This form, like several others in the local pottery repertoire of Ashkelon, also has parallels at sites to the southeast; for example, the rounded semiglobular bowls found at Qitmit (Beit-Arieh 1995:211; fig. 4.1.26, 31). Some of the Ashkelon hemispherical bowl fragments may have their closest parallels in Phoenician globular bowls (Briend and Humbert 1980:pl. 28:5; pl. 41:5), but they are poorly preserved and difficult to distinguish from locally made hemispherical bowls.



*Photo of interior showing red slip and burnish.*

*Figure 5.1: Bowl 1 (scale 2:5)*

Reg. no. A72/92.50.48.L439.B27.(2516); 5YR 4/4 (core); 2.5YR 5/8 (interior); 2.5YR 6/6 (exterior).



*Photo of interior showing red slip and burnish.*

*Figure 5.2: Bowl 1 (scale 2:5)*

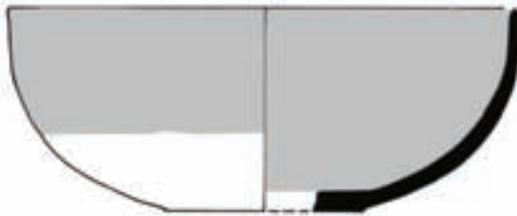
Reg. no. A72/92.50.57.L206.FG49.B197.(2506); 10YR 4/2 (core); 7.5YR 5/6 (interior); 7.5YR 6/6 (exterior).



*Photo of interior showing red slip and burnish.*

*Figure 5.3: Bowl 1 (scale 2:5)*

Reg. no. A72/92.50.58.L262.FG13.B87.(17); 10YR 6/3 (core); 5YR 6/6 (interior); 5YR 6/6 (exterior).



*Photo of exterior showing red slip and burnish with reserved area on the lower part and base.*

*Figure 5.4: Bowl 1 (scale 2:5)*

Reg. no. A72/92.50.58.L262.FG12.B166.(4); 5YR 6/6 (core); 10R 5/6 (interior); 5YR 6/4 (exterior).

### **Ir2c:Bowl 2—Bowl with Everted Rim**

Small bowls with everted rims, usually with a red slip and burnishing on the interior, are common at most sites in the region around Ashkelon; but close parallels to the type found at Ashkelon are rare. The typical form at Ekron (Gitin, Dothan, and Garfinkel, in press: Type IIBL5) has a low carination and an out-turned rim, which is paralleled at Tel Batash (Mazar and Panitz-Cohen 2001:Type BL47) and at Meşad Ḥashavyahu (Fantalkin 2001:Type B5). However, unlike Ir2c:Bowl 2 at Ashkelon, these bowls have a short, almost triangular, out-turning at the rim.

In his study of the Meşad Ḥashavyahu pottery, Fantalkin (2001) links the type to Phoenician forms, but we do not find these parallels to be apt and prefer the local parallels at Ekron and Tel Batash. More specifically, Ir2c:Bowl 2 resembles Ekron Bowl 5.3a (Gitin, Dothan, and Garfinkel, in press: Type IIBL 5.3a). The typical pattern of decoration at Ekron, with red slip and burnishing on the interior only, is present on nearly 90 percent of the sherds from Ashkelon. Yet, the Ekron bowl shapes are generally a poor match for the Ashkelon form.

In Phoenicia, the common Tyrian bowl (Bikai 1978:pl. 2) resembles Ir2c:Bowl 2 but it has a shallower profile and a wider, more horizontal rim. Moreover, most of the Ashkelon examples are bowls, not plates, and they have a soft carination entirely missing from the Tyrian form (but cf. Karageorghis 1967:pl. 125 [Salamis Tomb 3] and Karageorghis and Demas 1985:pl. 25.19 [Kition] for examples with a very slight carination and a slightly deeper profile).

Perhaps the closest parallels to Ir2c:Bowl 2 are the ledge-rim bowls of the Negev found at Tel Ira (Beit-

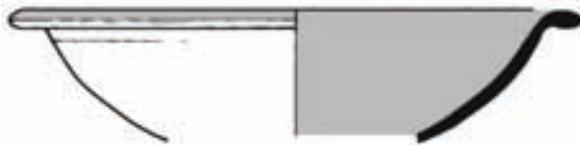
Arieh 1999:fig. 6.61.1; 6.91.1; 6.92.1; 6.100.1, 3) and at Qitmit (Beit-Arieh 1995:fig. 4.9.7; 4.9.20). Similar forms are common at a number of sites in the Transjordan (see Bienkowski, Bennett, and Balla 2002:256, Busayrah Bowl 5 with parallels). Nearer to Ashkelon, this form is also attested at Tell Beit Mirsim (Albright 1932:65.23; 1943:21.8) and Tell Jemmeh (Petrie 1928:pl. 48), and without decoration at Ashdod (Dothan 1967:fig. 93.19) and Gaza (Humbert 2000:38.6). At Ashdod, the rim form also appears in chalices from this period (Dothan 1971: fig. 58.10).



*Photo of plain exterior showing red slip dripping over rim.*

*Figure 5.5: Bowl 2 (scale 2:5)*

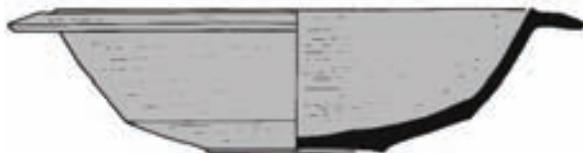
Reg. no. A72/92.50.48.L415.B455.(2501); 5YR 5/6 (core); 5YR 7/4 (interior); 5YR 6/4 (exterior).



*Photo of interior showing red slip and burnish.*

*Figure 5.6: Bowl 2 (scale 2:5)*

Reg. no. A72/92.50.48.L393.B352.(2499); 5YR 5/1 (core); 5YR 7/4 (interior); 5YR 6/6 (exterior).



*Photo of interior showing red slip and burnish.*

*Figure 5.7: Bowl 2 (scale 2:5)*

Reg. no. A72/92.50.59.L274.B34.(9); 5YR 5/6 (core); 10R 4/4 (interior); 2.5YR 5/6 (exterior).

**Ir2c:Bowl 2b—Bowl with Everted Rim and Slight Carination**

This bowl type, which resembles the bowl with everted rim, has been described by the excavators of Tel Batash as a variant of the carinated bowls (discussed below) with a softer, higher carination (Mazar and Panitz-Cohen 2001:43–44). They conclude that this variant form is a relatively late addition to the repertoire, flourishing only in the latter part of the seventh century.

The type is attested at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIBLM14), Lachish (Ussish-

kin 2004:fig. 26.56.5), and Ashdod (Dothan and Ben-Shlomo 2005:fig. 3.105.12). The Tel Batash excavators also cite parallels at Tell el-Kheleifeh (Pratico 1993:36.1–3). Unlike these examples, however, the Ashkelon exemplars have a red slip and burnishing over at least the interior of the bowl, sometimes with a bit of red paint on the lip. The two tested examples were both locally made. It is possible that some rim fragments of this type come from chalices (see Mazar and Panitz-Cohen 2001:55, Type CH4).



Figure 5.8: Bowl 2b (scale 2:5)

Reg. no. A78/95.50.58.LF318.(44); 5YR 5/4 (core); 5YR 6/8 (interior); 2.5YR 6/6 (exterior).

**Ir2c:Bowl 3—Bowl with Folded Rim**

The bowl with folded or triangular rim is one of the most common forms in the Ashkelon region during the eighth and seventh centuries B.C. At Tel Batash, this is the second most common bowl in Stratum II and the excavators provide a thorough history of the type (Mazar and Panitz-Cohen 2001:39–40, Type BL13). Because of its ubiquity, Gitin has divided this type into several subtypes based on rim construction, size, and chronological development (Gitin 1990: Types 50a, 51, 71, 81a; Gitin, Dothan, and Garfinkel, in press:Types IIBL18 and IIBL19). He cites parallels ranging geographically from Tarsus to Nimrud to

Dibon (Gitin 1990:169), emphasizing the wide distribution of the form.

The folded-rim bowl is also common at Lachish (Ussishkin 2004:fig. 26.54.4, 1–12; 26.55.1, 25–28; 26.56.1–4), Meşad Ḥashavyahu (Fantalkin 2001:57–58, Types B11 and B13), and Qitmit, where it constitutes 50 percent of all bowls recovered (Beit-Arieh 1995:210). At Ashkelon, most examples of this form were made locally, but a few seem to have been imported from the southeast. In most cases, the imported fabrics were identified and separated before the pottery was quantified.

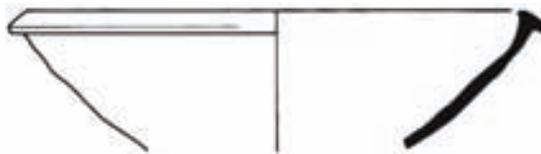


Figure 5.9: Bowl 3 (scale 2:5)

Reg. no. A73/98.50.67.L61.FG36.B36.(2); 7.5YR 6/6 (core); 5YR 5/4 (interior); 5YR 6/4 (exterior).

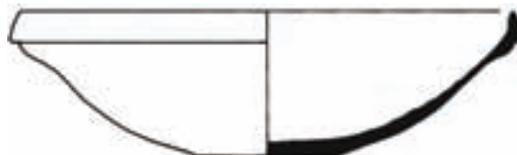


Figure 5.10: Bowl 3 (scale 2:5)

Reg. no. A72/92.50.48.L439.B47.(2547); 10YR 4/2 (core); 10YR 4/2 (interior); 10YR 7/4 (exterior).

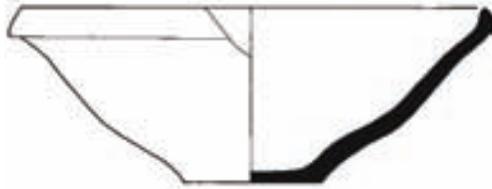


Figure 5.11: Bowl 3 (scale 2:5)

Reg. no. A3/88.50.57.L134.B535.(15); 7.5YR 3/3 (core); 5YR 4/6 (interior); 2.5YR 8/2 (exterior).



Figure 5.12: Bowl 3 (scale 2:5)

Reg. no. A80/97.38.84.LF548.B54.(59)



Figure 5.13: Examples of Ir2c:Bowl 3, the common bowl with folded rim

#### Ir2c:Bowl 4—Carinated Bowl with Red Slip and Flaring Rim

Carinated red-slipped and burnished bowls with flaring rims are very frequent in seventh-century B.C. contexts at Ashkelon but are rare at other sites in the vicinity. The closest parallels to this Ashkelon type are a series of bowls discovered by Petrie in a single silo at Tell Jemmeh (Petrie 1928:23–24, pl. 65). Petrie published some bowls from this silo (*ibid.*, pl. 65:1–9) for which he noted parallels to Assyrian silver bowls in the British Museum, but he did not cite any specific parallels for the carinated bowls from the same silo (*ibid.*, pl. 65:11–23). The latter provide the best parallels for Ir2c:Bowl 4. Petrie described the entire assemblage, which came from a single context, as tableware for an Assyrian governor.

In her pottery manual, Amiran (1969:291, n. 26) followed Petrie's lead and linked all of these vessels to Assyria, although she chose to illustrate only the bowls with clear Assyrian parallels (*ibid.*, pl. 99). In Gatti's (1986:pl. 58) more recent treatment of Neo-Assyrian pottery, some of the carinated bowls from Tell Jemmeh that parallel Ir2c:Bowl 4 (Petrie 1928: pl. 65:17, 19, 20) are illustrated without citing any direct parallels in the Mesopotamian homeland. This carinated bowl form was probably part of an Assyrian provincial style distinct from that of the Assyrian heartland. If so, its abundance at Ashkelon is of some interest, especially in light of the fact that "Assyrian" bowls which imitate the style found in Assyria proper

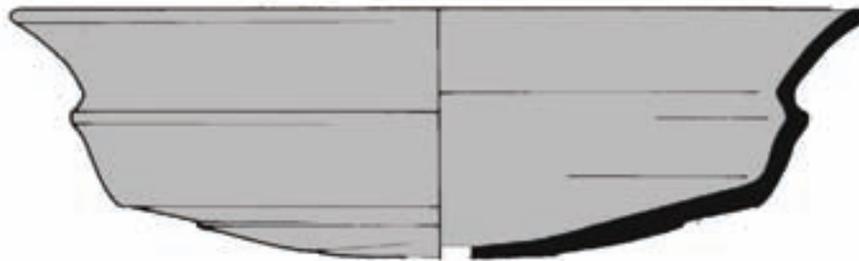
are quite rare at Ashkelon and were not made locally but were imported from Assyrian centers to the southeast. It seems that the potters of Ashkelon were influenced by the provincial style, which had its own history of development, even though they saw very little true Assyrian pottery and did not directly imitate native Assyrian styles. The recent publication of

several sites in the northern provinces of Assyria (e.g., Tille Höyük in southeastern Turkey—see Blaylock 1999) now provides examples of the provincial carinated bowl form to add to the examples known from the Ashkelon–Gaza corridor in the southwestern corner of the empire (see *ibid.*, fig. 5.13–15).



*Figure 5.14: Bowl 4 (scale 2:5)*

Reg. no. A72/92.50.48.L384.B312.(2525); 10YR 4/2 (core); 5YR 5/8 (interior); 7.5YR 7/4 (exterior).



*Figure 5.15: Bowl 4 (scale 2:5)*

Reg. no. A78/95.50.48.L453.(59); 5YR 5/4 (core); 2.5YR 4/6 (interior); 7.5YR 6/4 (exterior).



*Photo of exterior showing red slip with reserved area at bottom.*

*Figure 5.16: Bowl 4 (scale 2:5)*

Reg. no. A72/92.50.49.L392.FG36.B286.(1); 7.5YR 4/1 (core); 7.5YR 6/4 (interior); 7.5YR 7/3 (exterior).

**Ir2c:Bowl 5—Plain Carinated Bowl with Flaring Rim**

Unslipped carinated bowls were the most common plainware bowls in seventh-century Ashkelon. This type is well known at Ashdod, where it is found in contexts dated to the eighth and seventh centuries B.C. and was the most common bowl in Area D, Phase 3 (Dothan 1967:134). In the eighth century, the flare of the rim does not extend much past the widest point of the carination on the body (Dothan 1971:fig. 39.2–11 [Area D, Phase 3b]). In the seventh century, the carination is sharper and the rim flares out more widely (Dothan 1971:figs. 52.7–8; 93.1–3, 7–8, 10 [Area D, Phase 2]).

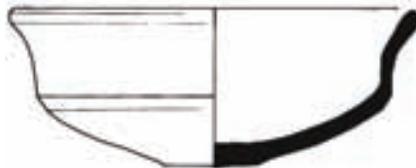
The excavators of Ashdod wanted to link this form to Assyrian prototypes from the ninth and eighth centuries, but they realized that those forms have a much more rounded body (Dothan 1967:134; see also

Mazar and Panitz-Cohen 2001:43). We would agree with Gitin that this is a regional type specific to the Philistine coast. It appears in quantity at Ashdod and Ashkelon, with few parallels at other sites (Gitin 1990:198–99, Type 74).

At Tel Batash, the excavators noticed that more than a third of the bowls of this form were not plain but were red-slipped and burnished (Mazar and Panitz-Cohen 2001:43). This is a far higher proportion than in the illustrated examples from Ashdod, and quite different also from Ashkelon, where this form is undecorated. Although it is possible that some small fragments of Ir2c:Bowl 5 at Ashkelon were red-slipped and burnished, and thus confused with Ir2c: Bowl 4, all examples whose profiles are preserved well enough to be identified as Bowl 5 are unslipped.



*Figure 5.17:* Bowl 5 (scale 2:5)  
Reg. no. A78/95.50.48.L452.B176.(269); 7.5YR 7/4 (exterior).



*Figure 5.18:* Bowl 5 (scale 2:5)  
Reg. no. A78/95.50.48.L453.B253.(108); 10YR 5/3 (core); 5YR 5/6 (interior); 5YR 6/6 (exterior).



*Figure 5.19:* Bowl 5 (scale 2:5)  
Reg. no. A73/93.38.64.LF785.FG87.B34+37.(2); 7.5YR 4/6 (core); 2.5YR 5/8 (interior); 2.5YR 6/6 (exterior).

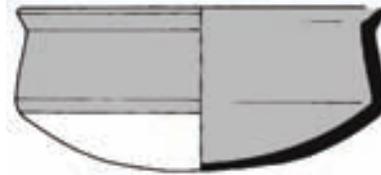


*Figure 5.20:* Bowl 5 (scale 2:5)  
Reg. no. A5/86.38.64.L61.B118.(7); 2.5YR 4/8 (core); 2.5YR 4/8 (interior); 2.5YR 6/4 (exterior).

**Ir2c:Bowl 6—Small Bowl or Cup**

This type encompasses small bowls or cups that lack close parallels at other sites. The cup with flared rim is present at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIBLM4, fig. 7.1); however, the Ekron example is unslipped and has a ring base, whereas the

Ashkelon cups usually have a burnished red slip and flat base. They are most closely related to the cups from Ashdod (Dothan 1971:97; pl. 39.21–25; pl. 52.14) and Tell Jemmeh (Petrie 1928:Bowl Type 25c, pl. 50).



*Figure 5.21:* Bowl 6 (scale 2:5)  
Reg. no. A78/95.50.48.L452.B47.(5); 5YR 6/4 (exterior).



*Figure 5.22:* Bowl 6 (scale 2:5)  
Reg. no. A89/96.50.58.LF318.(48); 10YR 5/4 (core); 10YR 5/4 (interior); 5YR 6/4 (exterior).



*Figure 5.23:* Bowl 6 (scale 2:5)  
Reg. no. A78/95.50.48.L453.(107); 5YR 6/6 (core); 2.5YR 5/6 (interior); 2.5YR 5/6 (exterior).



*Figure 5.24:* Bowl 6 (scale 2:5)  
Reg. no. A72/92.50.48.L439.B52.(2561); 2.5YR 4/1 (core); 2.5YR 6/8 (interior); 2.5YR 6/6 (exterior).

**Ir2c:Bowl 7—Red-slipped Fineware Cup**

The straight-sided examples of Ir2c:Bowl 7 have parallels at Ashdod (Dothan 1971:97, pl. 39.21–25, pl. 52.14). Because of the small size of these cups; their low, gentle carination; their lack of a base; and their decoration with red slip, burnishing, and occasionally with black paint, the Ashdod excavators connected them with the Phoenician Fine Ware hemispherical bowls. However, the Ashkelon examples, like those

from Ashdod, are not as finely polished as true Phoenician Fine Ware, leading to the conclusion that this is a local variant inspired by a Phoenician prototype (e.g., Bikai 1978:28, Tyre Fine Ware Plate 4; see also Anderson 1988:164–65, Sarepta Type F-2A, with parallels). But it should be noted that this type diverges from its northern precursor (if such it was) and lacks close parallels at Phoenician sites.



*Figure 5.25: Bowl 7 (scale 2:5)*

Reg. no. A55/94.50.57.L259.B121.(2564); 7.5YR 5/6 (core); 7.5YR 5/6 (interior); 7.5YR 6/6 (exterior).



*Figure 5.26: Bowl 7 (scale 2:5)*

Reg. no. A72/92.50.48.L393.B342.(22); 5YR 5/6 (core); 5YR 5/6 (interior).



*Figure 5.27: Bowl 7 (scale 2:5)*

Reg. no. A72/92.50.48.L415.B432.(2533); 7.5YR 5/2 (core); 5YR 7/6 (interior); 10YR 7/3 (exterior).



*Figure 5.28: Bowl 7 (scale 2:5)*

Reg. no. A72/92.50.48.L393.B345.(2562); 5YR 5/6 (core); 5YR 5/6 (interior); 5YR 6/6 (exterior).

### Ir2c:Bowl 8—Large Bowl with Folded Rim

Ir2c:Bowl 8 is a large folded-rim bowl type similar in construction to the smaller bowls with folded or triangular rims that have been classified as Ir2c:Bowl 3 at Ashkelon. At Tel Batash, the larger and smaller folded-rim bowls are grouped together into a single type (Bowl 13; Mazar and Panitz-Cohen 2001:Type BL13). In terms of function, however, the large bowls do not seem interchangeable with their much smaller cousins. The smaller folded-rim bowls are

not present at Ashdod, although the larger version is (Dothan 1971:52.26).

Folded-rim bowls are common at sites from Tell Keisan (Briend and Humbert 1980:pl. 41.3) to En-Gedi (Stern 2007:Bowl 1.II). They appear at Gezer (Gitin 1990:Types 56–57), at Meşad Ḥashavyahu (Fantalkin 2001:Type B10), and at Lachish (Ussishkin 2004:III-B-3; the form also appears in Stratum II [fig. 26.55.1]).

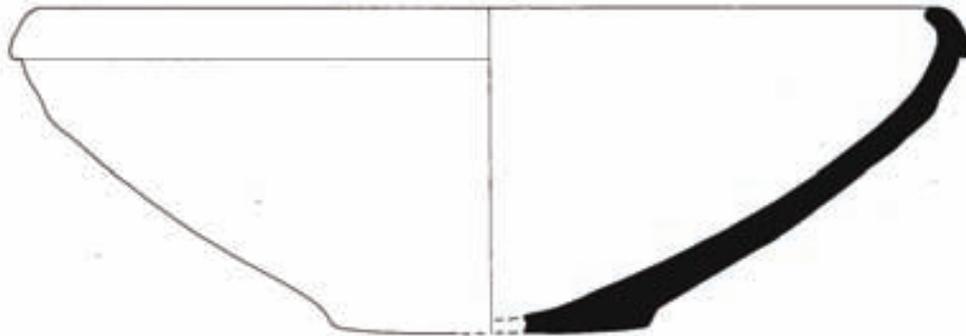


Figure 5.29: Bowl 8 (scale 2:5)  
Reg. no. A6/86.38.64.L67.B102+103+104.(39).

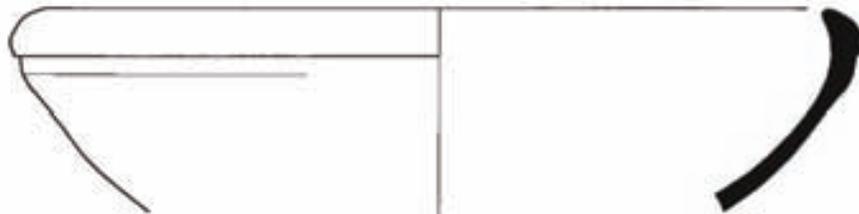


Figure 5.30: Bowl 8 (scale 2:5)  
Reg. no. A73/93.38.64.LF785.FG87.B34+37.(2599); 10YR 6/4 (core); 10YR 6/4 (interior); 5YR 7/6 (exterior).

### Ir2c:Bowl 9—Platter with Triangular Rim

This type is a variant of what Gitin calls the “platter bowl,” which was ubiquitous in the southern Levant during the Iron Age II. The specific variant in evidence at Ashkelon is paralleled at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIBL7 with variants IIBL7.1, IIBL7.1a, IIBL7.7a, IIBL7.9a). It has straight walls, a triangular rim, and a concave base. In Gitin’s discussion of this form at Gezer, he notes a development of the base from disk to concave (Gitin 1990:182–84; for Ashdod, see Dothan 1967: 37.5 [disk base]; 40:6 [concave base]). At Ashkelon, the examples of this type are not preserved well enough

to describe their bases. Similar vessels are found in the Shephelah at Tel Batash (Mazar and Panitz-Cohen 2001:Type BL14) and Lachish (Ussishkin 2004:pl. 26.55.22–23). They are also found along the coast at Ashdod (Dothan 1967:fig. 40.6; 1971:fig. 5.16, 18) and Meşad Ḥashavyahu (Fantalkin 2001:53).

Mazar and Panitz-Cohen (2001:49) suggest that this bowl type is derived from Phoenician-influenced northern prototypes. This seems likely for the rim shape, but the northern forms consistently have a carination below the rim (Briend and Humbert 1980: pl. 39), which is lacking in Ir2c:Bowl 9 and other

similar examples in the region. Perhaps Gitin's conclusions concerning the local development of the form and Mazar and Panitz-Cohen's observations

about the northern derivation of the rim should be combined in order to understand the development of this widespread seventh-century form.



Figure 5.31: Bowl 9 (scale 2:5)

Reg. no. A55/94.50.48.L439.B47.(2579); 7.5YR 4/1 (core); 7.5YR 5/4 (interior); 7.5YR 6/4 (exterior).



Figure 5.32: Bowl 9 (scale 2:5)

Reg. no. A73/93.50.48.L405.B4.(3); 5YR 5/6 (core); 10R 5/6 (interior); 5YR 6/6 (exterior).

### Ir2c:Bowl 10—Hemispherical Bowl with Groove on Exterior

This bowl type is very common at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIBL1, fig. 1). It is less abundant and less standardized at other sites in the region. There are parallels at Meşad Ḥaṣavyahu

(Fantalkin 2001:Type B9), Tel Batash (Mazar and Panitz-Cohen 2001:Type BL12 variant b), and Ashdod (Dothan 1971:93.12). At Ashkelon, it is very rare and appears there always with a red slip and burnish.



Figure 5.33: Bowl 10 (scale 2:5)

Reg. no. A5/86.38.65.L1.(313); 5YR 5/4 (core); 5YR 5/8 (interior); 5YR 6/4 (exterior).

### Ir2c:Bowl 11—Bowl with Wide Everted Rim, Imitating Phoenician Fine Ware

Bowls of this type are locally made copies of Phoenician Fine Ware (Lehmann 1996:Form 75). At Tell Keisan, where the form is quite common in Level 5 (although many are from Locus 6078), Chambon sees it as a marker for the end of the eighth century B.C. (Briend and Humbert 1980:167–68). However, it appears in the south in later contexts; for example, in Stratum IB at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIBL31a) and Phase D-2 at Ashdod

(Dothan 1971:fig. 53.12). It also appears in Stratum B at Sarepta (Anderson 1988:pl. 31.19, 21, 23) and Stratum E2 at Tel Kabri (Kempinski et al. 2002:fig. 5.76.5).

The Ashkelon examples have a red slip and burnish on the interior, similar to the decoration on the examples from Ekron—a surface treatment which is somewhat less common at Tell Keisan (or Dor or Tyre).



Figure 5.34: Bowl 11 (scale 2:5)

Reg. no. A72/92.50.58.L279.B245.(8); 7.5YR 5/1 (core); 7.5YR 5/6 (interior); 7.5YR 7/4 (exterior).

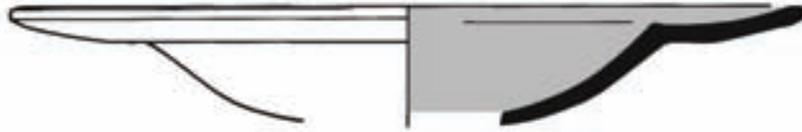


Figure 5.35: Bowl 11 (scale 2:5)

Reg. no. A72/92.50.58.L279.B245.(2507); 10YR 4/1 (core); 10YR 6/4 (interior); 7.5YR 7/4 (exterior).

### Ir2c:Bowl 12—Locally Made Phoenician Fine Ware

This type includes other imitations of Phoenician Fine Ware that were petrographically determined to have been locally made. Bowls of this type appear to imitate Lehmann's Type 78 (Lehmann 1996), which is typically dated to the end of the eighth century. Although other bowl types made at Ashkelon show evidence of external influence, the bowls in this cate-

gory are the only examples of locally made vessels that are indistinguishable from imported vessels without microscopic analysis. The idea that these were expert "fakes" whose local provenience would have been unknown to the typical seventh-century consumer has been discussed elsewhere by Master (2003).



Figure 5.36: Bowl 12 (scale 2:5)

Reg. no. A72/92.38.94.LF207.(1); 2.5Y 8/3 (core); 5Y 8/2 (interior); 5Y 8/3 (exterior).

### Ir2c:Bowl 13—Large Bowl with Sharply Flaring Rim

Ir2c:Bowl 13 is a red-slipped bowl with a sharply flaring rim. It has few parallels at other sites. It appears in Ekron Stratum IB (Gitin, Dothan, and Garfinkel, in press:Type IIBL43, fig. 6.9–11) and it is

also found at Tell el-Ḥesi (pers. comm, S. Gitin and J. Blakely), but we know of no other parallels. The Ashkelon examples have a loessial fabric similar to what one might find in or around Tell el-Ḥesi.



Figure 5.37: Bowl 13 (scale 2:5)

Reg. no. A78/95.50.48.L461.(20); 10YR 6/1 (core); 5YR 6/6 (interior); 5YR 7/6 (exterior).



Figure 5.38: Bowl 13 (scale 2:5)

Reg. no. A73/93.50.57.L290.B62.(17); 5YR 6/4 (core); 5YR 6/4 (interior); 2.5YR 4/4 (exterior).



Figure 5.39: Bowl 13 (scale 2:5)

Reg. no. A72/92.50.58.LF252.B16.(3); 5YR 5/6 (core); 2.5YR 4/8 (interior); 2.5YR 5/4 (exterior).

**Ir2c:Bowl 14—Footed Bowl or Chalice**

Three fragments of a single decorated chalice or footed vessel were found in the Grid 50 excavation area at Ashkelon, consisting of two joining sherds and one nonjoining piece. The fragments were found in three different deposits, demonstrating that the vessel was broken and out of use before the destruction of 604 B.C. Although we have found no precise parallels for the motif painted on this vessel, its style of decoration and the form itself are closely paral-

leled in the decorated “bowls” found at Ashdod (Dothan and Ben-Shlomo 2005:3.106.90; Dothan and Porath 1982:13.18). The Ashdod parallels have rims that are much wider than most chalice rims, even the flaring rims on fenestrated chalices (Mazar and Panitz-Cohen 2001:55; Gitin, Dothan, and Garfinkel, in press:fig. 11.5); thus Ben-Shlomo may be correct to describe them as wide bowls, even though their complete form is not certain.



*Figure 5.40: Bowl 14 (scale 2:5)*

Reg. no. A72/92.50.48.L388.(6); 10YR 5/1 (core); 2.5YR 6/6 (interior); 7.5YR 6/4 (exterior).

**B. KRATERS****Ir2c:Krater 1**

The small red-slipped vessels in this category lack good parallels at other sites. The slip and burnishing are typical of the bowls found at Ashkelon. The shape may be related to that of the Phoenician deep bowls with upright rims (Briend and Humbert 1980: pl. 40.11) or, looking to the south rather than to the north, perhaps to that of a bowl from Tel <sup>c</sup>Ira (Beit-Arieh 1999:fig. 6.90.1). However, the Ashkelon ex-

amples have a less flaring rim and they lack interior slip and burnishing, suggesting that they are closed forms, that is, jars rather than open bowls. Unfortunately, no example is sufficiently well preserved at Ashkelon to reconstruct the complete form. In the end, we have grouped them with the kraters on the basis of another possible parallel from Ashdod (Dothan 1971:37.22).



*Figure 5.41: Krater 1 (scale 2:5)*

Reg. no. A73/93.50.49.L389.B90.(3); 5YR 5/6 (core); 5YR 5/6 (interior); 5YR 6/4 (exterior).



*Figure 5.42: Krater 1 (scale 2:5)*

Reg. no. A72/92.50.58.L262.B72+94.(2565); 10YR 4/3 (core); 10YR 4/3 (interior); 7.5YR 6/4 (exterior).



*Figure 5.43: Krater 1 (scale 2:5)*

Reg. no. A73/93.50.48.L430.B91.(2567); 10YR 5/3 (core); 7.5YR 5/6 (interior); 5YR 6/6 (exterior).



Figure 5.44: Krater 1 (scale 2:5)  
Reg. no. A72/92.50.48.LF407.B395

### Ir2c:Krater 2

Kraters are very rare in the seventh-century Ashkelon assemblage. The function of the classic krater seems to have been taken over by deep bowls (Ir2c:Bowl 8) and perhaps by the Krater/Jar type (discussed below). There is one example, however, of the typical krater of the period, which is found at both Ekron (Gitin,

Dothan, and Garfinkel, in press:Type IIKR4) and Tel Batash (Mazar and Panitz-Cohen 2001:Type KR11). Petrographic analysis indicates that the Ashkelon example was not made near the site but was imported from an inland location, possibly from the Sorek Valley.

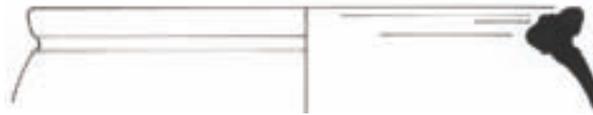


Figure 5.45: Krater 2 (scale 2:5)  
Reg. no. A55/94.50.48.L439.B50.(23); 10YR 6/6 (core); 5YR 6/8 (interior); 5YR 7/4 (exterior).

### Ir2c:Krater/Urn

This red-slipped vessel probably belongs to the tradition of kraters with upright or flaring rim found at Ashdod (Dothan 1971:40.3, 6, 7; Dothan and Ben-Shlomo 2005:3.107.1). The form is very rare at Ashkelon so it is difficult to know whether it should be

considered residual or whether this type continued in use into the seventh century. The best parallels are to the burial urns from Tell er-Ruqeish (Culican 1973: fig. 7.524; other examples have been found in the excavations of Eliezer Oren [pers. comm.]).



Figure 5.46: Krater/Urn (scale 2:5)  
Reg. no. A72/92.50.58.L272.FG96.B262.(2573); 10YR 7/4 (core); 7.5YR 5/6 (interior); 7.5YR 6/6 (exterior).

### Ir2c:Krater/Jar

The holemouth krater with a folded rim appears sporadically in the Ashkelon assemblage. There is some discussion about whether it should be considered a jar or krater. Gitin uses the term “Jar/Krater” for the parallel form at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIJK 2.2), but it is not always possible to distinguish between Ekron Jar/Krater 2.2 and Ekron Krater 16 (Gitin, Dothan, and Garfinkel, in press:Type IIKR15). At Ashkelon, no complete example of this type is preserved, so the jar interpretation cannot be ruled out; however, the diameter of the

mouth is generally larger than in clear jar forms such as Tel Batash Jar 14a and Lachish II.SJ-5a (Dothan and Porath 1982:23.1).

In the eighth century, this jar/krater form was widespread (for examples at various sites, see Mazar and Panitz-Cohen 2001:70–71; Gitin 1990: 128–29, Jar 8a). In the seventh century, its distribution was more restricted and it was characterized by handles that join at the rim, which is the typical position for the handles in the Ashkelon examples (to the extent that the handles are preserved).



Figure 5.47: Krater/Jar (scale 1:5)

Reg. no. A16/85.38.65.L1.(5)

### C. COOKING POTS

#### Ir2c: Cooking Pot 1—“Coastal” Cooking Pot

This cooking pot type has come to be known as the “coastal” cooking pot because of its sharply limited distribution in the seventh century B.C. along the southern coast of Palestine (see Gitin 1989b; Dothan and Porath 1982:fig. 20.6). It is by far the most common type of cooking pot found at Ashkelon, but it is not necessarily local to Ashkelon or coastal from a petrographic perspective. The fabric, also observed by Fantalkin in the pottery of Meşad Ḥashavyahu (Fantalkin 2001:Type CP 2), is most similar to a *hamra* fabric, which is at odds with its coastal distribution. Goren describes it as “cooking pot fabric” that was derived from an unknown clay source and underwent special processing in order to prepare it for use in cooking (see Mazar and Panitz-Cohen 2001:20, Batash Fabric Group 15). The examples from Ashkelon, Ekron (Gitin, Dothan, and Garfinkel,

in press:Type IICP6.1), and Meşad Ḥashavyahu (Fantalkin 2001:Type CP2) all have identical fabrics. It seems likely, therefore, that the cooking pots of this type found at these sites were all produced in a single locale and were distributed throughout seventh-century Philistia and its immediate hinterland. Mazar and Panitz-Cohen (2001:87, CP 10) note the rare appearance of this form in the Beersheba Valley, seeing this as indicative of connections between the northern Negev and the Philistine coast in the seventh century. However, if these cooking pots were not produced in Philistia but rather in a specialized production center elsewhere, from which they were shipped in large quantities to coastal sites, examples found in the Beersheba region would be just as likely to demonstrate a connection with the production center than with the coastal cities themselves.



Figure 5.48: Cooking Pot 1 (scale 1:5)

Reg. no. A72/92.50.58.L262.FG34.B83.(9); 2.5YR 4/8 (core); 2.5YR 4/8 (interior); 2.5YR 5/3 (exterior).

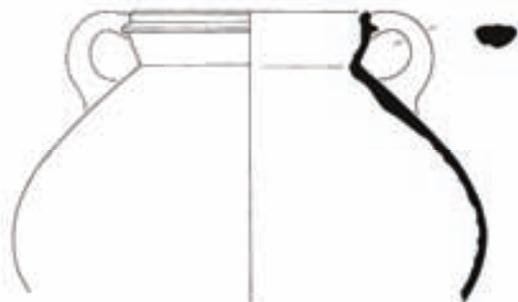


Figure 5.49: Cooking Pot 1 (scale 1:5)

Reg. no. A73/93.50.48.L430.B91.(1);  
2.5YR 4/6 (core); 2.5YR 4/6 (interior); 2.5YR 5/4 (exterior).



*Figure 5.50:* Cooking Pot 1 (scale 1:5)  
Reg. no. 50.48.L439.B41.(11039);  
2.5YR 5/8 (core); 5YR 6/6 (interior); 5YR 4/3 (exterior).



*Figure 5.51:* Cooking Pot 1 (scale 1:5)  
Reg. no. 50.48.L441.B128.(11038);  
5YR 5/6 (core); 5YR 6/6 (interior); 10R 5/6 (exterior).

*Figures 5.50 and 5.51 are very similar in form to Cooking Pot 1 but they are slipped and may have functioned as jugs.*

### Ir2c: Cooking Pot 2—“Judean” Cooking Pot

This is the second-most common cooking pot at Ashkelon; however, it is much less frequent than the “coastal” cooking pot (Ashkelon Cooking Pot 1), which comprises more than 90 percent of the total. Ashkelon differs in this respect from other sites in the region because the “Judean” cooking pot is the most common type at Tel Batash (Mazar and Panitz-Cohen 2001:Type CP11), Gezer (Gitin 1990:Form 106), and Meşad Ḥashavyahu (Fantalkin 2001:CP 1). It is also well represented at Lachish (Ussishkin 2004:26.54.6, 14; 26.55.11–12, 14).

Gitin discusses this type in some detail and concludes that it is a southern form with a distribution centered “at inland, Shephelah and northern Negev sites” (Gitin 1990:220). It is often referred to as the Judean cooking pot because it is common at sites in

Judah; however, the Ashkelon examples were made locally in the same fabric as the local bowls and jugs. While it is true that this “local” fabric need not be confined to Ashkelon (it could be from Gaza or Ashdod), its geological range does not overlap with Gitin’s inland distribution zone. As was the case with the “coastal” cooking pot (Ir2c: Cooking Pot 1), we should distinguish the location of production from the zone of distribution. This is especially necessary in the case of cooking pots, which required specialized production techniques to enable them to function well as cooking vessels exposed to frequent heating and cooling. The so-called Judean or inland cooking pot was particularly popular among the inhabitants of seventh-century Judah, the Shephelah, and the northern Negev, but it may have been produced elsewhere.



*Figure 5.52:* Cooking Pot 2 (scale 1:5)  
Reg. no. A81/96.50.49.L449.(16);  
10YR 5/1 (core); 2.5YR 5/8 (interior); 2.5YR 6/6 (exterior).



*Figure 5.53:* Cooking Pot 2 (scale 1:5)  
Reg. no. A72/92.50.58.LF252.B45;  
2.5YR 4/8 (core); 2.5YR 4/8 (interior); 2.5YR 6/4 (exterior).

### Ir2c: Cooking Pot 3—Small Cooking Pot

The small cooking pot is a very rare form at Ashkelon. Its relative abundance is difficult to determine because of its similarity to Jug 2. Similar small cooking pots are present at Ekron but there is no precise parallel there because the rim of the Ashkelon type is like that of Ekron Cooking Pot 7 (Gitin, Dothan, and Garfinkel, in press:Type IICP7), albeit with a somewhat more pronounced exterior ridge, whereas the

body of the Ashkelon type is very similar to that of Ekron Cooking Pot 11, with its more pronounced carination (*ibid.*, Type IICP11). Tel Batash Cooking Pot 10 (Mazar and Panitz-Cohen 2001:Type CP10) spans a wide size range and corresponds to both Ir2c: Cooking Pot 1 and Ir2c: Cooking Pot 3. The smaller form appears only once in the illustrated assemblage of Tel Batash (*ibid.*, pl. 34.8).



*Figure 5.54:* Cooking Pot 3 (scale 1:5)  
Reg. no. A72/92.50.59.L420.B168.(1); 2.5YR 5/6  
(core); 2.5YR 6/4 (interior); 5YR 6/4 (exterior).

## D. STORAGE JARS AND AMPHORAS

**Ir2c:Storage Jar 1—Ovoid Storage Jar**

The most common pottery type in seventh-century B.C. contexts at Ashkelon is the ovoid storage jar with short neck, short simple rim, slightly carinated shoulder, large rounded base, and jutting loop handles. This was the common storage jar at Tel Batash (Mazar and Panitz-Cohen 2001:Type SJ7B), Ekron (Gitin, Dothan, and Garfinkel, in press:Type IISJ1), Gezer (Gitin 1990:Jar 1), Ashdod, and Lachish (Ussishkin 2004:Group II, SJ-4). It is also attested in the Negev at Tel <sup>c</sup>Ira (Beit-Arieh 1999:fig. 6.101.7–8; 6.99.8) and Aroer (Biran and Cohen 1981:fig. 5.2), and along the southern coast at Tell er-Ruqeish (Culican 1973:R21).

All agree that this jar appears by the last quarter of the eighth century (Gitin 1990:119–20; Mazar and Panitz-Cohen 2001:97–101; Singer-Avitz 2006:204–5). At Ashkelon, it is also the most common type in eighth-century deposits (Park 2009). During the eighth century there was some variety in rim shape, size, and shoulder angle, allowing for several possible streams of development that crystallized in the seventh-century form. Mazar and Panitz-Cohen suggest that it was an Iron IIA inland form that came to the coast by the eighth century. But if we accept Singer-Avitz's (2006) revision of the dates for Kuntillet <sup>c</sup>Ajrud—or at least allow that some forms there fit in the second half of the eighth century, even if the overall date is unchanged (see Freud 2008)—then the argument for an inland origin rests on a single exemplar from Arad Stratum XI (Singer-Avitz 2002:fig. 4.9). An alternative hypothesis is offered by Gitin (1990:119), who regards this form as a descendant of the Iron IIA ovoid jars with a much longer shoulder (Yadin et al. 1961:pls. 171.14; 179.11 [Hazor]; Dever et al. 1974: pl 31.18 [Gezer]). Another possible line of development leads from the smaller jars at Tell Keisan (Briend and Humbert 1980:pl. 50.5), Tel Michal (Herzog, Rapp, and Negbi 1989:7.1.17, 7.3.14), Tyre (Bikai 1978:pl. 21.13), and Tell Sukas (Buhl 1983:10.4.34–36). In any event, this jar had become the dominant storage jar type of the southern coastal region by the seventh century B.C.

Of greater interest is the manner in which this form spread throughout the Mediterranean. By the eighth century it had arrived in Cyprus at Kition (Bikai 1987:590), and it must have reached the western Mediterranean in time to be the prototype for Docter's "Subklasse CdE 1B" (Docter 1997:pl. 12), of which excellent examples are extant in the seventh-century assemblages at Trayamar (Niemeyer and

Schubart 1975:pl. 18.631) and the Playa de la Isla shipwreck (Negueruela et al. 1995:193, fig. 5). But though this storage jar type was known throughout the Mediterranean, fabric analyses indicate a great deal of regionalism in the production of the jars. At Ashkelon (Master 2001) and Ekron (Master 2009), petrographic analysis points to local production. In the western Mediterranean, the analysis conducted by Docter (1997:pl. 6.6) shows the adoption of this type as a local style made with local clays. Indeed, the only examples of this type that have been shown to have been transported any great distance are the eighth-century jars found at the caravanserai at Kuntillet <sup>c</sup>Ajrud (Goren 1995).

It is possible that if more samples were analyzed, and more systematically, the use of these storage jars for long-distance trade could be demonstrated. But the analyses conducted to date caution against concluding too hastily that these vessels were intended primarily for the long-range transportation of commodities such as olive oil and wine. We have yet to find examples made in Ekron or Ashkelon that had been transported over large distances, although that possibility cannot yet be ruled out.



Figure 5.55: Restored example of ovoid storage jar



Figure 5.56: Storage Jar 1 (scale 1:10)

*Left:* Reg. no. A72/92.50.58.L262.(12); 7.5YR 5/4 (core); 2.5YR 5/6 (interior); 7.5YR 7/4 (exterior).

*Middle:* Reg. no. A73/92.50.49.L418.(7); 5YR 5/1 (core); 5YR 7/6 (interior); 5YR 7/4 (exterior).

*Right:* Reg. no. 50.58.L272.(12).

### Ir2c:Storage Jar 2—Small Storage Jar with Rilled Rim

The typical small storage vessel in seventh-century Ashkelon is the rilled-rim jar without handles. This type is also found at Ekron (Gitin, Dothan, and Garfinkel, in press:fig. 23), Gezer (Gitin 1990: Jar 11; Tel Batash (Mazar and Panitz-Cohen 2001:Type SJ10b), Lachish (with handles, Ussishkin 2004:fig. 26.50.5), Meşad Ḥashavyahu (Fantalkin 2001:Type HM1), and Ashdod (Dothan and Porath 1982:fig. 23.4–6, 27.4–5). The form was widespread in the seventh century (see the parallels cited in Mazar and Panitz-Cohen 2001:107 and Gitin 1990:134–35).

Gitin has ascribed chronological significance to variations in the angle of the rim and the number of grooves in the rim (Gitin 1990:Jar 11). This is debatable, although the eighth-century examples do tend to be slightly wider and shorter (but see Mazar and Panitz-Cohen 2001:107). Among the seventh-century examples, Gitin makes several typological divisions based on rim shape (Gitin, Dothan, and Garfinkel, in press:fig. 23); however, these subdivisions do not seem to be meaningful in terms of chronology, function, or regional variation. At Ashkelon, a variety of rim shapes existed within a limited period and all tested examples of this jar type were made locally.

Mazar and Panitz-Cohen note that every house at Tel Batash contained at least one of these small

rilled-rim jars. They are similarly ubiquitous at Ashkelon: every room in the Grid 38 excavation area yielded evidence of this form, and in the Grid 50 excavation area there were concentrations in Room 252, Room 260, Room 373, and Room 423, as well as in the “plaza” in the center of the excavation area.

Mazar and Panitz-Cohen cite Geva’s (1992) suggestion that these jars were intended for the storage of liquids, but the holemouth form is not suitable for dispensing liquids because the surface tension over such a wide inturned lip area would have caused all but the quickest and most skillful pouring operations to end in embarrassment (hence the narrow necks and flaring rims of most decanters and jugs). Despite their variations in rim form, these jars are relatively consistent in capacity; the many whole forms found at Tel Batash show that this type of jar held about 5–6 liters (i.e., approximately one seah of grain or other dry goods). There is every indication that this jar was standard equipment in most households. The considerable consistency in its size across the political boundaries of the eighth and seventh centuries probably reflects common household transactions in basic commodities such as barley and semolina (see 2 Kings 7), which were dispensed into these retail-sized containers.



Figure 5.57: Storage Jar 2 (scale 1:10)

Left: Reg. no. A16/87.50.58.L99.B471+.(246)

Middle: Reg. no. A5/86.38.64.L61.B117.(77);  
5YR 4/6 (core); 2.5YR 4/8 (interior); 2.5YR 5/6 (exterior).

Right: Reg. no. A72/92.50.49.L390.FG76.B267.(2);  
5YR 6/6 (core); 5YR 6/4 (interior); 5YR 6/2 (exterior).

### Ir2c:Storage Jar 3—“Butterfly” Storage Jar

The “butterfly” storage jar is described by Barako in *Ashkelon 1* (p. 440, Amphora 10). As he notes, the example published there (also illustrated below) is the only restorable example of this type in the Ashkelon assemblage. It is difficult to determine the relative abundance of this type based on sherds because of the similarity of its rim shape to that of the much more common ovoid Storage Jar 1.

Zimhoni’s observations (Ussishkin 2004:1803–6) concerning the changes in morphology from the widely distributed eighth-century form (III: SJ-5 at Lachish) to the somewhat rarer seventh-century form (II: SJ-5 at Lachish) are borne out in the late seventh-century example found at Ashkelon, which has a shorter rim, longer body, and sharper taper toward the base than do earlier examples of the type. The same pattern is found at Tel Batash (Mazar and Panitz-Cohen 2001:Type SJ18).

Zimhoni concluded that this type of storage jar was produced in the southern coastal plain alongside

the ovoid storage jar, perhaps in separate workshops, and the ovoid jars were then distributed on the coast while the “butterfly” jars were distributed in the Shephelah (but see Humbert 2000:38.4 for an example at Gaza).

At Ashkelon, we have observed that both the ovoid storage jar and the “butterfly” jar are made from local clays. This is rather odd because the “butterfly” jar is much more common at sites to the south and east of Ashkelon. Perhaps, in this case, the concept of “local” fabric can be stretched to allow for the manufacture of the “butterfly” jar somewhat farther inland or at a production center somewhere in the Gaza region. Only one example from Ashkelon was tested, so Zimhoni may be right in saying that this form was produced in the vicinity of Lachish (during the seventh century at least) and exported from there to coastal sites in small quantities. In any case, we are forced to include the “butterfly” storage jar within the category of the “local pottery” of Ashkelon.

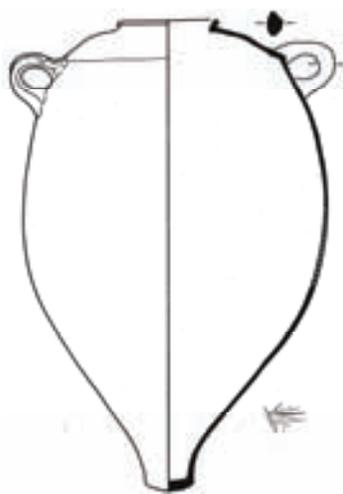


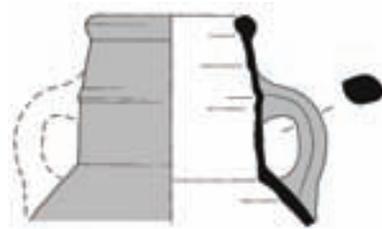
Figure 5.58: Storage Jar 3 (scale 1:10)

Reg. no. A73/93.50.49.L418.FG18.B71+74.(6); 10YR 6/6 (core); 2.5Y 7/3 (exterior).

**Ir2c:Amphora 1**

These small amphoras appear to be related to the eighth-century Phoenician decorated jugs (“neck-ridge ware”) found at Tyre (Bikai 1978:33, pl. 4.8–9) that were imitated at Tell er-Ruqeish (Culican 1973: R8, R13, R14, R19, fig. 6.499). Ekron provides good examples, both decorated and undecorated, with a sequence throughout the seventh century (Gitin, Dothan, and Garfinkel, in press:fig. 24). Undecorated examples are also present at Tel Batash (Mazar and Panitz-Cohen 2001:Type AM5). The Ashkelon examples of this type include both undecorated vessels

and vessels with red slip and burnish, though none has the paint that is present on examples found at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IIAMP13a) and at Ashdod (Dothan and Porath 1982: fig. 21.10). Some have the more elaborate ridged rim found at Tell er-Ruqeish (Culican 1973:R13, R14) and Ashdod (Dothan 1971: fig. 41.22, 26; 56.25, 27). The fragmentary condition of the examples found at Ashkelon do not permit the nuanced typological observations that are possible for the better-preserved examples from Ekron.



*Figure 5.59: Amphora 1 (scale 1:5)*

Reg. no. A72/92.38.64.L764.B38.(5); 7.5YR 6/4 (core); 7.5YR 6/4 (interior); 7.5YR 6/4 (exterior).

**Ir2c:Amphora 2**

One example of this amphora type was found at Ashkelon. Its decoration recalls the “bouteilles syriennes” from Tell Keisan (Briend and Humbert 1980:pl. 36), but the base, neck, and handles show this to be a mis-

leading parallel. The vessel is lightly slipped; the slip is poorly finished around the neck and handles. The lack of close parallels makes it difficult to reconstruct the rim.



*Figure 5.60: Amphora 2 (scale 1:5)*

Reg. no. A80/97.50.48.L453.B22.(81); 2.5Y 4/1 (core); 2.5YR 5/8 (interior); 2.5YR 6/8 (exterior).

## E. JUGS, DECANTERS, AND JUGLETS

**Ir2c:Jug 1—Jug with High Neck and Globular Body**

The high-necked jug with globular body is a well-known eighth-century form at Ashdod (Dothan 1971: figs. 42.1–2, 46.1, 51.1–2; Dothan and Porath 1982: figs. 15.1–2; 26.12), at Tel Batash (Mazar and Panitz-Cohen 2001:Type JG11), and in the Tell er-Ruqeish graves (Culican 1973:R6, R10). It continues in use at most of the seventh-century sites near Ashkelon. Eighth-century examples are found as far away as Beersheba (Singer-Avitz 1999:8.16) and Kuntillet

ʿAjrud (Singer-Avitz 2006:fig. 7.1a), but in the seventh century its distribution seems to have been limited to the southern coast, with examples from Mešad Ḥashavyahu (Fantalkin 2001:Type JG2), Ekron (Gitin, Dothan, and Garfinkel, in press:Type JUG1), and Tel Batash (Mazar and Panitz-Cohen 2001:Type JG11). This is the most common jug form both in Ashkelon and in Ashdod (Dothan 1967: 40.18) during the seventh century B.C.



Figure 5.61: Jug 1 (scale 1:5)

Left: Reg. no. A89/96.50.58.LF318.(53); 5YR 5/6 (core); 7.5YR 5/2 (interior); 7.5YR 7/4 (exterior).

Right: Reg. no. A89/96.50.58.LF318.(52); 10YR 6/4 (core); 10YR 6/4 (interior); 10YR 7/3 (exterior).

**Ir2c:Jug 2—Small “Cooking” Jug with Wide Mouth**

This vessel type is famous at Ekron as the form that contained the late seventh-century silver hoards (Gitin 1995:69). It also appears at Ashdod (Dothan and Porath 1982:20.7–9; 26.9; Dothan 1971:45.23–24, 28–29) and Tel Batash (Mazar and Panitz-Cohen 2001:Type JG16). Gitin (1995:4.5.8) originally described it as a cooking jug, but he places it typologically within the regular Ekron jug sequence (Gitin, Dothan, and Garfinkel, in press:Type JUG13). At Ashkelon, it is relatively rare and there is nothing

about its find-contexts that suggests a culinary function. However, the cooking jug description is apt, in some respects, because of the great similarity in rim form and fabric to the typical “coastal” cooking pot.



Figure 5.62: Jug 2 (scale 1:5)

Reg. no. A89/96.50.58.LF318.B106.(2); 7.5YR 5/4 (core); 7.5YR 5/4 (interior); 7.5YR 6/4 (exterior).

**Ir2c:Jug 3—Small Red-slipped Jug**

The closest parallels for this type are the slightly larger jugs found in Ashdod Area D, Phase 3a. Small red-slipped jugs do not appear with great frequency at Ashkelon; however, they may have been more common than we suppose because their rims are difficult to distinguish from those of red-slipped juglets.

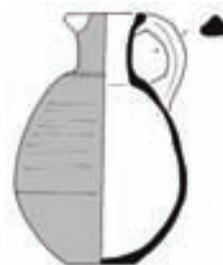


Figure 5.63: Jug 3 (scale 1:5)

Reg. no. A72/92.50.58.L262.B84.(1); 7.5YR 6/4 (core); 5YR 7/4 (interior); 10YR 5/6 (exterior).

### Ir2c:Decanter 1—“Judahite” Decanter

There are just a few examples of the so-called Judahite wine decanter in the seventh-century pottery repertoire at Ashkelon. The fabric of this vessel type has been described as “salted” by Gitin (1990:153, Type 33). In a similar vein, Zimhoni notes that gritty, overfired clay is typical of the examples found at Lachish (Ussishkin 2004:1804, fig. 26.51.3, 5).

This distinctive fabric, which is easily identified with the naked eye, links the Ashkelon examples to inland forms; the shape of the rim links them to Lachish, in particular. However, the overfiring of the fabric makes it impossible to determine the place of production conclusively by means of petrographic analysis.

Mazar and Panitz-Cohen (2001:119, Type JG14b) discuss the rims of northern and southern decanters and point out that the typical Judahite decanter has a triangular or flaring rim. This differentiates it from the Ashkelon type, which resembles the decanters of Lachish and most probably originated there. Indeed, the closest parallel to the Ashkelon examples is the decanter from Lachish on which Lemaire read the inscription “wine of ashan” (Lemaire 2004:2119–20). Interestingly, the best example of this decanter at Ashkelon was found in the layer that produced an ostrakon which mentions “brandy” and “red wine” (see the discussion by F. M. Cross in *Ashkelon 1*, p. 341).



Figure 5.64: Decanter 1 (scale 1:5)

Reg. no. A73/93.50.49.L389.B16.(4); 10YR 5/1 (core); 10YR 5/1 (interior); 10YR 4/1 (exterior).

### Ir2c:Decanter 2

Only one example of this decanter type was found in a primary deposit dating to the late seventh century B.C. The best whole example, and almost all the other examples, come from the seventh-century quarry fill in Grid 50. This suggests that the form is residual; indeed, the parallels at other sites are found in eighth-century deposits at Ashdod (Area D–Phase 3b;

Dothan 1971:fig. 41.24; 46.5) and Kuntillet ʿAjrud (Singer-Avitz 2006:fig. 2.4a). However, the complete example from the Ashkelon quarry fill has a teardrop shape that is not found in the earlier examples, so it may be a seventh-century descendant of a more globular eighth-century precursor. All of the Ashkelon examples are red-slipped and burnished.



Figure 5.65: Decanter 2 (scale 1:5)

Reg. no. A55/94.50.57.L259.B103.(3); 5YR 5/1 (core); 2.5YR 5/8 (interior); 5YR 7/2 (exterior).

**Ir2c:Juglet 1**

The most common juglet type at Ashkelon has its closest parallels at Ashdod (Dothan 1967:fig. 37.24–25; fig. 41.14; fig. 56.2–6, 9; Dothan 1971:fig. 50.10; Dothan and Porath 1982:fig. 21.1–6). It has a small globular body with a rounded or slightly pointed base, a long neck, and a handle that often loops above

the rim. Although many examples at Ashdod have a red slip, the Ashkelon examples are uniformly plain.

An eighth-century example of this juglet type appears at Tell er-Ruqeish (Culican 1973:R21d), but it is otherwise poorly attested outside Ashdod and Ashkelon.



Figure 5.66: Juglet 1 (scale 1:5)

Left: Reg. no. A80/97.38.84.LF548.B52.(4); 5YR 6/6 (core); 5YR 6/6 (interior); 7.5YR 6/4 (exterior).

Right: Reg. no. A55/94.50.49.L425.B28.(1); 7.5YR 4/2 (core); 2.5YR 5/8 (interior); 2.5YR 6/6 (exterior).

**Ir2c:Juglet 2**

The second-most common type of juglet at Ashkelon is the cylindrical juglet typical of late Iron Age sites in the south. In the seventh century, it appears at Ekron (Gitin, Dothan, and Garfinkel, in press:Types II-JUL3, IJJUL4), Tel Batash (Mazar and Panitz-Cohen 2001:Type JT7), and Ashdod (Dothan 1967:fig. 41.13; 1971:fig. 50.12).

Mazar and Panitz-Cohen (2001:125–27) trace the history of this form through the Iron Age, and Gitin

(1995) discusses its distribution in Judah (for recently published parallels see Stern 2007:92, Type Jt2). It is occasionally decorated with a red slip at Ashkelon, with either horizontal or vertical burnishing. Gitin's observation that the red-slipped version, once broken, is sometimes reused as a cup (Gitin, Dothan, and Garfinkel, in press:fig. 29.9; Type IICUP1) explains the discovery at Ashkelon of several examples of the reworked bottom half of this juglet.



Figure 5.67: Juglet 2 (scale 1:5)

Left: Reg. no. A55/94.50.48.L449.FG20.B174.(3); 10YR 5/3 (core); 5YR 5/6 (interior); 5YR 5/6 (exterior).

Right: Reg. no. A80/97.38.84.LF548.B52.(2); 5YR 5/8 (core); 5YR 5/8 (interior); burnished exterior.

**Ir2c:Juglet 3**

This rare juglet type appears, with local decoration, in eighth-century contexts at Lachish (Ussishkin 2004:fig. 26.20.13), Tell er-Ruqeish (Culican 1973:fig. 5.R, Type R11C), Arad (Singer-Avitz 2002:Type JD6), Tel Batash (Mazar and Panitz-Cohen 2001:fig. 21.30), and Gaza (Humbert 2000:38.12). It is probably a local imitation of a Phoenician amphoriskos. The Phoenician prototype for the body and base is quite common (Bikai 1978:pl. 5); however, the full

amphoriskos form with Phoenician decoration is difficult to trace (cf. Albright 1943:pl. 15.1–3; Amiran 1969:296, photo 309—although Amiran incorrectly relates this form to an Ammonite prototype). A juglet from Ashdod (Dothan 1971:56.15) is similar in shape to the Ashkelon examples shown below, but it has a white slip and paint. The best seventh-century parallels for the Ashkelon examples are found at Tell Jemeh (Petrie 1928:pl. 59, Type 72).



Figure 5.68: Juglet 3 (scale 1:5)

Left: Reg. no. A89/96.50.49.L451.B145.(50); 7.5YR 5/2 (core); 7.5YR 5/2 (interior); 10R 4/6 (exterior).  
 Right: Reg. no. A80/97.38.84.LF552.B67.(1); 5YR 7/2 (core); 5YR 7/2 (interior); 5Y 8/3 (exterior).

#### F. OTHER FORMS

##### Ir2c:Lamp

The lamps found in seventh-century deposits at Ashkelon are typical of the late Iron Age. They are common at Ashdod (Dothan 1971:fig. 58.1–6), Ekron (Gitin, Dothan, and Garfinkel, in press:Type IILMP1), Tel Batash (Mazar and Panitz-Cohen 2001:Type LP4), Meşad Ḥashavyahu (Fantalkin 2001:Lamp 1), and Lachish (Tufnell 1953:pl. 50.4.6). Gitin assembled an impressive list of parallels for his Gezer Type 114b (Gitin 1990:226–27). Many more parallels

could be cited from the last thirty years of excavation. Perhaps the most interesting aspect of this lamp type is that at Ekron, Tel Batash, Lachish, and Meşad Ḥashavyahu it is typically paired with the “inland” lamp type with short stump base (Gitin, Dothan, and Garfinkel, in press:Type LMP4; Mazar and Panitz-Cohen 2001:Type LP4; Ussishkin 2004:26.56.18; Fantalkin 2001:Lamp 2), whereas at Ashdod and Ashkelon the inland lamp form is completely absent.

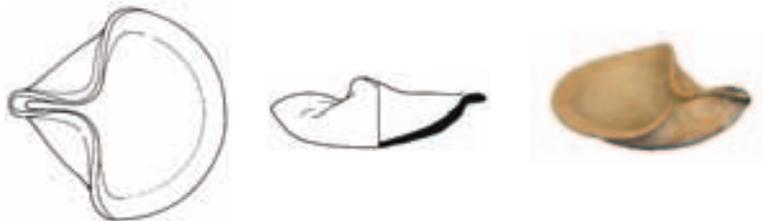


Figure 5.69: Lamp (scale 1:5)

Reg. no. A73/93.50.48.L428.FG50.B78.(1); 5YR 6/4 (exterior).

##### Ir2c:Funnel

A rare example of a complete funnel for the pouring of dry goods was found in a seventh-century context

at Ashkelon. No close parallels at contemporary sites have been identified.

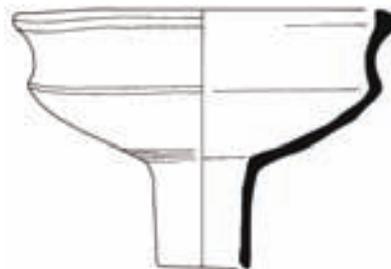


Figure 5.70: Funnel (scale 1:5)

Reg. no. A80/97.50.67.F41.B97.(1)

### Ir2c:Fenestrated Stand

The most complete fenestrated stand found in a seventh-century context at Ashkelon has cut-out triangles, which echo the painted triangles on eighth-century stands from Ashdod (Dothan 1971:fig. 49.2) and Lachish (Ussishkin 2004:26.23.6). The closest parallels to this Ashkelon example are an unpublished fenestrated stand found in Ekron Stratum IA (S. Gitin, pers. comm.) and a fenestrated stand with

rectangular cut-outs from Busayra in Jordan (Binkowski, Bennett and Balla 2002:fig. 9.63.8). The basic concept seems to have been well established in this period (cf. Gitin, Dothan, and Garfinkel, in press: fig. 30.3; on Philistine stands in general, see Ziffer and Kletter 2007; for a slightly earlier stand with a similar form found at Megiddo, see Lamon and Ship-ton 1939:pl. 34.13).



Figure 5.71: Stand 1 (scale 1:5)

Reg. no. A5/86.38.64.L61.B116.(5); 2.5YR 5/1 (core); 10YR 7/2 (interior); 10YR 7/2 (exterior).

### Other Stands

The few stands that are sufficiently preserved to allow typological comparison resemble the short stands found at Ashdod (Dothan 1967: 41.23–24; 1971: 44.10–13; 57.12–16), as opposed to the taller “hour-glass”-shaped stands of Tel Batash (Mazar and Panitz-Cohen 2001:137) and Ekron (Gitin, Dothan, and Garfinkel, in press:fig. 30.1–4). A fragment of a painted closed form, possibly a stand, was discovered

on the floor of a building that was destroyed in 604 B.C. The decoration is vaguely reminiscent of the triangular motifs found on Edomite vessels (cf. Cohen and Bernick-Greenberg 2007:169–70, Type EK1), although the precise shape is impossible to determine. Petrographic analysis shows that it was made locally at Ashkelon, so it may represent an otherwise unknown painted pottery tradition.

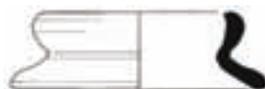


Figure 5.72: Stand 2 (scale 1:5)

Reg. no. A72/92.50.59.L337.B87.(1)



Figure 5.73: Local painted stand? (scale 2:5)

Reg. no. A73/93.38.83.L320.FG49.B34.(2545); 5YR 4/6 (core); 5YR 4/6 (interior); 7.5YR 7/3 (exterior).

## 6. PHOENICIAN POTTERY

ANCIENT TEXTS attest that Ashkelon was an ally of the Phoenician cities in the late seventh century B.C. (e.g., Jeremiah 48). This accounts for the fact that more pottery came from Phoenicia to Ashkelon than from any other foreign source. Furthermore, it is likely that vessels found in Ashkelon that originated in Cyprus or North Syria were transhipped via Phoenician ports (Stager 2005).

Two obstacles hinder our understanding of this connection between Phoenicia and Ashkelon: the fragmentary state of preservation of the Phoenician fine wares found at Ashkelon and the lack of a good published repertoire of seventh-century pottery exca-

vated in the Phoenician heartland. The best parallels for the Ashkelon material are the somewhat earlier Phoenician bowls and jugs from late eighth- or early seventh-century Phoenician assemblages (e.g., Tell Keisan V, Tyre II–I, and Sarepta C1–B). It is not clear whether the fragmentary finds at Ashkelon are residual or provide evidence for extending the date of these widely circulated forms down into the late seventh century. In this regard, it is worth noting that many of these Phoenician forms were found in the late seventh-century fortress at Tel Kabri, Stratum E2, suggesting that they may have continued in use throughout the seventh century.

### Ir2c:Phoenician Bowl 1

This Phoenician Fine Ware bowl is Lehmann's Form 78, for which he provides abundant parallels (Lehmann 1996). Bikai generally dates bowls of this type to the Kition Horizon in Cyprus (Bikai 1987:62). At Tyre, they are present as late as Stratum I (Bikai 1978:pl. 1.1–2). At Tell Keisan, they are published as a Level 5 form (though this includes L.6078; Briand and Humbert 1980:pl. 40.12). At Dor, the form is dated from the late eighth through the first half of the seventh century (Stern 1995a:Type BL 47a). At Sarepta, it is said to persist through the seventh century into Stratum B (Anderson 1988:pl. 38.16). It is also present at Tel Kabri in Stratum E2 (Kempinski et

al. 2002:5.76.9,12). At Ekron, although examples of the type are present in seventh-century fills, they are described by the excavators as residual (typologically pre-Stratum IC; Gitin, Dothan, and Garfinkel, in press:fig. 6.4–5). At Ashdod, their stratification is unclear (Dothan 1971:fig. 59.6, 10); however, the best stratified examples come from Area D, Phase 3 (Dothan 1971:fig. 37.17).

At Ashkelon, this Phoenician bowl type is found sufficiently often in primary contexts sealed by the destruction of 604 B.C. that we would agree with Anderson and Lehmann that it continued in use throughout the seventh century.



Figure 6.1: Phoenician Bowl 1 (scale 2:5)

Reg. no. A72/92.50.58.L262.B1.(20); 5YR 6/6 (core); 10R 5/6 (interior); 5YR 7/6 (exterior).



Figure 6.2: Phoenician Bowl 1 (scale 2:5)

Reg. no. A78/95.50.49.L451.(31); 7.5YR 6/6 (core); 7.5YR 6/6 (interior); 7.5YR 7/6 (exterior).



Figure 6.3: Phoenician Bowl 1 (scale 2:5)

Left: Reg. no. A72/92.50.48.L384.B302.(7); 7.5YR 7/6 (core); 7.5YR 7/6 (interior); 7.5YR 7/6 (exterior).

Right: Reg. no. A78/95.50.48.L453.(118); 10YR 6/4 (core); 10YR 6/4 (interior).

### Ir2c:Phoenician Bowl 2

Petrographic testing showed that this deep bowl came from the southern Lebanese coast; however, parallels are difficult to find in that region. The best parallel to the Ashkelon example is found at Tell Keisan Level 5 (Briend and Humbert 1980:pl. 40.11), where Cham-

bon is also at a loss for direct parallels. Chambon links this form to a series of decorated deep bowls (see Pritchard 1975:fig. 19.15) that have a similar banded exterior decoration, but do not have the same rim shape.



Figure 6.4: Phoenician Bowl 2 (scale 2:5)

Reg. no. A89/96.50.49.L453.B130.(18)

### Ir2c:Phoenician Bowl 3

This Phoenician Fine Ware bowl type corresponds to Lehmann's Form 84, which is generally dated to the end of the eighth or beginning of the seventh century. Gilboa's description of Type BL5b from Dor fits well both in fabric and decoration (Stern 1995a:3). Al-

though this type is sufficiently rare at Ashkelon that the examples found there may be residual, Lehmann has shown that similar rim shapes were still in use at Tel Kabri during the seventh century (Kempinski et al. 2002:fig. 5.76.16–17, 21; 5.77.1–4).



Figure 6.5: Phoenician Bowl 3 (scale 2:5)

Reg. no. A89/96.50.49.L451.(32); 5YR 7/6 (core); 5YR 7/6 (interior); 5YR 7/6 (exterior).

### Ir2c:Phoenician Bowl 4

This Phoenician Fine Ware form is a rare type, both in general and at Ashkelon in particular. The Ashkelon examples correspond to Lehmann's Form 82 (Lehmann 1996), although they also resemble his Form 80.

The best stratified parallel is from Tell Keisan Level 4 (Briend and Humbert 1980:pl. 30:6). However, the closest parallel in terms of the combination of shape and decoration is a slightly earlier vessel found at Kition (Bikai 1987:477).



Figure 6.6: Phoenician Bowl 4 (scale 2:5)

Reg. no. A73/93.50.57.L245.B123.(2); 7.5YR 6/6 (core); 7.5YR 6/6 (interior); painted exterior.

### Ir2c:Phoenician Cooking Pot

This type of cooking pot appears to be a variant of Lehmann's Type 448 (Lehmann 1996); however, it also resembles the locally made everted-rim cooking pot, so there is some uncertainty about its identification (cf. Gitin's uncertainty about the connection between Gezer CP106 and an example from Hazor; Gitin 1990:219–20; Yadin et al. 1958:pl. 70.8).

This type is extremely rare at Ashkelon. Only one example was found in occupational layers destroyed in 604 B.C., while several more examples were found

in the preceding constructional fills, which suggests that it is a somewhat earlier type that had fallen out of use by the end of the seventh century. The fabric of the stratigraphically latest example from Ashkelon (illustrated below) points to Tyre, where this general form was common from Stratum VI to Stratum II.

Several complete examples of this type were found among the galley equipment of the two eighth-century shipwrecks found in deep water offshore from Ashkelon (Ballard et al. 2002:fig. 7.1–2; 9.7–8).

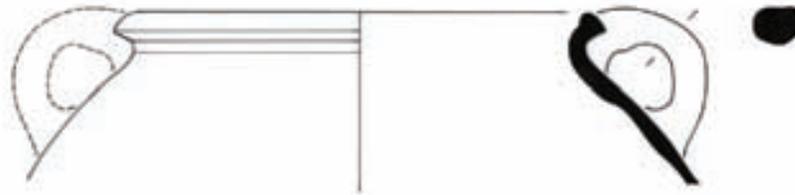


Figure 6.7: Phoenician Cooking Pot (scale 2:5)

Reg. no. A72/92.50.58.LF260.FG86.B190.(1); 2.5YR 6/8 (core); 2.5YR 6/8 (interior); 5YR 6/6 (exterior).

### Ir2c:Phoenician Jug

Several fragments of closed forms with Phoenician features were uncovered in seventh-century contexts at Ashkelon; however, the pieces are rarely large enough to draw conclusive stylistic parallels and the high degree of fragmentation suggests that they are residual. The example illustrated below is a conical neck of a vessel whose body has been reconstructed (after Amiran 1969:pl. 92.5–8). Bikai (1978:36) notes that the later versions of this form have a lighter slip,

and this is true of the Ashkelon examples. The closest parallels chronologically are found in Substratum C1 at Sarepta (Anderson 1988:pl. 37.1), or perhaps in Tel Kabri Stratum E3 (Kempinski et al. 2002:fig. 5.72.1–4). A similar conical neck fragment was found in Ashdod Area D, Phase 2 (Dothan 1971:fig. 56.7), although it has a slightly narrower diameter and was reconstructed as an odd juglet shape.



Figure 6.8: Phoenician Jug (scale 2:5)

Reg. no. A72/92.50.48.L390.B7.(2575); 7.5YR 6/6 (core); 7.5YR 6/6 (interior); 5YR 7/6 (exterior).

**Ir2c:Phoenician Juglet**

This unique juglet has its best parallels with the juglets described by Lehmann (Lehmann 1996:Form 221/1; Bikai 1987:338). This complete vessel was not tested for provenience.

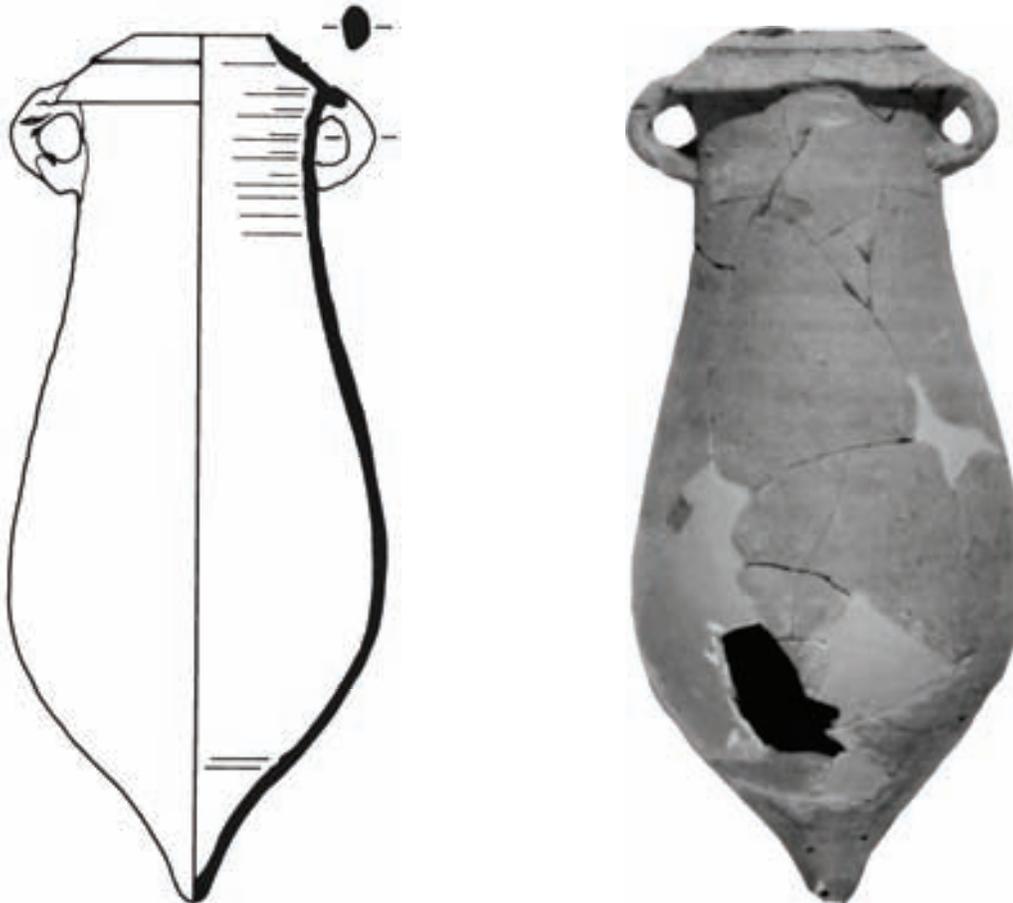


*Figure 6.9:* Phoenician Juglet (scale 1:5)  
Reg. no. A72/92.38.94.L206.FG3.B75.(2);  
10YR 8/2 (core); 10YR 8/2 (interior);  
10YR 8/3 (exterior).

**Ir2c:Phoenician Amphora 1**

The wasp-waisted amphora with a flat, folded, collar rim is part of Lehmann's Form 384, with a distribution centered on the Lebanese coast. Particularly good comparisons are found at Tell Keisan (Briend and Humbert 1980:pl. 25.5, 7–8; pl. 27.1–5) and Tel Kabri (Kempinski et al. 2002:fig. 5.82.12). Barako (*Ashkelon 1*, p. 444) has described parallels found on Cyprus.

The vessel appears inland from Ashkelon at Ekron (Gitin, Dothan, and Garfinkel, in press: Type SJ13). It is probably related to the slightly earlier wasp-waisted form at Tel Batash (Mazar and Panitz-Cohen 2001:Type SJ15b). The rim of the wasp-waisted Phoenician jar seems to become progressively shorter from the eighth through the seventh century; the flat rim appears at the end of the seventh century.



*Figure 6.10:* Phoenician Amphora 1 (scale 1:5)  
Reg. no. A72/92.50.58.L262.FG34.B77.(7); previously published in *Ashkelon 1*, fig. 23.14.

### Ir2c:Phoenician Amphora 2

This jar closely corresponds to Lehmann's Form 390/1, for which there are parallels on the Lebanese coast (Lehmann 1996). Barako has also described the form, adding parallels from Cyprus and points farther west (*Ashkelon 1*, p. 447, Amphora 17). As Barako notes, the form is found in abundance in Stratum 4 at Tell Keisan and it is the most abundant form at Tel Kabri in Stratum E2 (Kempinski et al. 2002:5.88a).

Although it is less common at Ashkelon, Lehmann's smaller Form 391/1 is more common in the seventh-century deposits at Tel Batash (Mazar and Panitz-Cohen 2001:Type SJ15a) and Meşad Ḥashav-yahu (Fantalkin 2001:Type SJ1). Neutron activation analysis at Tel Batash confirms our petrographic assessment that these jars were imported from the Phoenician coast (Mazar and Panitz-Cohen 2001:103).

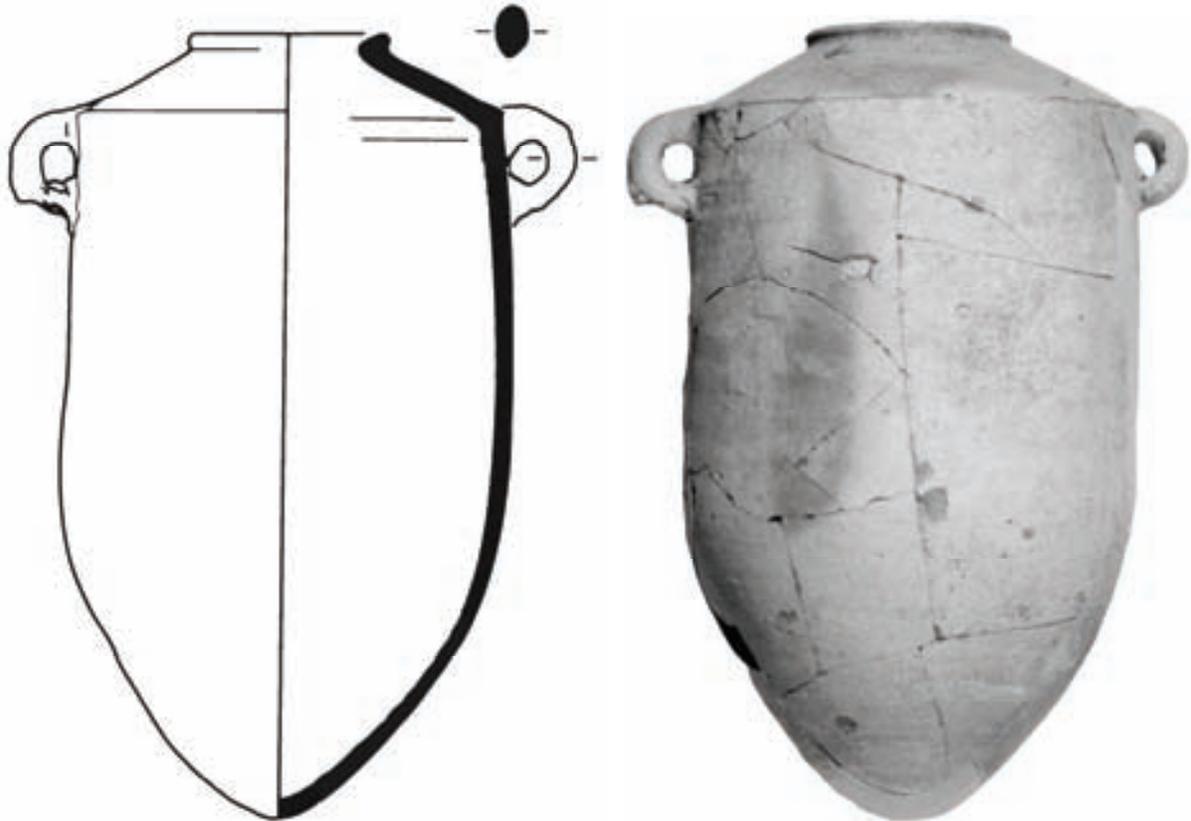


Figure 6.11: Phoenician Amphora 2 (scale 1:5)

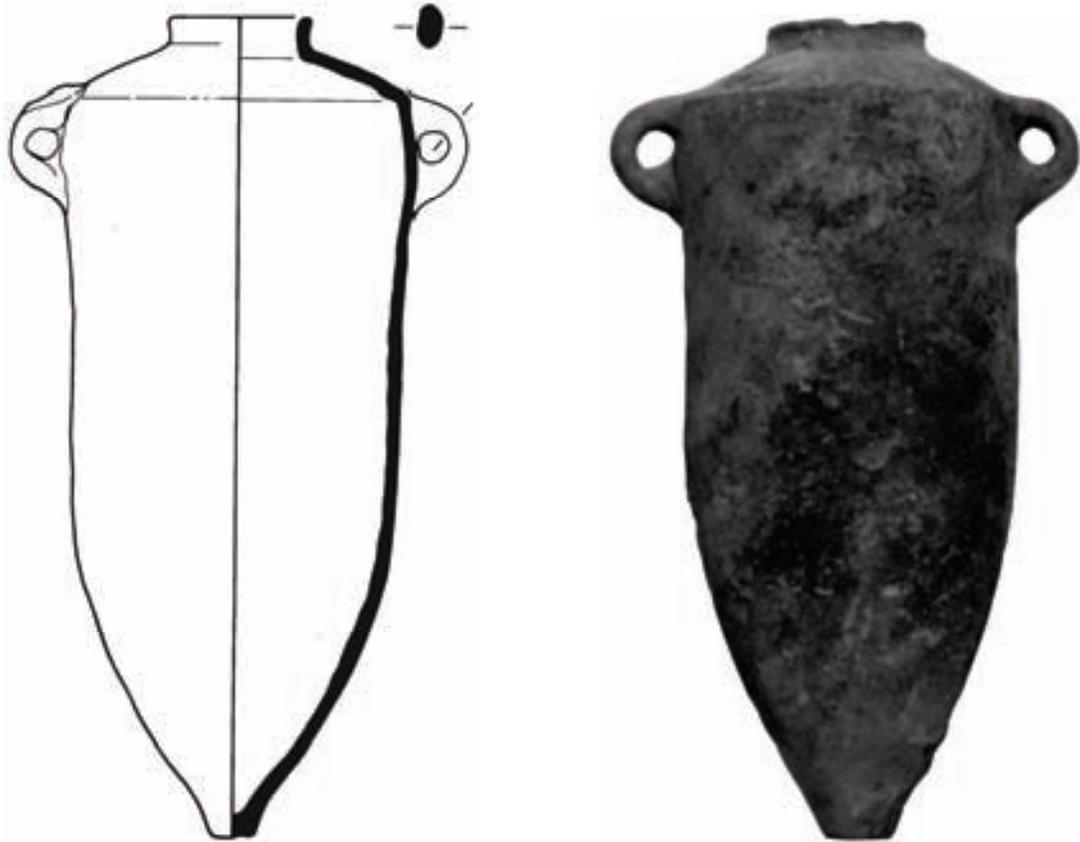
Reg. no. A72/92.50.58.L262.FG23.B84.(8); previously published in *Ashkelon 1*:fig. 23.17.

### Ir2c:Phoenician Amphora 3

A narrower variant of Phoenician Amphora 2 was found in secondary use in the alleyway of the winery excavated in Grid 38 at Ashkelon. Dozens of examples were found cut off at the shoulder (there was only one whole example), serving as constructional elements in the alleyway. This jar is rare elsewhere in the seventh-century assemblage at Ashkelon so it might be a somewhat earlier form. There are parallels in Lachish Stratum III, dating to the late eighth century (Ussishkin 2004:fig. 26.37.8). On the other hand,

a similar rim shape is found in late seventh-century contexts at Ekron (Gitin, Dothan, and Garfinkel, in press:Type IISJ9.5) and Tel Kabri (Kempinski et al. 2002:5.82.14).

Stylistically, Barako links the Ashkelon jars to a red-slipped vessel from Kuntillet ʿAjrud (*Ashkelon 1*, p. 439, Amphora 9; Singer-Avitz 2006:206). Closer parallels are found in Lehmann's catalogue as part of his Type 387, with links to eighth-century contexts at Tyre, Sarepta, and Hazor (Lehmann 1996:435).



*Figure 6.12: Phoenician Amphora 3 (scale 1:5)*  
Reg. no. A80/97.38.94.LF298.B57.(3); previously published in *Ashkelon 1*:fig. 23.9.

## 7. CYPRIOT AND NORTH SYRIAN POTTERY

THE decorated Cypriot pottery found in seventh-century contexts at Ashkelon exhibits the pattern expected for the late Cypro-Archaic IB–IIA transition. Type IV forms are dominant alongside forms that have parallels with Type III or Type V motifs. The Ashkelon assemblage is more diverse than previously published assemblages from the southern Levant and is most closely comparable to the material in late seventh-century tombs at Salamis. One of the remarkable features of the tombs there is the abundance of imported Phoenician amphoras, just as we have found at Ashkelon. At the same time, Salamis does not have any pottery from the Ashkelon region. This suggests that there was little direct trade between the two places; Cypriot material was not shipped directly to Ashkelon but arrived indirectly, perhaps via Phoenician merchants who operated both in Salamis and in Ashkelon.

A number of other sites, especially coastal sites north of Ashkelon, have yielded White Painted IV,

Bichrome IV, and Black-on-Red II vessels. However, the Ashkelon assemblage contains an unusually wide variety of decorated Cypriot pottery, including fragments from several Red Bichrome and Polychrome White Ware vessels.

From a chronological perspective, the Cypriot pottery found at Ashkelon is quite typical of its period. Gjerstad's original description of a transition in ca. 600 B.C. from Cypro-Archaic I to Cypro-Archaic II fits perfectly with the stratigraphic context of the Ashkelon assemblage, which was sealed beneath the debris from the 604 B.C. destruction of the city.

Petrographic tests on these vessels revealed exclusively Cypriot clays, with the exception of the Polychrome White Ware fragments, whose clay matched samples most similar to coastal Syria and Turkey (see Goren, Finkelstein, and Na'aman 2004:56–61 on the Ugaritic Tablet Fabric). Of course, given the similarities between the Troodos and Kızıldağ Massifs, this assessment is necessarily tentative.

### A. DECORATED CYPRIOT POTTERY

#### White Painted IV Ware (figures 7.1–23)

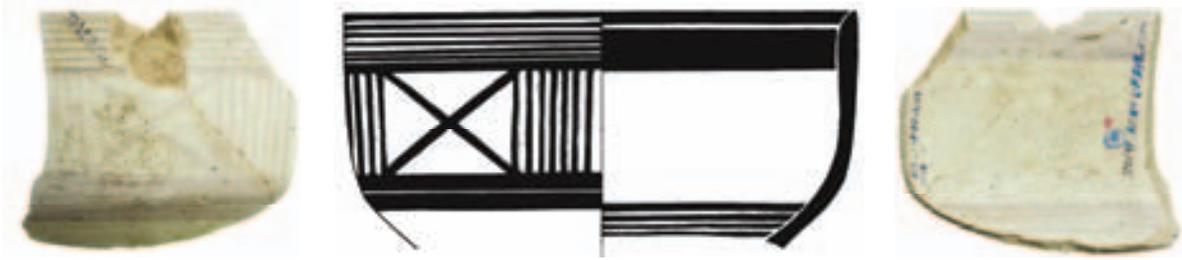
White Painted IV ware has a white to greenish fabric and matte black paint that often tends toward “purple” (Gjerstad 1934:56; Munsell “reddish gray”—see figure 7.1). It is often difficult to determine whether a small fragment with one visible paint color was part of a bichrome vessel. The forms found at Ashkelon seem to be limited to bowls, kraters, jugs, and amphoras/hydrias. The poor preservation of the vessels makes it difficult to reconstruct the complete forms.

Among the bowls, figure 7.2 has a form and decoration which continue the traditions of White Painted III forms (Gjerstad 1934:pl. 18.4; see Gjerstad 1960:fig. 2.3 for a Cypro-Geometric III date; for Cypro-Archaic I parallels see Karageorghis 1967:pl. 132.87 [Salamis Tomb 31]). However, its paint is the light purple of White Painted IV. Among the kraters, figure 7.12 (cf. Gjerstad 1934:pl. 32.1) has the flattened everted rim that Gjerstad describes as typical of the move to Cypro-Archaic I (Gjerstad 1960:fig. 5). In most cases, Cypriot kraters have vertical handles, but this is uncertain in the case of the Ashkelon examples. A close parallel to the zig-zag decoration on the amphora in figure 7.7 is found on a Bichrome amphora from Tell Keisan (Briend and Humbert 1980:pl. 32.10) and in Cypro-Archaic I tombs at Salamis (Karageorghis 1967:Tomb 2, pl. 108.32; Tomb 47,

pl. 127.31) and Cypro-Archaic II deposits at Kourion (Boutrion-Oliver 1996:figs. 55.N2; 56.O1). The large vertical handles (figures 7.8–9) join at the body rather than the rim; they may be either from hydrias (Gjerstad 1934:pl. 30.4) or the vertical handles of kraters (Gjerstad 1960:fig. 5.8). No horizontal handles were found. There are several examples of jugs, including body fragments of barrel jars (figures 7.20–21). The jug in figure 7.19 shows only one paint color but it could be the top of a larger Bichrome IV vessel (Gjerstad 1934:pl. 34.9). Two nearly intact juglets (figures 7.22–23) are decorated with horizontal bands and stripes on a small handle that joins halfway up the neck (Gjerstad 1934:pl. 27). The juglets have small ring bases typical of White Painted IV or V juglets, although they are not as piriform as White Painted V juglets (Gjerstad 1960:115).



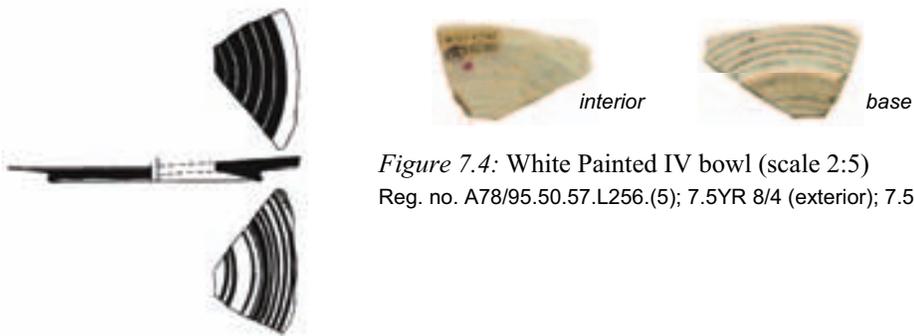
Figure 7.1: A White Painted IV sherd  
Reg. no. A28/99.50.49.L451.B127.(9309)



*Figure 7.2:* White Painted IV bowl (scale 2:5)  
Reg. no. A80/97.38.84.LF548.B104.(10); 2.5Y 8/1 (exterior); 10R 6/1 (decoration).



*Figure 7.3:* White Painted IV bowl (scale 2:5)  
Reg. no. A78/95.50.57.L256.(4); 7.5YR 7/4 (exterior); 5YR 2.5/1 (decoration).



*Figure 7.4:* White Painted IV bowl (scale 2:5)  
Reg. no. A78/95.50.57.L256.(5); 7.5YR 8/4 (exterior); 7.5YR 2.5/1 (decoration).



*Figure 7.5:* White Painted IV krater (scale 1:5)  
Reg. no. A78/95.50.58.LF318.(6); 5Y 8/3 (exterior); 5Y 3/1(decoration).



*Figure 7.6:* White Painted IV krater (scale 1:5)  
Reg. no. A78/95.50.47.L285.(17); 2.5Y 8/3 (exterior); 5Y 4/1 (decoration).



*Figure 7.7:* White Painted IV amphora (scale 1:5)  
Reg. no. A55/94.50.48.L450.B196.(6); 2.5Y 8/2 (exterior); 10R 2.5/1 (decoration).



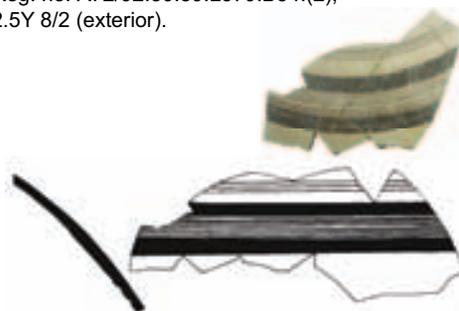
*Figure 7.8:* White Painted IV handle (scale 1:5)  
Reg. no. A80/97.38.84.LF548.B152.(14)+38.94.LF248.B65.(14)  
2.5Y 8/4 (exterior); 10R 2.5/1 (decoration).



*Figure 7.9:* White Painted IV handle (scale 1:5)  
Reg. no. A72/92.50.59.L379.B54.(2);  
2.5Y 8/2 (exterior).



*Figure 7.10:* White Painted IV jar (scale 1:5)  
Reg. no. A72/92.50.59.LF366.B7.(1);  
5Y 8.3 (exterior); 2.5YR 5/2 (decoration).



*Figure 7.11:* White Painted IV sherd (scale 1:5)  
Reg. no. A78/95.50.48.L454.(17)+50.49.L425.B30,93.(4)+  
50.49.L440.B146; 2.5Y 7.2 (ext.); 2.5YR 2.5/1 (decoration).



*Figure 7.12:* White Painted IV krater (scale 1:5)  
Reg. no. A73/93.38.74.LF509.B152.(1);  
5Y 8/2 (exterior); 2.5YR 3/1 (decoration).



*Figure 7.13:* White Painted IV jug (scale 1:5)  
Reg. no. A55/94.38.84.LF362.FG50.B109.(1);  
2.5Y 8/3 (exterior); 10R 5/1 (decoration).



*Figure 7.14:* White Painted IV jug (scale 1:5)  
Reg. no. A78/95.50.57.L256.B103.(11082);  
2.5Y 8/2 (exterior); 2.5YR 2.5/1 (decoration).



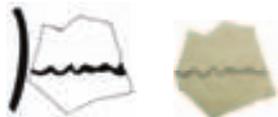
*Figure 7.15:* White Painted IV jug (scale 1:5)  
Reg. no. A80/97.38.84.LF548.B152.(12);  
2.5Y 8/3 (exterior); 2.5Y 6/1 (decoration).



*Figure 7.16:* White Painted IV jug (scale 1:5)  
Reg. no. A55/94.50.48.L439.B68,69.(22);  
2.5Y 8/3 (exterior); 2.5YR 2.5/1 (decoration).



*Figure 7.17:* White Painted IV jug (scale 1:5)  
Reg. no. A78/95.50.48.L452.(265);  
2.5Y 8/3 (exterior); 2.5Y 8/1 (decoration).



*Figure 7.18:* White Painted IV jug (scale 1:5)  
Reg. no. A78/95.50.48.L454.(15);  
2.5Y 8/1 (exterior); 2.5YR 2.5/1 (decoration).



*Figure 7.19:* White Painted IV jug (scale 1:5)  
Reg. no. A28/99.50.49.L451.B127.(9309);  
2.5Y 8/3 (exterior); 2.5YR 3/1 (decoration).



*Figure 7.20:* White Painted IV jug (scale 1:5)  
Reg. no. A78/95.50.48.L453.(102);  
2.5Y 8/2 (exterior); 5Y 2.5/1 (decoration).



*Figure 7.21:* White Painted IV jug (scale 1:5)  
Reg. no. A72/92.50.58.L262.B118.(32)  
7.5YR 7/4 (exterior); 7.5YR 4/1 (decoration).



*Figure 7.22:* White Painted IV juglet (scale 2:5)  
Reg. no. A72/92.50.58.L262.FG44.B101.(3)  
2.5Y 8/3 (exterior); 10R 5/1 (decoration).



*Figure 7.23:* White Painted IV juglet (scale 2:5)  
Reg. no. A72/92.50.49.L392.FG5.B281.(2)  
5Y 7/3 (exterior); 7.5 YR 5/1 (decoration).

### Bichrome IV Ware (figures 7.24–38)

The form and decoration of Bichrome IV bowls continue the decorative patterns of the Bichrome III repertoire (Gjerstad 1934:pl. 21.4), although the “black” paint on the Ashkelon examples (figures 7.25–27) tends towards reddish gray. The best southern Levantine parallels come from the earlier bowls at Tel

Mevorakh VII (fig. 18.5–6). These forms are found in Cypro-Archaic I deposits at Salamis. The Ashkelon example with interior and exterior concentric circles (figure 7.25) has parallels in the Cypro-Archaic I repertoire at Salamis (Karageorghis 1967:pl. 109.6, 19, 23 [Tomb 2]; pl. 122.65 [Tomb 31]).

Most Bichrome IV vessels at Ashkelon are amphoras or kraters. From the body fragments alone it is impossible to distinguish between the two; they have similar vertical or horizontal handles, so even handles are not diagnostic. Amphoras with vertical handles can be recognized by their distinctive decoration, as in the Ashkelon examples shown in figure 7.31, or by their rims. The Ashkelon example shown in figure 7.28 has a close parallel at Idalion (Stager and Walker 1989:fig. 3.3). The amphora shown in figure 7.33 is a close match for a complete example found at Tel Ira (Beit-Arieh 1999: fig. 6.101.4); the flaring rim of these forms tends to be more typical of Cypro-Archaic II (Gjerstad 1960:fig. 13.5).

The most striking painted Bichrome IV vessel found at Ashkelon is shown in figure 7.29. It is a jar

or krater with trees painted across the central register. As on a similar piece from Cyprus (Gjerstad 1934:pl. 31.9; Gjerstad 1960:fig. 4.4 for a Cypro-Archaic I date), the free-drawn motif extends below the register but not above it.



Figure 7.24: Bichrome IV sherd (exterior and interior)  
Reg. no. A55/94.50.57.L256.B71.(26)

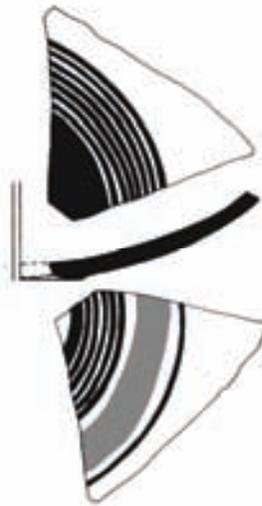


Figure 7.25: Bichrome IV bowl (scale 2:5)  
Reg. no. A78/95.50.48.L453.(124); 2.5Y 8/3 (exterior); 10YR 6/1, 10YR 5/8 (decoration).



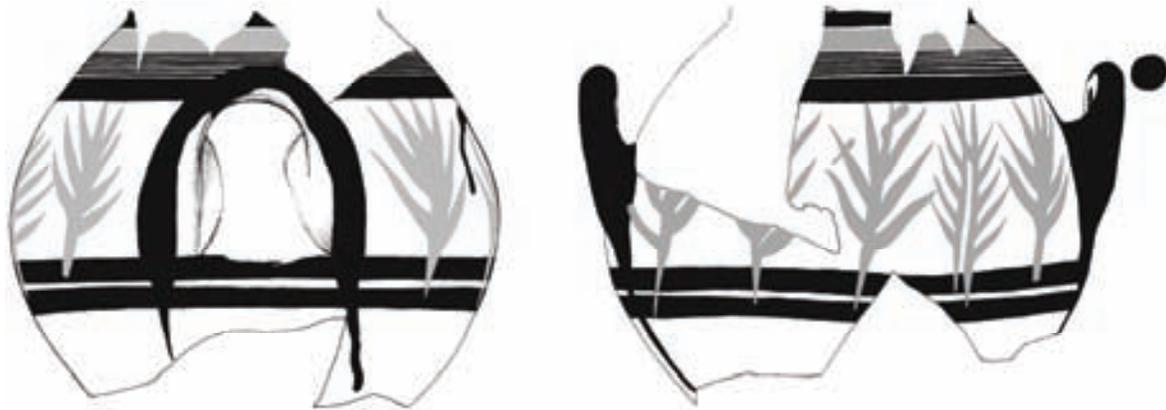
Figure 7.26: Bichrome IV bowl (scale 2:5)  
Reg. no. A72/92.50.48.L403.B458.(2); 2.5Y 8/2 (exterior); 7.5YR 3/1, 10R 4/8 (decoration).



Figure 7.27: Bichrome IV bowl (scale 2:5)  
Reg. no. A55/94.50.57.L256.B71.(26); 2.5Y 8/2 (exterior); 10R 6/1, 10R 4/4 (decoration).



*Figure 7.28:* Bichrome IV amphora (scale 1:5)  
Reg. no. A78/95.50.47.L285.(16); 10YR 7/4 (exterior); 10R 2.5/1, 10R 3/6 (decoration).



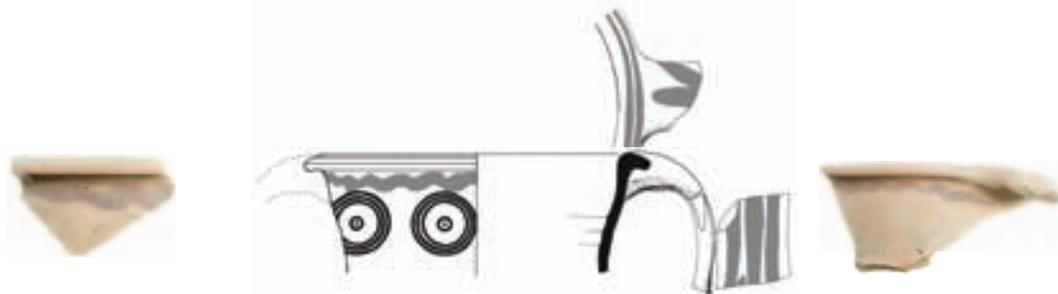
*Figure 7.29:* Bichrome IV jar or krater  
painted with a tree motif (scale 1:5)  
Reg. no. A80/97.50.49.L453.B3;  
2.5Y 7/3 (exterior); 10YR 3/1, 10YR 4/3 (decoration).



*Figure 7.30:* Bichrome IV jar or krater (scale 1:5)  
Reg. no. A89/96.50.49.L453.B74.(44);  
2.5Y 8/2 (exterior); 2.5YR 5/1, 2.5YR 5/6 (decoration).



*Figure 7.31:* Bichrome IV amphora (scale 1:5)  
Reg. no. A28/99.50.49.L451.B125+127.(9311);  
5Y 8/2 (exterior); 2.5YR 2.5/2, 2.5YR 5/6 (decoration).



*Figure 7.32:* Bichrome IV amphora (scale 1:5)

Reg. no. A89/96.50.49.L453.(32); 5YR 6/4 (exterior); 10R 7/1, 10R 4/3 (decoration).



*Figure 7.33:* Bichrome IV amphora (scale 1:5)

Reg. no. A78/95.50.57.L256.(3); 2.5Y 8/3 (exterior); 5YR 2.5/1, 2.5YR 6/2 (decoration).



*Figure 7.34:* Bichrome IV jar (scale 1:5)

Reg. no. A72/92.50.49.L368.B124.(2);  
5Y 8/3 (exterior); 5YR 5/1, 5YR 4/6 (decoration).



*Figure 7.35:* Bichrome IV jar (scale 1:5)

Reg. no. A55/94.50.47.L281.B9.(6);  
2.5Y 8/3 (exterior); 2.5YR 4/1, 2.5YR 4/3 (decoration).



*Figure 7.36:* Bichrome IV jar (scale 1:5)

Reg. no. A72/92.50.58.L262.FG64.B81.(29);  
5Y 8/2 (exterior); 2.5YR 5/1, 2.5YR 5/6 (decoration).



*Figure 7.37:* Bichrome IV jar (scale 1:5)

Reg. no. A78/95.50.48.L452.(51);  
10YR 8/2 (exterior); 2.5YR 4/1, 2.5YR 4/4 (decoration).



*Figure 7.38:* Bichrome IV jar (scale 1:5)

Reg. no. A89/96.50.49.L453.B74.(43); 10YR 7/3 (exterior); 2.5YR 2.5/1, 2.5YR 3/3 (decoration).

#### **Polychrome White Ware** (figures 7.39–40)

The two fragments of Polychrome White Ware found at Ashkelon may belong to the same vessel. In the tombs at Salamis, the decorative designs on the Ashkelon fragments span Cypro-Archaic I–II. The guilloche pattern is particularly well represented (Gjerstad 1960:fig. 14.7; Karageorghis 1967:fig. 14 [Sala-

mis Tomb 50]; Karageorghis 1970:pl. 256.13 [Salamis Tomb 105]). The Salamis tombs also provide examples of the almond-shaped areas filled with paint (ibid., pl. 64.22 [Salamis Tomb 10]) and eight-petaled rosettes (ibid., pls. B.2; 256.50 [Salamis Tomb 105]).



Figure 7.39: Polychrome White Ware (scale 2:5)

Reg. no. A72/92.50.59.L419.B186.(1a); 5Y 8/3 (exterior); 10R 5/1, 10R 4/4, 5Y 8/4 (decoration).



Figure 7.40: Polychrome White Ware (scale 2:5)

Reg. no. A72/92.50.59.L419.B186.(1b); 5Y 8/3 (exterior); 10R 5/1, 5Y 8/4 (decoration).

#### Black-on-Red II Ware (figures 7.41–47)

As expected, the Black-on-Red II ware found in seventh-century contexts at Ashkelon is slipped but is not as heavily polished as earlier examples of this ware. It is decorated with horizontal bands and concentric circles. Figure 7.41 is a simple handleless bowl with black paint on the lip (Gjerstad 1934:pl. 37.1–5; Stern 1995a:fig. 1.14.13). Figure 7.43 is a

slightly carinated bowl with a very small horizontal handle (Gjerstad 1934:pl. 37.23). Figure 7.42 is a deep bowl with pendent semicircle decoration (Gjerstad 1934:pl. 37.19). Closed forms found at Ashkelon include two juglets (figures 7.45–46) and one larger jug (figure 7.44) with horizontal lines and concentric circles.



Figure 7.41: Black-on-Red II bowl (scale 2:5)

Reg. no. A72/92.50.48.L403.B391.(12); 5YR 5/6 (exterior); 5YR 2.5/1 (decoration).

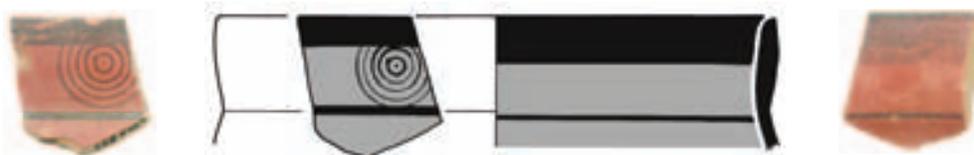


Figure 7.42: Black-on-Red II bowl (scale 2:5)

Reg. no. A55/94.50.46.L85.B61.(1); 2.5YR 4/8 (exterior); 10YR 2/1 (decoration).



*Figure 7.43:* Black-on-Red II bowl (scale 2:5)  
Reg. no. A72/92.50.58.L272.FG7.B268.(1);  
5YR 5/6 (exterior); 7.5YR 2.5/1 (decoration).



*Figure 7.44:* Black-on-Red II jug (scale 2:5)  
Reg. no. A89/96.50.48.L453.(111);  
2.5YR 5/6 (exterior); 2.5 YR 2.5/1 (decoration).



*Figure 7.45:* Black-on-Red II juglet (scale 2:5)  
Reg. no. A73/93.50.48.L390.B30.(3);  
5 YR 5/8 (exterior); 5YR 4/1 (decoration).



*Figure 7.46:* Black-on-Red II juglet (scale 2:5)  
Reg. no. A73/93.50.48.L405.B25.(6);  
10R 4/8 (exterior); 2.5YR 2.5/1 (decoration).



*Figure 7.47:* Black-on-Red II jar (scale 1:5)  
Reg. no. A80/97.50.48.L453.B17.(135); 2.5YR 5/6 (exterior); 2.5YR 5/2 (decoration).

### Bichrome Red I Ware (figures 7.48–50)

Three fragments of Bichrome Red I Ware were found at Ashkelon. These are extremely rare in the mainland Levant. The first piece (figure 7.48) is from a large closed vessel with decoration similar to Gjerstad 1934:pl. 40.10. The second is a smaller jug (fig-

ure 7.49) with a rim shape and decoration similar to Gjerstad 1934:pl. 41.7. The third piece is a body sherd (figure 7.50) that was likely part of a jug quite similar to the one from which the aforementioned rim fragment came (Gjerstad 1934:pl. 41.6, 7, 12).



*Figure 7.48:* Bichrome Red I jar (scale 2:5)  
Reg. no. A55/94.50.46.L75.B56.(2); 2.5Y 8/3 (exterior); 5YR 4/1, 5 YR 5/6 (decoration).



*Figure 7.49:* Bichrome Red I jug (scale 2:5)  
Reg. no. A80/97.38.84.LF548.B58.(13);  
2.5Y 8/3 (exterior); 5YR 4/1, 2.5YR 5/6 (decoration).



*Figure 7.50:* Bichrome Red I jug (scale 2:5)  
Reg. no. A55/94.50.48.F395.B2.(1);  
2.5Y 8/3 (exterior); 7.5YR 2.5/1, 2.5YR 5/6 (decoration).

## B. PLAIN POTTERY FROM CYPRUS AND NORTH SYRIA

The plain pottery from Cyprus and North Syria that is found in seventh-century contexts consists of just a few forms, most of which are quite rare at Ashkelon. These vessels have a petrographic profile that could fit a production center in either Cyprus or the North Syrian coast. The ophiolite complexes in these two regions have many similarities. Whatever the precise place of manufacture, it is likely that the vessels were shipped to Ashkelon through Phoenician distribution centers.

**Ir2c:Cypriot/North Syrian Mortarium** (figures 7.51–53)

The ceramic mortarium first appeared at coastal sites in the eighth century B.C. Examples of that period have been found at Tarsus (Hanfmann 1963:Form 922), Ḥorvat Rosh Zayit (Gal and Yardenna 2000:fig. 7.11.19), Ashdod (Dothan 1971:fig. 50.1), Ashkelon (Park 2009:Form 68), and in the eighth-century shipwrecks in the deep sea west of Ashkelon (Ballard et al. 2002:fig. 9.3). Mortaria became more common by the end of the seventh century. They have been found near Ashkelon in seventh-century contexts at Meşad Ḥashavyahu (Fantalkin 2001:Type HB3), Ekron (Gitin, Dothan, and Garfinkel, in press:Types MRT1, MRT 2), and Tel Batash (Mazar and Panitz-Cohen 2001:Type BL20, with additional parallels). They were very common in the Persian and Hellenistic periods and have been described in detail by Stern (1982; 1995a) and by Lehmann (1996:Form 165).

The origin and function of the mortarium have been disputed. Stern (1982:98) argued that this pottery type arrived with the East Greek trade that emerged at the end of the seventh century. Recent well-dated finds have demonstrated, however, that the mortarium appeared in the area long before the East Greek pottery (e.g., Ballard et al. 2002:fig. 9.3).

Fantalkin's petrographic tests on the mortaria found at Meşad Ḥashavyahu corroborate the petrographic results from Ashkelon, which link the mortarium fabric to the ophiolite complexes of the northeastern Mediterranean. This was also the conclusion of unpublished petrographic tests conducted by Daniel Master on the eighth-century mortarium from an Iron Age shipwreck (Ballard et al. 2002:fig. 9.3). Neutron activation analysis performed on post-seventh century mortaria also indicates a North Syrian provenience, in the vicinity of the important later production center of Ras el-Bassit (Blakely and Bennett 1989:56; Blakely, Bennett, and Vitaliano 1992:204). This conforms well to the petrographic assay of the earlier forms.

The most common form of this group is the mortarium, which is already represented on Phoenician ships in the eighth century B.C. (Ballard et al. 2002). The other plainware forms produced in Cyprus or North Syria are more common in the Phoenician enclaves of Tel Kabri and Tell Keisan than in Ashkelon, which appears to have been a more distant node in a down-the-line trade network, with a smaller quantity of this pottery than is found in coastal sites closer to the Phoenician heartland.

In her study of the East Greek pottery found at Ashkelon, Jane Waldbaum identified two fragments with odd fabrics: a flat base of a heavy bowl and the rim of a mortarium. When these were tested, one showed a fabric of uncertain provenience and the other had an East Greek fabric (see chapter 10, cat. no. 495). This may explain Stern's observation that many examples of mortaria have been found in Izmir, Samos, and Rhodes (Stern 1982:97–98).

From this distribution of finds we conclude that the mortarium form originated in the northeastern Mediterranean in the eighth century B.C. and this remained its primary place of production thereafter; however, there was a secondary production of mortaria for a limited period in the Aegean region. The examples found in the Levant are almost exclusively from the northeastern Mediterranean (contra Mazar and Panitz-Cohen 2001:19–20; the thin section cited there was rechecked thanks to the generosity of Yuval Goren and was determined to belong to the same northeastern Mediterranean family). It is likely that mortaria were distributed throughout the region by Phoenician traders. To our knowledge, the single East Greek mortarium found at Ashkelon is the only Iron Age example in the southern Levant that exhibits the more exotic Aegean fabric.

In terms of function, the classical term "mortarium" is an apt designation. Although Sapin (1998:95) has suggested that the use of this term is anachronistic, his own discussion of the vessels leads to the conclusion that the grinding of foodstuffs was a major activity associated with them (*ibid.*, pp. 110–12). Sapin's (pp. 113–15) attempt to connect the emergence of this form to the rise of the nuclear family and Blakely and Bennett's (1989) suggestion that it was related to the provision of military troops are both unfounded. This was a widely traded vessel type that was used in a variety of contexts. Indeed, one of the earliest attestations of the type is on a Phoenician

merchantman (Ballard et al. 2002), a context which points neither to a nuclear family nor to a military setting. The mortarium was a cheaper version of the basalt grinding vessels used in earlier times and it

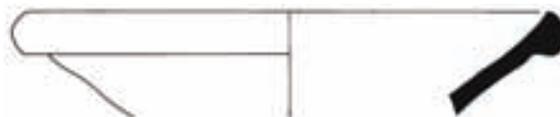
was used in the same diverse range of settings as those stone implements. Once it had been introduced in the northeastern Mediterranean region, it was quickly adopted along the entire Levantine coast.



*Fig. 7.51:* Cypriot/N. Syrian Mortarium (scale 1:5)  
Reg. no. A72/92.50.49.L364.FG2.B162.(2);  
7.5YR 7/4 (core); 7.5YR 7/4 (interior); 2.5Y 7/2 (exterior).



*Fig. 7.52:* Cypriot/N. Syrian Mortarium (scale 1:5)  
Reg. no. A72/92.50.58.L262.FG13.(54);  
7.5YR 7/6 (core); 7.5YR 7/6 (interior); 7.5YR 8/4 (exterior).

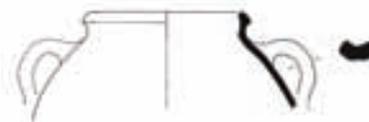


*Figure 7.53:* Cypriot/North Syrian Mortarium (scale 1:5)  
Reg. no. A55/94.50.58.LF318.(50); 10YR 6/4 (core); 10YR 6/4 (interior); 10YR 7/3 (exterior).

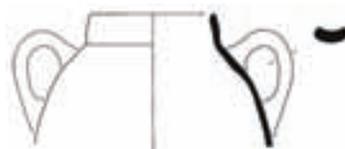
### Ir2c:Cypriot/North Syrian Cooking Pot 1 (figures 7.54–55)

This small cooking pot type is quite rare at Ashkelon. Petrographic analysis indicates that it came from the northeastern Mediterranean region (Master 2003). The form is not well represented in Lehmann's (1996) catalogue, although it might be compared to a cooking pot from Tarsus (Hanfmann 1963:Form 1271).

The placement of the handles and the slope of the body broadly resemble northern cooking pot forms like Lehmann's Form 429b/3, even though the rim and body shape do not match precisely. Another parallel was found on the eighth-century Phoenician shipwrecks discovered west of Ashkelon (Ballard et al. 2002:fig. 9.10).



*Figure 7.54:* Cypriot/North Syrian Cooking Pot 1 (scale 1:5)  
Reg. no. A89/96.50.49.L451.B99.(45); 7.5YR 5/3 (core); 5YR 5/8 (interior); 5YR 6/4 (exterior).



*Figure 7.55:* Cypriot/North Syrian Cooking Pot 1 (scale 1:5)  
Reg. no. A72/92.50.48.LF383.FG28.B273.(1); 5YR 4/1 (core); 5YR 5/6 (interior); 5YR 7/4 (exterior).

**Ir2c:Cypriot/North Syrian Cooking Pot 2** (figure 7.56)

The holemouth cooking pot is a hallmark of North Syrian assemblages in the Iron Age, beginning in the eleventh century B.C., when the “Band Handled Cooking Pot” was developed from the monochrome traditions of Late Bronze Age Cyprus (Birney 2008). Lehmann’s (1996) Forms 438–440 from the Iron Age II also show a clustering of findspots in North Syria

and southeastern Turkey (1996:pl. 83), although Lehmann has since published an additional example from Stratum E2 at Tel Kabri (Kempinski et al. 2002: fig. 5.85.4) which is a precise match for our example. In Cyprus, the form is ubiquitous; for example, it appears frequently in the Cypro-Archaic I tombs at Salamis (Karageorghis 1970:pl. 50 [Tomb 79]).

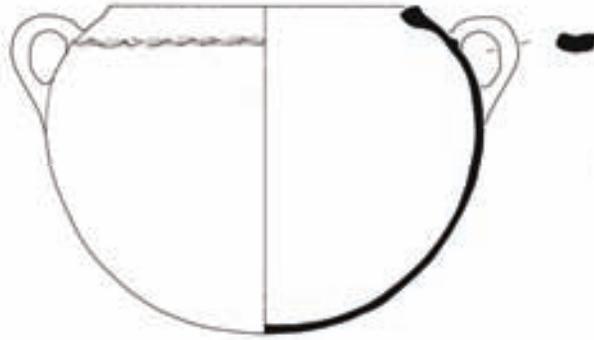


Figure 7.56: Cypriot/North Syrian Cooking Pot 2 (scale 1:5)

Reg. no. A73/93.50.49.L418.FG38.B72.(8); 7.5 3/1 (core); 7YR 5/3 (interior); 10YR 5/2 (exterior).

**Ir2c:Cypriot/North Syrian Basket-handled Amphora** (figure 7.57)

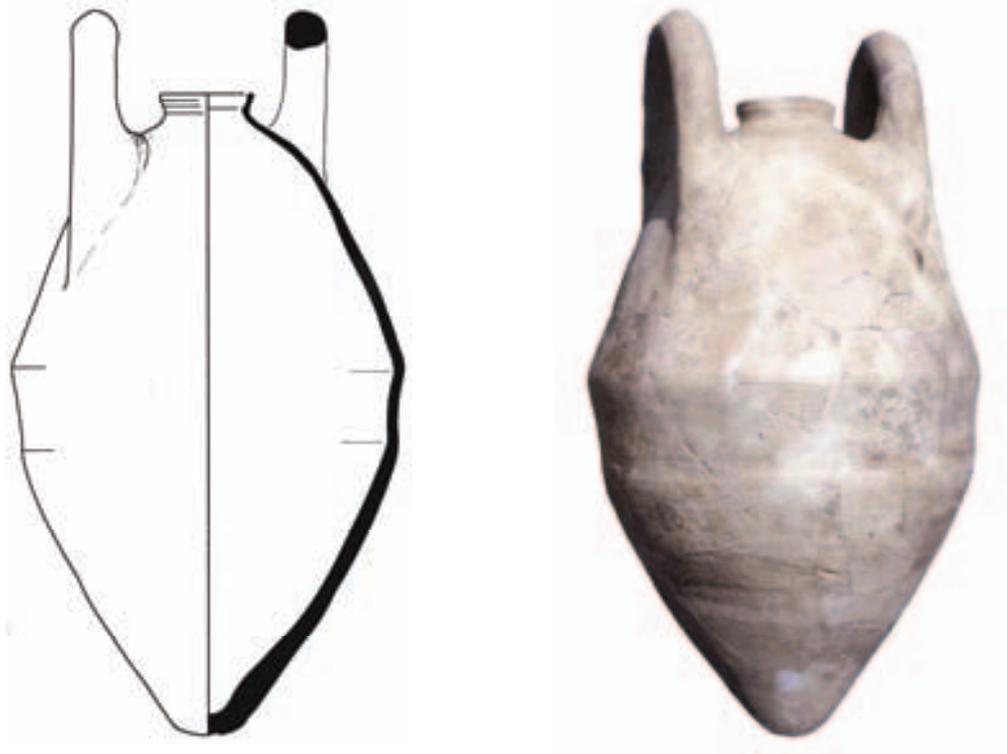
The basket-handled amphora became a widely known form in the Persian period, but it had appeared already along the coast of the southern Levant by the late seventh century B.C. at coastal sites such as Tel Kabri (Kempinski et al. 2002:fig. 5.84.1–2), Tell Keisan (Briend and Humbert 1980:pl. 23–24), and Meşad Hashavyahu (Fantalkin 2001:fig. 34.5). The example from Ashkelon has been published previously by Barako (*Ashkelon 1*, p. 441, Amphora 11).

Within Humbert’s (1991) typology of the development of this form, the Ashkelon example has a rim that tends towards his Type C but has a body that fits well within his Type D, which he dates to the end of the seventh century. Lehmann’s (1996) discussion of his Form 421b/1 is also helpful for its citation of northern Levantine parallels.

Petrographic examination of the Ashkekon example indicates a general Cypriot or North Syrian provenience, without allowing us to distinguish between

the two. This is in keeping with previous studies that indicate a place of origin in eastern Cyprus (Courtois in Briend and Humbert 1980:353; Gunneweg and Perlman 1991).

Fantalkin erroneously assigns the basket-handled amphora to his “East Greek” category and concludes that they were produced on Rhodes, in particular. He notes that Gunneweg and Perlman expressed some doubt about the attribution of this type to eastern Cyprus; but their caution was only due to the fact that they had not tested every jar that exists. For the examples they tested, they express confidence in the Cypriot provenience. Fantalkin points out that some Persian-period examples were made of Levantine clays, but this hardly supports a Rhodian origin. Every jar of this type that has been tested (and many have now been tested) came from somewhere other than Rhodes. All of the tested examples from the Iron Age originated in the northeastern Mediterranean.



*Figure 7.57: Cypriot/North Syrian Basket-handled Amphora (scale 1:10)*  
Reg. no. A73/98.50.67.L61.FG37.B93+.(2); 2.5Y 8/4 (core); 2.5Y 8/4 (interior); 2.5Y 8/4 (exterior).



## 8. SOUTHEASTERN POTTERY

MOST OF the imported pottery found in Ashkelon arrived by sea; however, a small number of vessels seem to have arrived via the land routes from the southeast. These vessels were identified in the initial sorting process because of their pale yellow slip. The distinctive slip called to mind Glueck's description of pottery with a slip that is "light creamy buff, or at times light grayish or greenish buff" (Glueck 1967, quoted in Pratico 1993:41). At Tel ʿIra, carinated bowls are described as "made of buff or whitish clay and all have a buff or whitish surface" (Beit-Arieh 1999:195), flat-rim bowls are "characterized by the buff or whitish clay and surface typical of Negev sites" (*ibid.*, p. 196), and plain-rim rounded carinated bowls often have a "buff surface typical of Negev sites" (p. 197).

Petrographic analysis shows that the vessels in question were imported to Ashkelon, though their precise place of production is not clear. Most of the sherds were made of a relatively well-levigated loessial soil fired at a temperature high enough to destroy some of the more diagnostic calcareous inclusions. The same, rather generic, fabric is found in the Assyrian-style pottery, including bottles, thin-walled bowls, and a few fragments of eggshell-thin Assyrian Palace Ware.

The combination of Assyrian styles, in addition to typical southern Levantine shapes, together with loessial

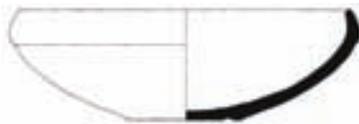
soils suggests a provenience on the southeastern border of Philistia in the region of Tell Jemmeh and Tel Sera (Tell esh-Shariʿa). At those two sites, in particular, there is evidence of a strong Assyrian presence and a close relationship to the Negev. The geological profile of the area where these sites are located corresponds very well to the fabrics found in our "southeastern" group, although the inclusions in the Ashkelon vessels are not as definitive as those discussed by Goren (Goren, Finkelstein, and Naʿaman 2004:299). The unpublished pottery from Tel Sera, for example, contains all of the Assyrianized forms present at Ashkelon in precisely the same fabrics. On stylistic and petrographic grounds, therefore, it appears likely that the southeastern pottery found at Ashkelon came from the vicinity of Tell Jemmeh and Tel Sera, although this identification has not yet been proved definitively.

Two forms, a bowl with a vertical rim and a carinated cup, have a petrographic profile that is different from the rest. These forms also have the best stylistic parallels to sites in the Aravah such as Tell el-Kheleifeh (Pratico 1993) and ʿEn Haṣeva (Y. Yisraeli, pers. comm.). The fabrics of these vessels contain all of the constituent elements of granite or diorite alongside dolomitic limestone. This is a combination which is present in southern Transjordan and the Aravah.

### Ir2c:Southeastern Bowl 1

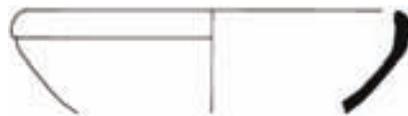
This folded-rim bowl type is ubiquitous in the southern Levant and is common in the local ceramic repertoire at Ashkelon (see chapter 5, Ir2c:Bowl 3 and

Ir2c:Bowl 8). The southeastern examples described here are distinguished by their pale yellow slip, which is occasionally burnished.



*Figure 8.1: Southeastern Bowl 1 (scale 1:5)*

Reg. no. A72/92.50.58.L262.FG13.B72.(14); 2.5Y 8/1 (core); 2.5Y 8/1 (interior); 5Y 8/2 (exterior).



*Figure 8.2: Southeastern Bowl 1 (scale 1:5)*

Reg. no. A73/93.38.64.LF785.FG87.B34+37.(6); 5YR 5/2 (core); 5YR 7/4 (interior); 10YR 8/2 (exterior).

**Ir2c:Southeastern Bowl 2**

This type is characterized by a pale yellow surface that is occasionally burnished. It is similar to the local Ir2c:Bowl 2 at Ashkelon (see chapter 5) and to Bowl 3j at Tell Jemmeh (Petrie 1928:pl. 48). The bowl type with ledge rim found at Tel <sup>c</sup>Ira is a close match for the shape, particularly in Stratum VI (Beit-Arieh 1999:6.91.1, 6.92.1). Both the shape and fabric

can be found at Qitmit (Beit-Arieh 1995:4.1.29, 4.5.7) and Arad (Herzog et al. 1984:fig. 22.2), and as far south as Tell el-Kheleifeh (Pratico 1993:pl. 35:7–8). This type is likely related to Bowl B at both Busayra (Bienkowski, Bennett, and Balla 2002) and Tawilan (Bennett and Bienkowski 1995) in southern Transjordan.



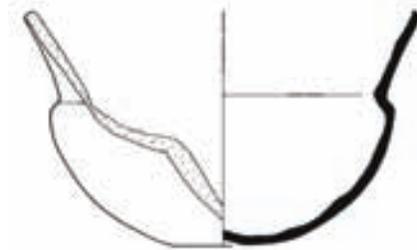
*Figure 8.3: Southeastern Bowl 2 (scale 2:5)*

Reg. no. A73/93.38.84.L299.B165.(5); 2.5Y 7/3 (core); 2.5Y 6/5 (interior); 5Y 7/4 (exterior).

**Ir2c:Southeastern Bowl 3**

The closest parallels to this bowl type are the deep one-handed cups found at Tell el-Kheleifeh (Pratico 1993:pl. 25), Horvat <sup>c</sup>Uza (Beit-Arieh 2007:3.16.1), and Busayra (Bienkowski, Bennett, and Balla 2002:fig. 9:27 [Bowl L]). The handle is not in evidence in the fragments found at Ashkelon, so they could belong instead to the related carinated plainware bowls from the same region, which have been found at Tell

el-Kheleifeh (Pratico 1993:pl. 26; pl. 27:1–11), Busayra (Bienkowski, Bennett, and Balla 2002:K2, K3), and Qitmit (Beit-Arieh 1995:fig. 4.1.33, 39). The Ashkelon examples have the rounded carination, long straight or slightly flaring rim, and rounded bottom that characterize this form. The petrographic profile of this vessel indicates a provenience in southern Transjordan or the Aravah.



*Figure 8.4: Southeastern Bowl 3 (scale 2:5)*

Reg. no. A16/87.50.58.L99.B489.(82); 5Y 8/4 (core); 5Y 8/4 (interior); 5Y 8/4 (exterior).

**Ir2c:Southeastern Bowl 4**

The hemispherical bowl type is common as local Ir2c: Bowl 1 at Ashkelon (see chapter 5), where it usually has a red slip. Similar forms imported from the southeast are easily distinguishable due to their pale yellow surface color. The finish is much like that of

the semiglobular bowls found at Qitmit (Beit-Arieh 1995:fig. 4.1.27). Semiglobular bowls are common not only at Qitmit (*ibid.*, p. 211) but also at Horvat <sup>c</sup>Uza (Beit-Arieh 2007:78), with additional parallels from Tel <sup>c</sup>Ira, Stratum VI (Beit-Arieh 1999:6.106.4).



*Figure 8.5: Southeastern Bowl 4 (scale 2:5)*

Reg. no. A73/93.38.64.LF801.(1); 5YR 7/4 (core); 2.5Y (interior); 2.5Y 8/2 (exterior).

**Ir2c:Southeastern Bowl 5**

This rounded bowl with a carination under the rim is rare at Ashkelon. Its petrographic profile suits the Aravah or southern Transjordan and its white fabric and details of its shape are paralleled at sites in the Negev and Aravah, including Tel Masos (Fritz and Kempinski 1983:pl. 164.8), Tel Sheva (Singer-Avitz 1999:pl. 9.5–6), Tel ʿIra (Beit-Arieh 1999:fig. 6.69.3), Qitmit (Beit-Arieh 1995:4.5.3, 4.9.19), Aroer

(Biran and Cohen 1981:fig. 15.14–19; Naʿaman and Thareani-Sussely 2006:fig. 3.2–4), Tell el-Kheleifeh (Pratico 1993:pls. 27.15–17; 28.1–9), and Busayra (Bienkowski, Bennett, and Balla 2002:Bowl J, with Transjordanian parallels). In Transjordan, this bowl type is often painted (Bienkowski 2002:282); however, the Ashkelon examples, like those in the Negev, are generally unpainted.



*Figure 8.6: Southeastern Bowl 5 (scale 2:5)*

Reg. no. A16/87.50.58.L99.B489.(85); 5Y 7/4 (core); 5Y 7/4 (interior); 5Y 7/4 (exterior).



*Figure 8.7: Southeastern Bowl 5 (scale 2:5)*

Reg. no. A16/87.50.58.L99.B489.(89); 2.5YR 5/8 (core); 2.5YR 5/8 (interior); 7.5YR 7/4 (exterior).

**Ir2c:Southeastern Bowl 6**

The best parallel to this bowl appears in the publication of Oren's excavations at Migdol in Sinai (1984). Oren links the form to similar examples at Daphnae, Naukratis, Tarsus, Tell Jemmeh, and Tel Sera. The Ashkelon example is a perfect match for the published example from Migdol and probably an excellent match for the unpublished parallels from Tel

Sera, but it is a poor match for Oren's other cited parallels (Oren 1984). The highly polished greenish fabric and complex rim are reminiscent of the "thick palace ware" described by Oates, who attributed the greenish-buff color to intentional overfiring, a technique typical of several examples in this category (Oates 1959:136, pl. 35.12).



*Figure 8.8: Southeastern Bowl 6 (scale 2:5)*

Reg. no. A72/92.50.58.L262.FG31.B233.(23); 5Y 6/1 (core); 5Y 6/1 (interior); 5Y 7/3 (exterior).

**Assyrian Bowl**

Assyrian fineware bowls have a thickness of no more than 2 mm. Among the Assyrian bowl fragments found at Ashkelon were two examples of the ex-

tremely thin "eggshell" fabric typically called Palace Ware. They are so well levigated that the clay source cannot be identified by petrographic means.

The fragmentary condition of the recovered Assyrian bowl fragments makes it difficult to determine the precise form. Several have a tiny but distinctive everted projection at the lip. This small detail is visi-

ble in bottles found in Assyrian palaces (e.g., Nimrud: Gatti 1986:pl. 20, Type 15.1a; pl. 21, Type 16.2); but this feature also appears on bowls (Gatti 1986:pl. 62, Type 26.2; Chambon 1984: pl. 61.11).



*Figure 8.9: Assyrian Bowl (scale 2:5)*

Reg. no. A72/92.50.58.L262.B1.(2542); 7.5YR 6/4 (core); 5YR 5/8 (interior); 5YR 6/6 (exterior).



*Figure 8.10: Assyrian Bowl (scale 2:5)*

Reg. no. A72/92.50.58.L262.FG12.B214.(5); 10YR 7/2 (core); 7.5YR 5/1 (interior); 2.5Y 6/2 (exterior).



*Figure 8.11: Assyrian Bowl (scale 2:5)*

Reg. no. A78/95.50.48.L454.(14); 5Y 7/3 (core); 5Y 7/3 (interior).



*Figure 8.12: Assyrian Bowl (scale 2:5)*

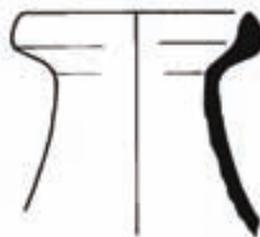
Reg. no. A73/93.38.83.L320.FG49.B34.(2545); 5YR 4/6 (core); 5YR 4/6 (interior); 7.5YR 7/3 (exterior).



### **Ir2c:Southeastern Jug**

This jug has a single parallel in the region around Ashkelon: at Gezer, where Gitin (1990:31g) remarks on the rarity of the form. Another parallel, both in

shape and fabric is found at Qitmit (Beit-Arieh 1995: 4.12.27). It also resembles jugs from Busayra (Binkowski, Bennett, and Balla 2002:fig. 9.58.1–5).



*Figure 8.13: Southeastern Jug (scale 2:5)*

Reg. no. A72/92.50.58.LF252.B8.(6); 7.5YR 5/2 (core); 5YR 5/6 (interior); 7.5YR 6/4 (exterior).



### Assyrian Bottle

The Assyrian bottle is a common form at a number of sites in the Ashkelon region (see Mazar and Panitz-Cohen 2001:Type BT3, with references). There would be no reason to think that the Ashkelon exam-

ple had been imported from the southeast were it not for the petrographic results, which indicate that it originated there. The closest stylistic parallel is at Tell Keisan (Briend and Humbert 1980:pl. 37.13).



*Figure 8.14:* Assyrian Bottle (scale 1:5)

Reg. no. A89/96.50.49.L453.(37); 10YR 5/1 (core); 7.5YR 7/6 (interior).



*Figure 8.15:* Assyrian Bottle (scale 1:5)

Reg. no. A89/96.50.49.L453.(108); 2.5Y 5/2 (core); 7.5YR 6/4 (interior).

### Conclusions

The southeastern pottery found in seventh-century contexts at Ashkelon spans three different morphological groups (bowls, jugs, and bottles) and two petrographic categories. The Assyrian-style bowls and bottles and the folded-rim and hemispherical bowls with a white or buff slip comprise a distinct petrographic category that can plausibly be linked to the Assyrian fortresses located southeast of Ashkelon at Tell Jemmeh and Tel Sera, which controlled the major routes to and from Egypt and from the Mediterranean across the Negev to Transjordan and the Red Sea. The pottery evidence for Ashkelon's linkage to this Assyrian-controlled corridor is not large in quantity but it is highly significant. The Assyrian and Assyrianizing pottery that reached Ashkelon was

presumably a subset of the pottery produced in or near these fortresses and it demonstrates Ashkelon's contact with them.

The other petrographic category comprises imports from the Aravah or southern Transjordan. These were no doubt transported along the trade route through the Negev that John Holladay (2006) has recently discussed. Most of the trade items that came to Ashkelon from the southeast would have been perishable, making it difficult to detect the existence of this trade. The few surviving ceramic markers of contact with that region are therefore of considerable value, because they suggest that Ashkelon was a secondary terminus, after Gaza, for the important route across the desert to the southeast.



## 9. EGYPTIAN POTTERY

by Joshua T. Walton

IN THE 604 B.C. destruction layers at Ashkelon were found five types of Egyptian pottery (three bowl types and two jar types). All of these types can be dated to the early Saite period; that is, the Twenty-sixth Dynasty, in the latter part of the seventh century. Key comparative sites include Tell el-Maskhuta,

Mendes Stratum II, Migdol, the Twenty-fifth Dynasty tombs at Amarna, and Saite levels at Saqqara.

All of the Ashkelon examples of Egyptian pottery have a red slip, which reflects the general tendency in this period towards the application of increasingly thick red slips (French 2004:91).

### Ir2c: Egyptian Bowl 1

At Ashkelon, only one type of small Egyptian bowl or cup is attested—a shallow bowl with a pronounced lip and a flat base. There are parallels at Migdol (Oren 1984:20.7) and Mendes (Hummel and Shubert 2004:K.32). Another similar form is attested as a lid

at Tell el-Maskhuta (Holladay 1982:5.19 [609–605 B.C. horizon]; Allen 1986). Two similar vessels, with a slightly more pronounced everted rim, were found at Saqqara (French 1988:nos. 14 and 15), although they are smaller than the examples from Ashkelon.



Figure 9.1: Egyptian Bowl 1 (scale 1:5)  
Reg. no. A73/93.50.48.LF421.B54.(2)



Figure 9.2: Egyptian Bowl 1 (scale 1:5)  
Reg. no. A89/96.50.48.L453.(106)



Figure 9.3: Egyptian Bowl 1 (scale 1:5)  
Reg. no. A72/92.50.58.L264.(14)

### Ir2c: Egyptian Bowl 2

This very deep everted-rim bowl or jar is characteristic of the Saite period in Egypt. Only one partial rim fragment was found at Ashkelon, making identification difficult. This vessel most closely resembles the large, deep everted-rim bowls from sites such as

Mendes (Hummel and Shubert 2004:M.1–2; Allen 1982:17.7), Heracleopolis (Lopez 1995:43a–c), Elephantine (Aston 1999:1818), and Balamum (Spencer 1996:pl. 64.C1.6).



Figure 9.4: Egyptian Bowl 2 (scale 1:5)  
Reg. no. A78/95.50.48.L452.(257)

**Ir2c: Egyptian Bowl 3**

This large open vessel is described as a platter or basin, but it could also have been used as a bread tray (Hummel and Shubert 2004:149). Parallels from the

Late Period occur in the Mendes landfills (Hummel and Shubert 2004:M12), Heracleopolis (Lopez 1995: 52f), and Elephantine (Aston 1999:1631).



*Figure 9.5:* Egyptian Bowl 3 (scale 1:5)  
Reg. no. A78/95.50.58.LF318.(51)

**Ir2c: Egyptian Jar 1**

Five examples of the wide-mouth folded-rim storage jar were found at Ashkelon. One fragment preserves a handle below the rim. Similar jars are well attested in the Egyptian Delta. They are described as “ubiquitous” in the landfills at Mendes (Hummel and

Shubert 2004:147; also in Stratum II, Allen 1982:pl. 17.9). Parallels were also found at Tell el-Maskhuta (Holladay 1982:3.7 [609–605 B.C. horizon]), Migdol (Oren 1984:24:2), Amarna (French 1986:fig. 9.10 [SJ3]), and Saqqara (French 1998:no. 14).



*Figure 9.6:* Egyptian Jar 1 (scale 1:5)  
Reg. no. A73/98.38.65.F27.B27.(3)



*Figure 9.7:* Egyptian Jar 1 (scale 1:5)  
Reg. no. A80/97.38.75.L57.B147.(2)

**Ir2c: Egyptian Jar 2**

Three rim sherds of globular jars were found at Ashkelon. This type has a high neck with a folded or rolled rim. The average rim diameter of this type is 14–16 cm, although larger versions approach 20 cm in diameter.

All of the Ashkelon examples have a red slip, which is also characteristic of the jars of this type found at Mendes (Allen 1982:20). One of the Ashkelon examples has a grooved neck, which, together with the red slip, is a mark of the Saite and Persian periods (Hummel and Shubert 2004:146).

Aston (1999:170–71) describes this type as typical of the Saite period throughout Egypt. The blackened bottoms of some vessels of this type have led Holladay and Shubert and Hummel to classify them as

cooking pots (Holladay 1982:pl. 7; Shubert and Hummel 2004:146); however, blackening is not found on all examples, which suggests that this vessel type served multiple functions, including the storage of liquids (Paice 1986:100).

Further parallels have been found in Stratum II at Mendes (Allen 1982:pl. 16.4, 6) and in the Mendes landfills (Hummel and Shubert 2004:pl. 50.1, 4). This jar type is also found at Tell el-Maskhuta (Holladay 1982:7.1–3 [601 B.C. horizon]; Paice 1986:fig. 5.4), Migdol (Oren 1984:fig. 20.1–2), Amarna (French 1986:9.8 [SJ1]), and Elephantine (Aston 1999:1592, 1596). Two variant forms found at Tanis are associated with the Twenty-sixth and Twenty-seventh Dynasties, respectively (Brissaud 1987:pl. 21.360, 372).



*Figure 9.8:* Egyptian Jar 2 (scale 1:5)  
Reg. no. A78/95.50.58.LF318.(46)



*Figure 9.9:* Egyptian Jar 2 (scale 1:5)  
Reg. no. A80/97.38.75.L57.B146.(1)

### *Conclusion*

The Egyptian pottery found at Ashkelon is typical of the late seventh century. But it is unusual to discover such coarse and utilitarian Egyptian vessels outside of Egypt. It seems highly unlikely that these vessels were imported for their own sake, especially because

they appear in very small quantities. It is most probable, therefore, that they were brought as personal possessions of Egyptians who traveled to Ashkelon during the period of Egyptian hegemony in the years before 604 B.C.



## 10. GREEK POTTERY

by Jane C. Waldbaum

THE SEAPORT of Ashkelon was large and cosmopolitan, and one of the capital cities of the Philistines. Excavation of contexts dated to the seventh century B.C. has produced significant quantities of imported Greek pottery, as well as imported wares from other places around the eastern Mediterranean, including Cyprus, Egypt, and Syria. This is in addition to the locally made late Philistine pottery and the pottery brought to Ashkelon from neighboring regions, such as Judah and Phoenicia.<sup>1</sup> More than 1,570 pieces of Greek pottery were found, though this constitutes less than one percent of all the pottery recovered (Master 2003:52, fig. 3).<sup>2</sup>

Most of the early Greek pottery from Ashkelon is East Greek, with a smattering of Corinthian sherds—similar to smaller collections of Greek imports found at other sites. The imports at Ashkelon are, however, distinguished from those at other sites in the southern Levant, not only in their quantity, but also in having a greater variety of forms. In addition to the expected assemblage of fine decorated wares for eating and drinking (cups, bowls, dishes, and pouring vessels or oinochoai), there are also cooking pots, transport amphorai, and even some hydriai (water jars) and kraters (large mixing bowls). Moreover, there are some less common smaller vessels, some of which are forms not previously reported in the Levant. This makes the Ashkelon assemblage one of the largest, and certainly

the most varied, corpus of seventh-century B.C. Greek pottery found thus far in the southern Levant.

### *Distribution at the Site*

The bulk of the seventh-century Greek pottery at Ashkelon came from just two kinds of contexts: (1) layers in Grid 38 (the winery) and Grid 50 (the marketplace) that represent the building and use phases destroyed by Nebuchadnezzar II of Babylon in 604 B.C.; and (2) the quarry fills directly underlying these phases in the Grid 50 marketplace (see Appendix B for a concordance of findspots with pieces in the catalogue; see chapters 2 and 3 for the stratigraphy).

A few examples came from postdestruction contexts, including natural silts and washes that immediately accumulated over the 604 B.C. destruction debris, subsequent Persian-period constructional fills, and surface finds. Since there is no stylistic or typological difference between the pieces found under these circumstances and those found in 604 B.C. destruction or predestruction contexts, and since at least one join was found between a piece from the pre-604 quarry fill and one from a much later Persian-period fill (no. 419), it was decided to include them in the catalogue for the sake of completeness.

Only 270 pieces of Greek pottery came from actual 604 B.C. layers, while the bulk of the material—some 1,261 pieces—came from the pre-604 fill. In addition, 39 pieces were found in later, postdestruction contexts. The material from 604 B.C. use-and-destruction contexts was distributed between the marketplace in Grid 50 and the winery in Grid 38.

Table 10.1: Distribution of Greek Pottery in 604 B.C.

Type	Grid 38	Grid 50	Total
Corinthian	0	3	3
Bird bowls	0	2	2
“Ionian” cups	55	100	155
Stemmed dishes	0	1	1
Oinochoai/plain jugs	4	35	39
Flat-based jugs	0	1	1
Cooking pots	1	52	53
Transport amphorai	3	12	15
Hydriai	0	1	1
TOTAL:	63	207	270

<sup>1</sup> See Master 2001; 2003; and chapters 5–9 in this volume.

<sup>2</sup> Most of the pieces are individual sherds, but where joins or partial restorations could be made, they are counted as one piece. This count includes all kinds of Greek sherds—both “diagnostics” (rims, bases, and handles) and body sherds—since all were identifiably Greek. How many actual vessels these represent is not certain. Some of the individual sherds, especially the body sherds, no doubt belong to the same vessels, though no joins were discernible. Despite the high absolute figures, the Greek pottery represents only a minute fraction of the total pottery from the relevant layers. The author studied firsthand most of the sherds included in this chapter over several summers ending in 1998. In the summer of 2006, Daniel Master and several students opened for the first time “hundreds of bags from the big fill in Grid 50” (i.e., the quarry fill that preceded the marketplace in this area) and noted a number of East Greek and Corinthian sherds not previously seen or studied by the author. A few of these were pulled and turned over to the author and have been included in the catalogue, but it must be kept in mind that there are unknown quantities of others that have not been processed or studied.

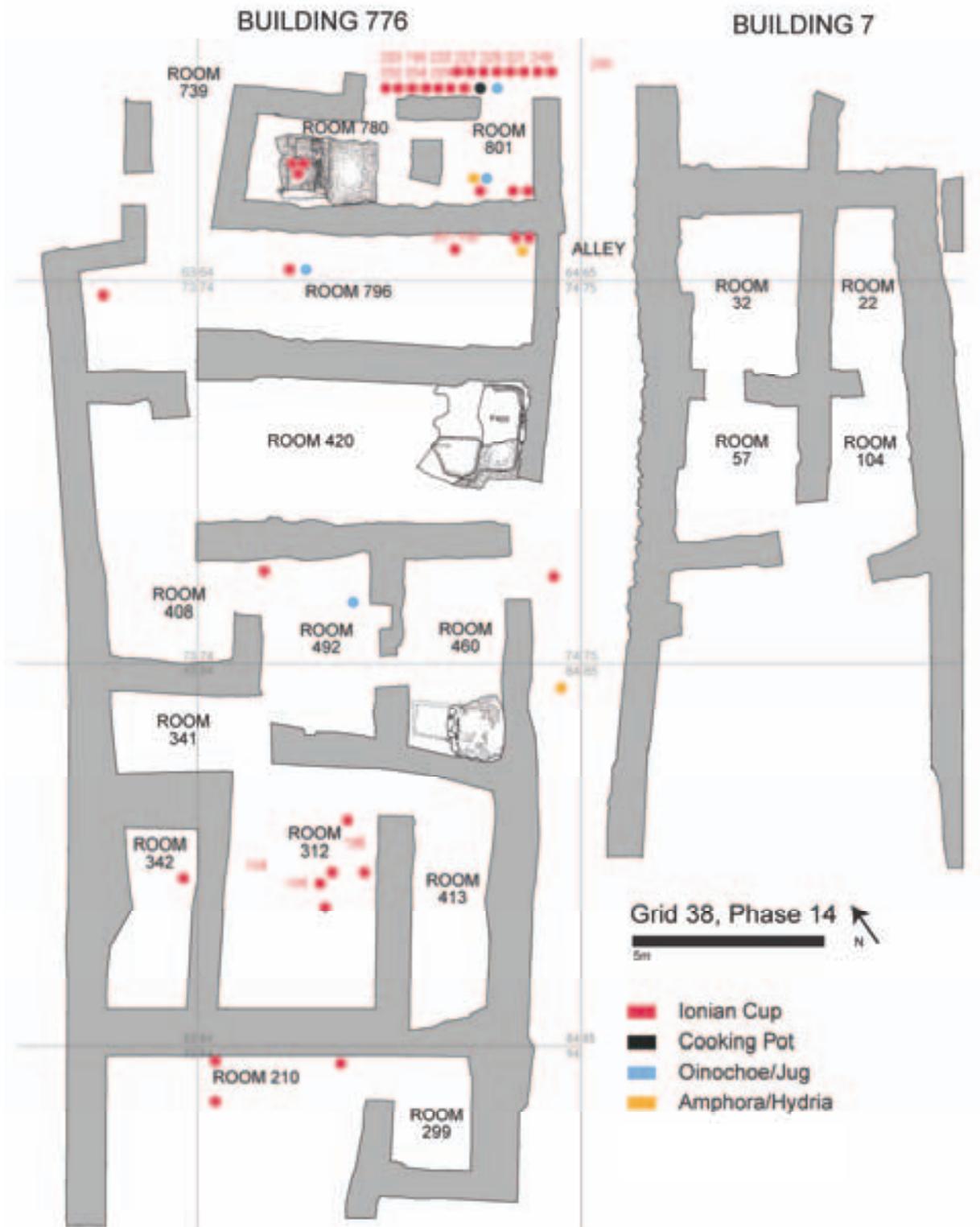


Figure 10.1: Spatial distribution of Greek pottery in the Grid 38 winery

Colored numbers indicate the findspots of Greek sherds, according to the numbers assigned in the catalogue below. Colored dots indicate the findspots of uncatalogued sherds.

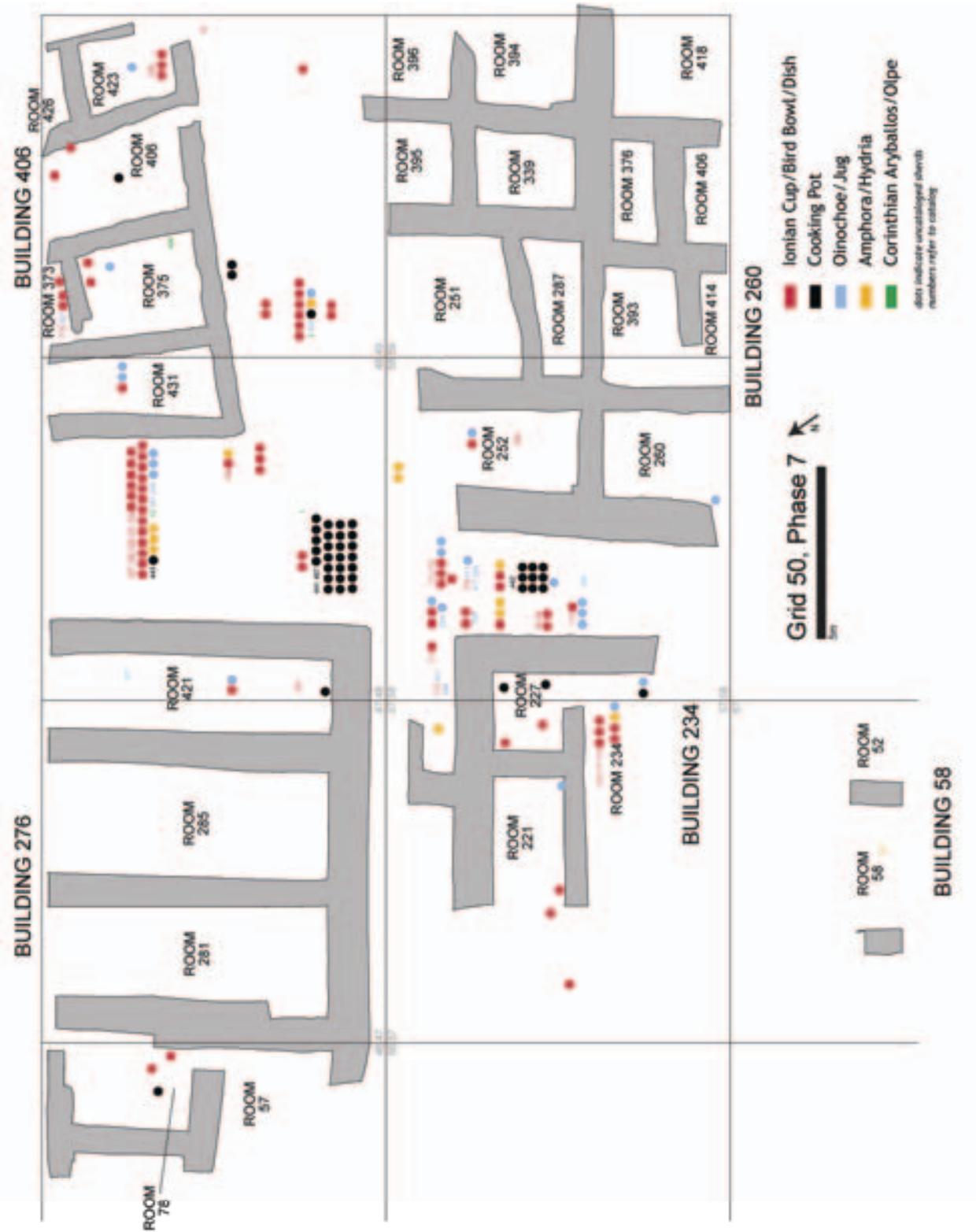


Figure 10.2: Spatial distribution of Greek pottery in the Grid 50 marketplace

Colored numbers indicate the findspots of Greek sherds, according to the numbers assigned in the catalogue below. Colored dots indicate the findspots of uncatalogued sherds.

Table 10.1 shows that only 63 pieces, or about 23 percent of the total, came from the Grid 38 layers dated to 604 B.C., whereas 207 pieces, or 77 percent of the total, came from the contemporaneous layers in Grid 50. “Ionian” cups form the majority of Greek sherds found in Grid 38, whereas the finds from Grid 50 are comprised mostly of “Ionian” cups, cooking pots, and oinochoai, with minor quantities of other forms (see figures 10.1 and 10.2 for the spatial distribution of Greek sherds in the two excavation areas). Unfortunately, no strictly residential areas of this period were excavated, so we cannot discuss domestic usage.

### Chronology

Chronologically, this material is very important (see Waldbaum and Magness 1997 for fuller discussion). The 604 B.C. destruction provides a firm *terminus ante quem* for all of the imported forms. While there is no way of putting an absolute *terminus post quem* on the material from the fills, it is significant that the corpus of Greek pottery is remarkably homogeneous, regardless of context, and there is no appreciable typological variation between most of the Greek sherds from the pre-604 B.C. constructional fill and sherds from the 604 B.C. destruction debris and floors. In at least one case (cup no. **199**), a join was found between pieces found in the fill and pieces found in destruction debris.

Table 10.2 compares the numbers of examples of each form found in the destruction layers with the numbers from the predestruction fills, showing that in most cases there are more pieces represented in the fills than in the actual destruction debris. In fact, only about 17 percent of the total came from 604 layers; more than 80 percent came from pre-604 fills and ca. 2 percent from postdestruction contexts.<sup>3</sup>

In both the 604 layers and the pre-604 quarry fills, about three-fourths of the imported Greek pottery consisted of fine or decorated wares, including bowls, cups, kantharoi, stemmed dishes, oinochoai, and jugs; and about one-fourth—still a significant proportion—of the imports were household or coarse wares, including kraters, a mortarium, cooking pots, amphorai, and hydriai (see table 10.3).

<sup>3</sup> Owing to further refinement of the Ashkelon corpus, the frequencies have changed somewhat since Waldbaum 2002b was written. It should also be kept in mind that additional East Greek pottery was identified in 2006 but not isolated or studied. Thus, the numbers presented in table 10.2 and elsewhere represent minimum numbers and are not complete counts of what has been found (see n. 2 above).

Table 10.2: Quantities of Greek Pottery at Ashkelon Found in 604, Pre-604, and Post-604 B.C. Layers

Type	604	Pre	Post	Total
Corinthian	3	13	1	17
“Al Mina Ware”	0	1	0	1
Bird and rosette bowls	2	12	1	15
Miscellaneous bowls	0	5	0	5
“Ionian” cups	155	670	20	845
Kantharoi	0	4	0	4
Stemmed or footed dishes	1	23	4	28
Oinochoai and plain jugs	38	191	10	239
Flat-based jugs	1	16	0	17
Kraters	0	2	2	4
Cooking pots	53	131	1	185
Mortarium	0	1	0	1
Transport amphorai	16	171	0	187
Hydriai	1	21	0	22
TOTAL:	270	1,261	39	1,570

Table 10.3: Comparison of Seventh-Century B.C. Fine Wares and Household Wares Found in 604, Pre-604, and Post-604 B.C. Layers

	Fine Wares	Household Wares	Total
604 layers	195	75	270
Pre-604 layers	935	326	1,261
Post-604 layers	36	3	39
TOTAL:	1,166	404	1,570

Many of the decorated pieces, especially of oinochoai and stemmed or footed dishes,<sup>4</sup> belong to the style referred to by R. M. Cook as “South Ionian Middle Wild Goat II” (MWG II), which he dated generally to the last quarter of the seventh century and plausibly identified as coming from Miletos (Cook and Dupont 1998:39–44). Recently, Kerschner and Schlotzhauer (2005; 2007; Schlotzhauer 2006: 134–35) have proposed a new, more comprehensive system of classification for Archaic East Greek pottery, both decorated and undecorated, that can be applied more broadly throughout the East Greek region. According to their system, South Ionian Archaic I is divided into four phases (SiA Ia–d) covering most of the seventh century, with Cook’s MWG II mostly subsumed under SiA Ic–d. The system is also divided by regional and urban production cen-

<sup>4</sup> See the catalogue below for further discussion of decorated dishes and oinochoai.

ters, so that for example, SiA Ic–d pottery produced in Miletos can be referred to more precisely as MileA Ic–d.<sup>5</sup> Kerschner and Schlotzhauer tentatively date SiA Ic to ca. 630–610 and SiA Id to ca. 610–580 B.C., overlapping the later part of Cook’s MWG II and the beginning of his MWG III (Kerschner and Schlotzhauer 2005:8; 2007:300). A comparable phasing applies to North Ionian as well (e.g., NiA Ia–d). Since Kerschner and Schlotzhauer’s terminology and system of periodization is widely applicable to Archaic East Greek pottery generally, it is adopted here, with reference to the older terminology when necessary for clarity.<sup>6</sup>

Regardless of findspot, most of the East Greek decorated pottery from Ashkelon belongs to the SiA Ic–d phases (some to NiA), and, of these, many—perhaps most—of the SiA Ic–d pieces appear to fall late in the sequence. As one illustration, several decorated oinochoai fragments from a number of different vessels have downward-pointing rays on the shoulder and/or patterns of horizontal lines on the neck (e.g., catalogue nos. **291, 293, 298, 299, 303, 304, 310, 312–19, 321, 322, 379, 381, 400, 401, 410** [and unregistered 4101, 4102, 4104, 4619]). Some of these were found in 604 layers, some in the preceding fill, and some in postdestruction contexts.

R. M. Cook dates this type *late* in his MWG II series (Cook and Dupont 1998:41–42, fig. 8.10), or SiA/MileA Id according to newer terminology (Kerschner and Schlotzhauer 2005:33–45, figs. 36, 37, 39). The sherds with downward-pointed rays thus date toward the end of the seventh century by both Cook’s and Kerschner/Schlotzhauer’s chronology, a date confirmed by the chronology arrived at here. Since this late “Wild Goat” style appears in both pre-604 and 604 contexts, the implication is that the Ashkelon fills were deposited and the buildings were constructed, used briefly, and then destroyed, all within the space of a very few years, at a time when

the late MWG II or SiA Id style was already in use. This fits chronologically also with the few pieces of Early Corinthian ware (catalogue nos. **3–16**), generally dated ca. 620/615–595/590 by Amyx’s chronology (Amyx 1988:3:428).<sup>7</sup>

The significance of this for the chronology of early Greek pottery cannot be overstated. With few exceptions, all of the pottery found in both the destruction layers and the preceding fills is of types previously dated to the late seventh century or early sixth century B.C. on stylistic grounds and on a few scattered, not completely reliable, fixed dates based on Near Eastern events, or on the presumed but questionable dates of the foundations of Greek colonies in the west and in the Black Sea region (Cook and Dupont 1998:8–10; Cook 1997:252–55; Boardman 1998:9–10). The recent publication of the South Ionian pottery from the destruction of the Temple of Athena Assesia at Assesos in western Turkey by the Lydian king Alyattes, now dated to 608 B.C. (Kalaitzoglou 2008:63), yields many contemporary parallels to the finds from Ashkelon and reinforces the chronological conclusions regarding both East Greek and Corinthian pottery.

Very few, if any, of the imports at Ashkelon could be dated earlier than the late seventh century. Aside from a few fragments of bird bowls, which in any case appear to be late in the series (catalogue nos. **18–22**), two examples of Corinthian Transitional ware of ca. 630–620/615, one from a 604 layer, one from the quarry fill (nos. **1, 2**), and a possible Late Geometric or Subgeometric skyphos rim of so-called Al Mina Ware (no. **17**), which could, in fact, date as late as late seventh century,<sup>8</sup> there is little that points to an active western trade earlier than the last quarter of the seventh century. And since Ashkelon was utterly destroyed by Nebuchadrezzar’s army and not reoccupied until the start of the Persian period in the late sixth century B.C., there was nothing later (Stager

<sup>5</sup> Käufler (2006:15) uses a variant of this classification system for his study of archaic oinochoai from Miletos that includes five divisions of Milesian Archaic I (MileA Ia–e), with MileA Id–e corresponding more-or-less to MileA Ic–d in Kerschner and Schlotzhauer’s system, which he does not seem to have taken into account.

<sup>6</sup> Kerschner and Schlotzhauer’s 2007 publication is essentially the German version of their 2005 article in English but does not include illustrations, making the 2005 version more useful. Although the authors intend their system to apply to all Archaic East Greek pottery, whether decorated or not, the examples they provide are all decorated, making its application limited until further research on the subject is available, a point which the authors acknowledge (Kerschner and Schlotzhauer 2005:2–3).

<sup>7</sup> See also the chronological discussion in Fantalkin, forthcoming b, where he suggests that “[i]t is clear that from a chronological point of view, the whole imported Greek assemblage from Ashkelon, belongs to a very narrow period between ca. 620/615 and 604 BCE.” Although we do not know where at the site the builders of the late seventh-century constructions in Grid 50 obtained the fill material, it seems evident from its remarkable homogeneity that most of the Greek material in it was originally deposited or discarded not much earlier than the time of its reuse as construction fill.

<sup>8</sup> The “Al Mina Ware” sherd need not date as early as Late Geometric. According to U. Schlotzhauer (pers. comm., May 2003), quantities of these were excavated on Kalabaktepe at Miletos, where they appeared in Phase 4, ranging from the first half of the seventh century to ca. 600 B.C.

1996a:71\*; 1996b:69; Stager et al. 2008:282–83, 312–13).<sup>9</sup> At Ashkelon, we have a clear archaeological horizon, securely dated on historical grounds, which provides a wide variety of forms and fabrics occurring together. It is reassuring that the Ashkelon evidence confirms the traditional chronology.

The same situation holds true for other sites in the southern Levant (see Luke 2003).<sup>10</sup> There is a smattering of Greek Protogeometric and Geometric at scattered sites such as Tell eṣ-Ṣāfi, Tel Hadar, Tell Abu Hawam, Megiddo, Tel Rehov, Beth Shean, Samaria, Dor, Tel Qiri, Tel Kabri, and Tel Miqne-Ekron; there is no Protocorinthian, elsewhere considered *the* Greek trade ware of the early to mid-seventh century;<sup>11</sup> and there is very little else that shows close connections with the Aegean before the late seventh century (Waldbaum 1994; Coldstream and Mazar 2003 [for Tel Rehov and Beth Shean]; Gilboa and Sharon 2003; Maeir et al. 2009 [for Tell eṣ-Ṣāfi]). There is then a spurt of activity reflected in the finds at Ashkelon and elsewhere, which is quickly snuffed out by the Babylonian conquests. There is almost no sign of revived contact before the beginning of the Persian period in the late sixth century (i.e., no early Attic Black Figure, little Middle or Late Corinthian). Since many of the sites in question, including Ashkelon, were abandoned or seriously reduced in wealth and population after the Babylonian destructions, this is no surprise (Stern 2000). Trade with the West revives again in the Persian period and flourishes from that time on.

There is somewhat more evidence for early east-west trade at North Syrian sites such as Al Mina and Tall Sūkās (see, e.g., Perreault 1993), as well as some sporadic finds of Greek pottery at Tyre in Phoenicia ranging in date from the tenth through the seventh centuries (Bikai 1978:53–56, 66–68; Coldstream and Bikai 1988; Nitsche 1986/87).<sup>12</sup> At Ras el-Bassit,

<sup>9</sup> A few stray examples of seventh-century pottery similar to what has been found in datable seventh-century contexts have turned up in later layers at Ashkelon, but these are clearly earlier than their contexts and are not significant, either stratigraphically or chronologically. In at least one case, a join was found between a sherd from a later Persian fill and a sherd from the pre-604 quarry fill (no. 419).

<sup>10</sup> Although more types of the eighth and earlier seventh centuries appear in Syria, recent research shows a similar pattern of significant increases in Greek imports after ca. 650 B.C. (Lehmann 1998:13–15, 19, 31).

<sup>11</sup> A single fragment from Tel Kabri identified in preliminary reports as Protocorinthian (Niemeier 1994:\*31, fig. 19:1) is now identified as Cypriot by neutron activation analysis (Niemeier and Niemeier 2002:223, n. 3).

<sup>12</sup> Despite numerous claims for early Greek settlement in Syria (e.g., Boardman 1999a:39, 270–71; Kearsley 1995:

another important site in Syria, there are some Greek imports in the eighth and early seventh centuries, but according to the excavator, the imports are most abundant from ca. 650–550 B.C. (Courbin 1978:41). The situation in Cyprus in the seventh century seems closer to that in Israel, although it apparently had more regular contact with the West in the eighth century. There is a decline in western imports in the early seventh century followed by more abundant East Greek wares and little Corinthian after the middle of the seventh century (Coldstream 1985:58–59).

The appearance of Phoenician and other Near Eastern trinkets at the Greek site of Lefkandi on Euboea from the tenth through the ninth centuries (Popham and Lemos 1996:pls. 132–35, 143–45, 154; Popham 1994:12–26; Popham et al. 1982b:237, 242–45; Coldstream 1989:91; Coldstream 1998:355–57; Niemeyer 2006:149–50), and of a variety of Phoenician artifacts at sites on Rhodes, Kos, and Crete in the ninth and eighth centuries (Coldstream 1982; Shaw 1989), show that these early contacts between Greeks and Phoenicians were reciprocal (Lemos 2005; Sherratt and Sherratt 1993; and cf. Lehmann 1998:31–32). And occasional pieces of Greek pottery may be found in the earliest (eighth- and early seventh-century) levels of Phoenician settlements in the central and western Mediterranean (e.g., Shefton 1982:338–43; Niemeyer 1990:478–79; Docter 2000; Docter et al. 2005:561–63; Aubet 2007:448).

#### *Provenience of Imported Greek Pottery*

Corinthian wares have long been recognized and studied (see, e.g., Amyx 1988, with references to earlier research), but the pottery production of individual East Greek centers has only been identified relatively recently. Judging both from style and from petrographic analysis,<sup>13</sup> the seventh-century B.C. East Greek pottery at Ashkelon was made in and imported from a number of different centers. These observations can be confirmed and refined by comparing them to excavation reports and provenience studies on pottery from the East Greek centers themselves (e.g., Akurgal et al. 2002; Dupont 1982; 1983; 1986; 1999; 2000; 2005; 2007; Dupont and Thomas 2006;

71–80), Perreault does not see significant traces of Greek presence in Syria before the last quarter of the seventh century B.C. (Perreault 1993:81). See Lehmann 1996 and 1998 for discussion of Greek imports in Syria and Phoenicia.

<sup>13</sup> Petrographic analyses on about 50 samples taken by the author were made by Daniel Master as part of a larger study of Ashkelon pottery (Master 2001; 2003). Several more samples were added at a later time (Master, pers. comm.).

Furtwängler 1980; Furtwängler and Keinast 1989; Johnston and de Domingo 2003; Jones 1986; Kerschner 2006, Kerschner and Mommsen 2005; Kerschner et al. 1993; Mommsen et al. 2006; Mommsen and Kerschner 2006; Schlotzhauer et al. 2006; Seifert 2004; Walter 1968; Whitbread 1995). Although not all examples of East Greek pottery found at Ashkelon or elsewhere in the southern Levant can be traced back to a specific place of manufacture, the bulk of the East Greek pottery that can be identified comes from Samos, Miletos, Chios, and the northeast Aegean, with minor representation from Corinth on the Greek mainland. These areas represent some of the major producers of Greek pottery in the period in question and their wares were distributed widely throughout the eastern, western, and central Mediterranean and the Black Sea region.

In general, from Samos, Chios, and the northeast Aegean we can identify amphorai, oinochoai, and certain kinds of “Ionian” cups. From Miletos we have amphorai, “Wild Goat” and other oinochoai, stemmed dishes, and possibly some “Ionian” cups, as well as hydriai and cooking pots.<sup>14</sup> From Corinth there is a small assortment of aryballoi, alabastra, and olpai or oinochoai. It is certainly possible that there are pieces from a number of other centers as well, but these are harder to identify given the current state of research.

#### *Seventh-Century Greek Pottery in the Southern Levant*

Imported Greek pottery of the seventh century B.C. is found at a number of sites in the southern Levant, including primarily Meşad Ḥashavyahu, Tel Miqne-Ekron, Tel Batash-Timnah, Tel Kabri, and Yavneh-Yam. Aside from Ashkelon, Greek pottery is relatively rare at most sites, with the exception of Meşad Ḥashavyahu—a small, one-period coastal site excavated in the early 1960s and again in 1986, which has been interpreted as the location of a garrison of Greek mercenaries, largely because of the substantial quantity of Greek pottery found there (Naveh 1962a:98–99; Fantalkin 2001: 102–3, table 16 and fig. 35). The

<sup>14</sup> The results of petrographic analyses on individual samples and other criteria for identifying provenance are discussed in the introductions to the different classes of pottery in the catalogue below, and in chapter 4 of the present volume. It should be emphasized that the vast majority of the pottery discussed here was not analyzed and cannot easily be assigned a provenance other than “East Greek,” although new evidence from excavations at Miletos and other nearby sites, together with analyses by several researchers, have made it possible to identify many types of pottery from Miletos on the basis of style.

identity of the employer of these mercenaries has been disputed. The original excavator of Meşad Ḥashavyahu, Joseph Naveh, at first proposed that Greek mercenaries were stationed there by the Egyptian pharaoh Psamtik I (Naveh 1962a:99), but he later changed his opinion and suggested that they were in the employ of Josiah, who was king of Judah from 639 to 609 B.C. (Naveh 1993:586). Other scholars are divided, with some favoring a king of Judah, either Josiah (Tadmor 1966:102) or Jehoiachim (Wenning 1989:191; 2000: 342), and others favoring Psamtik I (e.g., Redford 1992:444–45; Na’aman 1991:44–46; Fantalkin 2001:141–46). The designation of the site as a Greek mercenary garrison has been generally accepted,<sup>15</sup> though a mercantile interpretation has also been proposed by some scholars, including the present author (Mazar 1997:9; Kelm and Mazar 1989:49; Waldbaum 1994:60–61).<sup>16</sup>

Comparison of the finds from Ashkelon and Meşad Ḥashavyahu reveals some interesting differences in the types of forms preferred at each site. Table 10.4 includes only forms of whose Greek origin I am certain. Fantalkin’s study includes ordinary mortaria or “heavy bowls” with the East Greek assemblage, although petrographic analyses on later examples indicate a Syrian or Anatolian origin for them (Fantalkin 2001:79–82, esp. n. 44).<sup>17</sup> I have omitted them here and have included from Ashkelon only one mortarium that has micaceous inclusions (no. 495), which Daniel Master (2001) analyzed and placed in his Category 14.<sup>18</sup>

<sup>15</sup> Fantalkin (2001:137–41; forthcoming b) sees the presence of East Greek material at any site as an indication of the presence of Greek mercenaries.

<sup>16</sup> Arguments against the interpretation of Meşad Ḥashavyahu as a Greek military settlement include the lack of evidence for Greek material culture except pottery; the comparability of the East Greek pottery assemblage with those of other sites where there is no evidence for mercenaries; the lack of remains of military equipment such as weapons or armor; and the Hebrew ostraca which formed the only evidence for inscriptions at the site (Naveh 1960; 1962b). Not a single Greek graffito was identified.

<sup>17</sup> Alexander Fantalkin did a complete restudy of the material from Meşad Ḥashavyahu in his M.A. thesis for Tel Aviv University and in the subsequent publication (2001), where he estimated the number of vessels in each category through a count of preserved rims (Fantalkin 2001:99). He very kindly supplied the quantitative data from his master’s thesis concerning the numbers of sherds in each category. The local pottery was studied in a Hebrew dissertation by I. Eshel (1986) and is also included in Fantalkin’s study (2001:53–74).

<sup>18</sup> The numerous other mortaria from Ashkelon have different properties and are not classified with the Greek material (Master 2001:142).

Table 10.4. Comparison of Greek Pottery Forms from Meşad ̄Hashavyahu and Ashkelon

<i>Form</i>	<i>Meşad ̄Hashavyahu</i>		<i>Ashkelon</i> sherds
	est. vessels	sherds	
Corinthian	1	1	17
“Al Mina Ware”	0	0	1
Bird and rosette bowls	3?	3?	15
East Greek bowls/cups	2	2	5
“Ionian” cups	42	180	845
Kantharoi	0	0	4
Stemmed dishes	0	0	28
Oinochoai and jugs	48	525	239
Flat-based jugs	0	0	17
Lamps	4	4	0
Kraters	9	18	4
Cooking pots	33	51	185
Mortarium	0	0	1
Transport amphorai	30	53	187
Hydriai	0	0	22
TOTAL:	172	837	1,570

Table 10.5: Imported Greek Pottery from Meşad ̄Hashavyahu and Ashkelon Arranged by Function

<i>Function</i>	<i>Meşad ̄Hashavyahu</i>		<i>Ashkelon</i> sherds
	est. vessels	sherds	
Eating/drinking	47	185	898
Cosmetic	1	1	11
Table storage	48	525	266
Cooking/food prep.	33	69	186
Transport/storage	30	53	209
Lamp	4	4	0
TOTAL:	172	837	1,570

Similarly, Fantalkin includes an estimated six basket-handled amphorai among his East Greek amphorai, based on Stern’s suggestion that they originated in Rhodes (Fantalkin 2001:96; see Stern 1982: 110–11). But since basket-handled amphorai are not characteristic of Greece, and since some early seventh-century examples from Tell Keisan that were tested by neutron activation and petrographic analysis were found to originate in Cyprus, I have not included them here either (Gunnweg and Perlman 1991:594–97; Humbert 1993:866–67; and see Hum-

bert 1991 for typological comparisons between Tell Keisan and Cypriot basket-handled amphorai).<sup>19</sup>

For Meşad ̄Hashavyahu, I have included both the sherd count and the estimated number of vessels in each category provided by Fantalkin.<sup>20</sup> Unfortunately, I did not attempt a similar estimation for Ashkelon based on preserved percentages of rims, though in some cases it is possible to estimate the number of vessels by other means.<sup>21</sup> In addition to the forms listed above, Fantalkin includes in his quantitative tables some 1,079 miscellaneous imported Greek body sherds whose forms could not be identified and that have been left out of this count.<sup>22</sup>

The only form found at Meşad ̄Hashavyahu and not found at Ashkelon is the lamp. However, several forms not identified at Meşad ̄Hashavyahu were found at Ashkelon, such as the hydria, micaceous mortarium, stemmed or footed dish, kantharos, and flat-based jug.

The arrangement of sherds by function in table 10.5 suggests some interesting distinctions in import patterns between the two sites. By sherd count, forms for eating and drinking (including cups, bowls, kantharoi, and stemmed dishes) are much more common at Ashkelon than at Meşad ̄Hashavyahu, whereas table storage vessels (including oinochoai, olpai, jugs, and flat-based jugs) are more prevalent at Meşad ̄Hashavyahu, especially allowing for the many

<sup>19</sup> Barako (2008:441, no. 11), discusses one example of the late seventh-century biconical type of basket-handled amphora from Ashkelon. Basket-handled amphorai from Ashkelon are discussed in more detail in chapter 8 of the present volume, which deals with the Cypriot pottery found in Ashkelon. Although the type is not initially Greek, both mortaria and basket-handled amphorai are frequently found together with East Greek pottery and are widely distributed at the same sites throughout the Mediterranean. See Villing 2006 and discussion below.

<sup>20</sup> If one removes basket-handled amphorai and flat-based mortaria from the figures for East Greek wares at Meşad ̄Hashavyahu (see below), the Greek imports comprise some 40 percent of the pottery found at the site.

<sup>21</sup> The 17 Corinthian sherds, four kantharos rims, three krater rims, one “Al Mina Ware” rim, five flat-based jug bases, and single mortarium sherd, for example, clearly belong to different individual vessels, and there are many other such examples as well.

<sup>22</sup> On my own inspection of the Meşad ̄Hashavyahu Greek material at the Israel Antiquities Authority storerooms at Romema in 1989, I had the impression that most of the miscellaneous Greek body sherds belonged to closed vessels, most likely oinochoai of some type, rather than amphorai. My rough count of the sherds yielded a total of nearly 2,000 sherds, which is very close to Fantalkin’s final figure of 834 identified and 1,079 unidentified Greek sherds.

unidentified body sherds that probably belong to these kinds of vessels.<sup>23</sup> There are more cooking and food preparation sherds (including cooking pots, mortarium, and kraters) and transport/storage sherds (including amphorai and hydriai) at Ashkelon than at Meşad Ḥashavyahu, though it was more difficult to estimate the numbers of vessels. Cosmetic vessels (aryballoi, alabastra) and lamps (found only at Meşad Ḥashavyahu) are very minor components of the repertoire at both sites.

Much smaller quantities of similar Greek pottery have turned up in related destruction debris attributed to the Babylonian invasions at several other sites in Israel. These include the nearby sites of Tel Miqne-Ekron, Tel Batash-Timnah, and Yavneh-Yam, as well as the more northerly site of Tel Kabri. Meşad Ḥashavyahu also came to an end around the same time, but without evidence of violent destruction.<sup>24</sup> The evidence for the exact dating of the destruction or abandonment of these sites is somewhat more tenuous than that for Ashkelon, but clearly belongs to the same series of events in the last few years of the seventh century, or, in the case of Kabri, possibly the first few years of the sixth century B.C.<sup>25</sup> While the quantities of Greek pottery at these sites were far smaller than at Ashkelon and Meşad Ḥashavyahu, the assemblages contained no surprises: several “Ionian” cups and a “Wild Goat” oinochoe sherd at Ekron (Waldbaum and Magness 1997:27–28; Waldbaum 2007); a Samian amphora, two “Ionian” cups, one or more cooking pots, an oinochoe handle and a Corinthian alabastron sherd at Timnah (Magness 2001); two “Ionian” cups, an East Greek “wave line” krater, and “at least four” cooking pots at Yavneh-Yam (Fischer 2002:50–51, fig. 3; Fantalkin 2001:133; forthcoming a); and from Kabri, a few East Greek bird bowls, “Ionian” cups, “Wild Goat” oinochoai, transport amphorai, and cooking pot fragments, as well as one small sherd of Etruscan bucchero ware (Niemeier and Niemeier 2002). The homogeneity of forms, both within individual sites and among different sites, and the synchronisms among the several different forms and wares, make it possible to date

them with confidence and to confirm, for the most part, the traditional chronology for this material previously arrived at by other means. All of it was extant, and being traded, in the last decade of the seventh century, though there is no way of knowing how much earlier it first appeared or how much later it died out.

#### *Use of Imported Greek Pottery in the Southern Levant*

Why was so much Greek pottery imported to Ashkelon and who were its intended users? Was the pottery imported for local purchasers to satisfy their taste for the exotic? Was it meant to appeal to Greeks living at Ashkelon in the late seventh century? Or was it part of the baggage of resident mercenaries?

The distribution of pottery by function at Ashkelon (table 10.5) suggests a focus on decorative eating, drinking, and table ware, as well as a significant number of food preparation, transport, and storage vessels. Although this is not a full repertoire of contemporary East Greek forms, it may imply either the presence of Greeks themselves or some local adoption of Greek eating and cooking customs, together with a taste for imported Greek wines or oils, which is suggested by the presence of transport amphorai that originally held these commodities.

The reasons for the presence in seventh-century Ashkelon of imported Greek cooking pots, in particular, have been hotly debated and warrant more detailed discussion here. Some scholars have suggested that the presence of imported pottery in general, and of imported domestic wares such as cooking pots in particular, implies the presence of people from the places where they were manufactured. This idea is based on the assumption that local people would prefer to use their own domestic wares and not import them, and conversely, that resident “aliens” would also prefer to use the pottery with which they were already familiar, even in a foreign setting.<sup>26</sup> However, Villing (2006), in her discussion of “Cypro-Phoenician” mortaria from Naukratis, shows convincingly

<sup>23</sup> See above, n. 22. As noted above in table 10.4, however, there are no flat-based jugs at Meşad Ḥashavyahu.

<sup>24</sup> Fantalkin (2001:49; forthcoming b) posits that “the Greek garrison stationed at Meşad Ḥashavyahu simply abandoned the fortress in face of the approaching Babylonian army, most probably in order to join the garrison at Ashkelon.”

<sup>25</sup> See Waldbaum and Magness 1997 for general discussion; Gitin 1998a:276, n. 2, for a revised date for the destruction of Ekron; Magness 2001 for Timnah; Niemeier 2001:24 and Niemeier and Niemeier 2002:242 for Kabri.

<sup>26</sup> Later inscriptional evidence from Ashkelon and elsewhere shows that this was not always the case and that, at least occasionally, some locals did acquire and use imported pottery. For example, several pieces of imported Attic pottery—mostly cups—from the Persian period at Ashkelon bear Phoenician graffiti with their owners’ Phoenician personal names (Cross 2008:357–61, nos. 2.15–2.24); this is not a phenomenon exclusive to Ashkelon (see, e.g., Waldbaum 2003:314–15, fig. 19.13, for a Phoenician inscription on an Attic sherd from Mikhmoret; p. 310 for Greek coarse and fine wares found in Phoenician-style tombs at Mikhmoret).

that these particular types of coarse domestic wares were traded long distances and adopted as a foreign but useful form by Greeks, as well as by others, over a geographic area stretching from Spain to the Greek colonies on the Black Sea.

Most of the cooking pot fragments found at Ashkelon belong to one-handled jugs, or *chytrai*, of a distinctive, highly micaceous fabric.<sup>27</sup> In his recent petrographic study, Daniel Master assigns this fabric to his Category 15 and characterizes it as follows: “Category 15 is dominated by the intentional inclusion of sand sized fragments of a quartz-mica schist. . . . The angularity and freshness of the mica schist inclusions suggest that it was added as a temper after having been specifically collected from larger formations . . . the mica schist which dominates this sample comes from a very well-defined metamorphic belt. This Median Crystalline Belt begins in the southern part of Euboea, extends out past Aegina, Naxos, Mykonos, and Samos, and into the Anatolian interior around Miletos” (Master 2001:143–44).

Unfortunately, even though the Ashkelon cooking pot samples exhibit great homogeneity, it was not possible to pinpoint a more precise provenance by petrographic methods. Recent excavations at Kalabaktepe near Miletos, however, have turned up quantities of micaceous cooking ware in a stratified sequence dating from the seventh into the sixth centuries—some of it in kilns (for kilns on Kalabaktepe, see Senff 1995:210–11, fig. 13; 2007:321, with references). Scientific analyses of the clays also conform to those from Miletos (Aydemir 2005:88–89).<sup>28</sup> This makes it most likely that these cooking pots, like so much of the archaic Greek pottery at Ashkelon, were imported from Miletos.

Many of the cooking pot sherds exhibit traces of charring and burning on the exterior surface, perhaps from having been placed over a cooking fire during use, but possibly acquired during the firing process.<sup>29</sup>

<sup>27</sup> Details of fabric, shape, parallels, etc., are discussed below in the section of the catalogue on cooking pots.

<sup>28</sup> Aydemir’s forthcoming dissertation at Ruhr-Universität-Bochum is on the Archaic kitchen wares from Miletos, where a stratified assemblage of pots, stands, hearths, ovens, pithoi, and other equipment within domestic contexts at Kalabaktepe testifies to local usage and probable production, which is confirmed also by scientific analyses of the clays. Aydemir (2002; 2005) provides preliminary information on the assemblage of kitchen wares from Miletos.

<sup>29</sup> Native American micaceous cooking pots from the American Southwest are often fired in wood fires in open pits and often exhibit charring or smudging on the outer surface of the pots, a feature which is prized among contemporary collectors (see Anderson 1999:2 [plate], 5–6, 14 [plate], 23–24 [plates], 61 [plate]).

If the charring occurred during use, then these pots had likely been used at the site, not held as items for further distribution. If the charring was a product of the manufacturing process, then it is irrelevant to the discussion.

If these cooking pots were used by Greeks, were they there as settlers, as merchants, or as mercenaries? Since most of the cooking pot fragments found in context came from the marketplace area in Grid 50 (see table 10.1), it is likely they were used by merchants, though their ethnicity cannot be determined. Examples from the pre-604 fills were, of course, out of context and cannot be attributed to any specific group of users. A lack of virtually all forms of Greek material culture of the seventh century in the southern Levant other than pottery—no architecture, no graves, no small objects—precludes the possibility of significant Greek settlement (Waldbaum 1997). A single Greek ownership inscription bearing an unusual personal name—*ATATO EMI* (“I belong to Atatos”; Cross 2008:367, no. 3.3)—scratched on the surface of a coarse storage jar, was found in the quarry fill in Grid 50, attesting to at least one Greek resident. Fantalkin (forthcoming b, n. 32) takes this as evidence of mercenary presence.<sup>30</sup> It is possible that a small group of Greek merchants was present to oversee the eastern end of their trade, but would that account for the almost 200 pieces of cooking pots found?<sup>31</sup>

Far smaller numbers of Greek cooking pots were found at Tel Batash–Timnah (Magness 2001:143), Meşad Ḥashavyahu (Fantalkin 2001:102), Yavneh-Yam (Fantalkin 2001:133; forthcoming a; Fisher 2002:50, 51, fig. 3c), and Tel Kabri (Niemeier 1994: \*33, fig. 19:10; Niemeier and Niemeier 2002:238, 241, figs. 5.95:10–15; 5.93:13). Master has shown that the cooking pots from Tel Batash–Timnah and Meşad Ḥashavyahu are petrographically identical to those from Ashkelon (Master 2001:167), suggesting that they were all specialized products manufactured in the same place. The presence of cooking pots at Meşad Ḥashavyahu and Kabri has led the excavators to propose that these sites were occupied by Greek mercenaries and that the cooking pots and other Greek pottery formed part of the soldiers’ kits

<sup>30</sup> Cross (2008:367) reports the context of the sherd as “604 destruction level,” but the layer in which it was found (Grid 50 Square 57 Layer 240) is part of the quarry fill (Master, pers. comm. 2009). The sherd itself has not been studied and the sort of jar it came from—whether local or imported—is not known.

<sup>31</sup> As pointed out above, it is difficult to estimate the number of vessels these fragments represent. Forty-two rim sherds have been identified.

(Naveh 1962a:92–93, 95–96; Fantalkin 2001:139–47; forthcoming b;*passim*; Niemeier 1994:\*33; 2001:22–23).<sup>32</sup> Fantalkin (forthcoming b, ms. p. 16) argues that while “this breakable commodity was of no value to moving troops . . . once stationed as garrisons [as at Meşad Ḥashavyahu], these soldiers obviously used the familiar wares alongside the local ones.” And further, “[t]he East Greek assemblage discovered at Ashkelon . . . [is] an indication of the presence of the East Greek garrison, on behalf of the Egyptians, located in the city. . .” Fantalkin regards mercenary demand and usage as the *only* explanation for the presence of East Greek pottery. But is this, in fact, the case?

Context provides some clues. As noted above, most of the imported Greek pottery from Ashkelon comes from the commercial marketplace area in Grid 50, where it might have been held for resale, either within the site or elsewhere; and some—mostly “Ionian” cups, but also some amphorai—also came from the industrial winery in Grid 38.<sup>33</sup> Most of the imports found at Timnah came from domestic contexts in Area F, Buildings 608 and 607, including the cooking pots, “Ionian” cups,” and Samian amphora (Magness 2001). They were found along with more numerous examples of local cooking pots, bowls, and storage jars (Mazar and Panitz-Cohen 2001:pls. 64–68 [Building 608], 71–73 [Building 607]), suggesting that the imports had been brought to the site for individual use by some of the local inhabitants, perhaps as curiosities. They complemented, but did not replace, local pottery serving similar functions. Although no Greek cooking pots have yet been found at Ekron, the Greek pottery from that site—mostly “Ionian” cups and a “Wild Goat” oinochoe sherd—were also found in elite domestic contexts (Waldbaum 2007; and see Gitin 1989b:40; 1996:227; 1997:92). The few Greek finds from the harbor town of Yavneh-Yam were found in Stratum IX of Area A, some of them in destruction debris associated with a

monumental building and attributed to Nebuchadrezzar’s invasion (Fantalkin 2001:132–33 and forthcoming a).<sup>34</sup>

I have elsewhere suggested that this cooking ware might have been imported for its special properties, that “[a]ncient pottery that developed a reputation for having desirable properties or imparting a special flavor to the food might . . . have been in demand among the cognoscenti” (Waldbaum 1997:13–14 n. 16). This suggestion is disputed by Niemeier, who says “[t]here is, however, no evidence for a special reputation of the Greek kitchen in the Levant” (2001:16).<sup>35</sup> Master observes, however, that “[w]hile it is difficult to analyze the specific thermal properties of the seventh-century cooking pots without an extensive study of these particular schists . . . these Greek cooking pots were far superior to cooking pots made from the sands of the Levantine coast” in their probable resistance to thermal shock and in resistance to crack-propagation and thermal failure, and he refers to them as items of mass production and distribution, even within Greece (Master 2001:168).

In his discussion of the long tradition of micaceous pottery in the American Southwest, Duane Anderson (1999:5) notes “micaceous pottery is very strong and durable, and it is a superior ware for cooking.” Produced in several Native American cultures since ca. A.D. 1300, it has recently begun to be collected as an art form, valued in particular for its smooth, glittery surfaces, though it is still used for cooking. “Even today you can visit the homes of Taos, Picuris, and Jicarilla Apache families and find a pot of beans simmering on the wood or gas stove in a micaceous pot (‘The beans taste better!’ says Felipe Ortega)” (Anderson 1999:22). In a recent visit to New Mexico, the author conducted informal discussions with some local potters at Taos Pueblo. These artisans noted that mica occurs naturally in several local clay beds and that these beds are sought out and prized for the qualities mica adds to the pottery, particularly cooking ware: they affirmed that it adds strength to the clay, making it more heat-resistant and less breakable

<sup>32</sup> Kearsley has proposed that Al Mina was founded in the mid-eighth century B.C. by mercenaries and only later became a port of trade (Kearsley 1999:117–19, 127–31). In the same volume, Boardman adheres to trade as the motivation for the foundation of Al Mina (1999b:154–55). Luke (2003:30), however, concludes that “[t]he available evidence for the early years does not show that Greeks resided at Al Mina, either as traders or mercenaries. The only evidence of Greek interest in the port is the finewares, and that is an item of trade, being passed through the port to the hinterland beyond.”

<sup>33</sup> It is unfortunate that there are no seventh-century excavated residential or funerary areas to help determine how, and by whom, this pottery was used at the site.

<sup>34</sup> Fantalkin (forthcoming b) suggests that the Greek mercenary garrison at Meşad Ḥashavyahu was established to protect the harbor of Yavneh-Yam about a kilometer away. I am grateful to A. Fantalkin for allowing me to read his manuscript on the Yavneh-Yam finds. The original function of the “monumental building” of Stratum IX is not specified.

<sup>35</sup> Contrast, however, A. Berlin, whose study of late Hellenistic and early Roman pottery at Tel Anafa demonstrates the use of locally made cooking wares in shapes adapted for preparing certain types of dishes more at home in Greece or Rome (Berlin 1993:42–43; 1999:52–55, 62).

and enabling the potters to make the pot walls quite thin and lightweight. As they explained, micaceous clay also distributes heat more evenly in cooking and it seasons with use, rather like cast iron cookware today, making the food it contains taste better. You can put micaceous pottery directly on a fire or in an oven for cooking and it will not break. The pots are even valued for the smudge marks that come from uneven firing in an open pit and from use. One woman said, in fact, that if a family cooking pot breaks, it is considered a family tragedy. There is no reason to think that the Milesian Greeks, who (we now know) produced the ubiquitous micaceous East Greek cooking pots, and their customers, did not recognize and value these same properties.<sup>36</sup>

Although it is possible, and even likely, that garrisons including some Greeks were established at such sites as Meşad Hşavyahu and Tel Kabri (Niemeier 2001:16; Niemeier and Niemeier 2002:242),<sup>37</sup> the larger and more cosmopolitan nature of Ashkelon, its established position as a commercial seaport, and the richness and variety of the imported pottery, which came not only from East Greece but also from Phoenicia, North Syria, and Cyprus (Master 2003:55, 52, fig. 3),<sup>38</sup> make a Greek mercenary settlement less likely as the main reason for the import of Greek pottery (and other commodities) to Ashkelon.

It is possible, of course, that the Egyptians, who controlled Philistia from the 620s to 604 B.C., did locate a small garrison of mercenaries there, but there is no direct evidence either for or against such an establishment. The only documentary evidence for a Greek mercenary at Ashkelon is one Antimenidas, the brother of the early archaic poet Alcaeus. Antimenidas was present at the sack of Ashkelon in 604 as a soldier in the *Babylonian* army, not as a resident of the city or as an employee of Egypt (Stager 1996a: 61\*<sup>39</sup>).

<sup>36</sup> Note also the statement by Villing (2006:40) in her discussion of coarse-ware mortaria: "Potters and their customers seem to have been quite aware of the properties of certain clays to make pots good for certain functions, particularly if it was a matter of heavy-duty daily use; this seems suggested in particular for cooking pots . . ."

<sup>37</sup> Curiously, no Greek cooking pots were identified at Migdol, a site in the northwestern Sinai identified as a fortress housing Greek mercenaries and producing abundant Greek pottery of the late seventh and sixth centuries B.C. (Oren 1984).

<sup>38</sup> It is interesting to note in this regard, that imported North Syrian cooking pots are also found in seventh-century Ashkelon (Master 2003:55). Does this mean they were requested or used *only* by North Syrian mercenaries?

<sup>39</sup> Fantalkin (forthcoming b) now questions the presence of Antimenidas at Ashkelon.

The probability that the cooking pots were manufactured in one locale, combined with the fact that they are often found together with imports made in other centers, suggests that the cooking pots, like the other imported Greek pottery, were intended for the export trade and that all the exotic Greek pottery, from divergent manufacturing centers, traveled together in heterogeneous shipments (also including some forms of Phoenician, North Syrian, and Cypriot wares—see below). Moreover, at least some of this pottery was no doubt desired more for its contents than for the shapes alone; for example, the occasional Corinthian perfume flasks and the large transport amphorai containing exotic wines and oils from such regions as Samos, Miletos, and Chios. But was this trade directed in particular at the southern Levant, and especially at homesick Greek mercenaries? Or was it part of a larger picture?

#### *Seventh-Century East Greek Pottery in the Larger Mediterranean World*

If we expand our field of vision beyond the southern Levant, we see that the distribution of certain types of late seventh-century East Greek pottery at Ashkelon and other sites in the southern and northern Levant was part of a much larger phenomenon stretching across most of the Mediterranean basin and around the Black Sea. The presence of such pottery at Black Sea sites such as Histria/Istros in modern Romania, Berezan (Ukraine), and Apollonia (Thrace) is well known and is explained by the fact that these were Greek colonies founded by Milesians, apparently during the late seventh century (Tsetskhladze 1994: 117–18, 124; 1998:19–22, 35; 2002:81).<sup>40</sup> Clashes with an expanding Lydian kingdom in western Anatolia and the ensuing pressure on Milesian home territory have been cited as a possible reason for Milesian colonization efforts in precisely this period (see, e.g., Tsetskhladze 1994:124–26; 1998:20; 2006b:xxx, with references).<sup>41</sup>

<sup>40</sup> Tsetskhladze mentions other possible foundations from that period as well; see also Solovyov 1999:3–4; 2007: 532. Solovyov places the first permanent Greek settlement at Berezan in "the last decade of the 7th century B.C." Cf. Posamentir 2006:163.

<sup>41</sup> Alyattes' destruction of the Temple of Athena Assesia at Assesos near Miletos is now put at 608 B.C. (Kalaitzoglou 2008:63) and Alyattes' conquest of Old Smyrna at ca. 600 (Cook 1985). Fantalkin 2006:203 attributes the expansion of East Greek activity, including colonization in the Black Sea and the foundation of Naukratis, to cooperation with Lydian imperialist ambitions rather than confrontation with them. Tsetskhladze 2006b provides a recent critical discus-

Although Miletos was the founding city, the assemblage of imported pottery at these Black Sea sites includes wares from both South and North Ionian production centers.<sup>42</sup> Little or no imported Greek cookware was found at Berezan, where Solovyov suggests “that locally produced pottery fully satisfied the inhabitants’ cooking and food preparation needs, regardless of their ethnic roots” (Solovyov 1999: 52).<sup>43</sup> A few one-handled *chytrai* are published from Histria, but Alexandrescu dates them to the late sixth or early fifth century B.C., though he compares them to late seventh-century types from Tocra (Alexandrescu 1978:124, pl. 71 nos. 816–21).

The late seventh century also saw Greek trading and settlement activity in the central and western Mediterranean and along the North African coast at Naukratis in the Egyptian Delta and at Tocra and Cyrene farther to the west.<sup>44</sup> Naukratis was the most important of these settlements. Like the colonies around the Black Sea, it was founded in the late seventh century (Boardman 1999a:121; Möller 2000: 188; Villing and Schlotzhauer 2006b:5).<sup>45</sup> But it was established as a trading post or *emporion* by a consortium of East Greek cities rather than by a single one. Its foundation, sanctioned by the pharaoh Psamtik I (665–610), established it as the only “official” Greek port in Egypt, and probably represented a revived Egyptian interest in international trade under the Saite dynasty (Redford 1992:434–35). As far as I know, no *chytrai* have been published from Naukratis, though a number of “Cypro-Phoenician” flat-based mortaria, or grinding bowls, some with signs of abrasion from use, had been dedicated in the temenos of Apollo and bore dedicatory inscriptions in Greek (Villing 2006).

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sion of the significance, terminology, and mechanisms of “Greek colonization.”

<sup>42</sup> See, e.g., Posamentir 2006:160–62 for Berezan, mostly SiA Ic–d/MWG II oinochoai and dishes and NiA Bird Bowls. For pottery from Histria, see Lambrino 1938; Alexandrescu 1978; 2005; Dupont 2005 for amphorai.

<sup>43</sup> It is possible also that earlier excavators simply did not collect or record coarse wares, as is too often the case (see Posamentir 2006:159).

<sup>44</sup> For a general overview of Greek settlement in the central and western Mediterranean, see Boardman 1999a:153–224; Tsatskheladze 2006b:lxii–lxvi. See also Tsatskheladze 2002: 87–90 for interesting observations on the nature of these settlements and relationships with local populations.

<sup>45</sup> Note, however, that Sullivan (1996:190) proposes that Naukratis was first settled by mercenaries serving in the early part of Psamtik’s reign (ca. 650 B.C.) and gradually developed into an *emporion*, or commercial port, toward the end of the seventh century.

The distribution of “Cypro-Phoenician” flat-based mortaria presents an interesting example of a non-Greek form of domestic ware being adopted by Greeks in a Greek setting. Outside of Naukratis, Villing (2006:37) notes the presence of this kind of mortarium at other Egyptian sites, including Migdol and Tell Defenneh, where Greek mercenaries were stationed, and where the pottery included both Greek and Phoenician imports in addition to the mortaria. Significantly, too, the “Cypro-Phoenician” type of mortarium has now been found at several sites in East Greece, most significantly in Miletos, where according to Villing they appear in quantity in seventh- and sixth-century contexts and “show obvious traces of abrasion and were clearly much used in the Archaic Milesian kitchen, outnumbering even cooking pots” (2006:38). No doubt owing to Milesian action, they also appear at the Greek Black Sea colonies of Histria and Berezan. They turn up also at Tocra, and at several Greek sites in the central and western Mediterranean as far west as Spain, but curiously, only rarely on mainland Greece (Villing 2006:38). And significantly, they are frequently associated with both East Greek pottery and other forms of Phoenician pottery such as basket-handled amphorai and torpedo jars (all of which are found at Ashkelon).

But the Greeks were not the only ones plying the seas of the central and western Mediterranean. During the eighth and seventh centuries, the Phoenicians also established settlements in the central Mediterranean (e.g., at Carthage) and the western Mediterranean (e.g., at Toscanos). In some places, such as Sicily and southern Iberia, they occupied neighboring land to the Greeks (for a summary of Phoenician or Punic settlements in the Mediterranean, see Niemeyer 1990:471–78; 1993:335–38; 2006:146–63; Aubet 1993:135–39).<sup>46</sup>

Maria Aubet (2007:448–50) examines western Phoenician settlements, such as Huelva in southern Iberia, where in the late seventh century B.C. the repertoire of imported Greek pottery, including Samian and Chian amphorai, hydriai, North Ionian bird bowls, and “Ionian” cups, is remarkably similar to that at Ashkelon and where the Greek imports were found “in merchandise depots or warehouses in the harbor area,” analogous to the Grid 50 commercial

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<sup>46</sup> Niemeyer (1990:483–87; 2006:148, 156–57) and Sommer (2007:98) stress the differences between typically Greek “colonies” or *apoikia*, where the settlers were interested primarily in land acquisition and agricultural expansion, and Phoenician settlements, where the founders were primarily interested in trade, markets, and access to raw materials, though these need not be rigid distinctions.

center at Ashkelon. Other Phoenician sites, such as Cerro de Villar in southern Iberia, Malaka, and the port area of Toscanos, show similar patterns of imported Greek pottery in local, possibly commercial settings, and often include examples of Etruscan bucchero ware among the Greek pottery as well (Aubet 2007:450–53, figs. 4c, 6–9). East Greek pottery of the late seventh century, together with smaller amounts of Etruscan pottery, have also been found at Punic sites in the central Mediterranean, such as Carthage in North Africa and on Sicily and Sardinia (Aubet 2007:453), as well as at the North African Greek sites of Tocra and Naukratis (Naso 2006:187–89).

In the eastern Mediterranean, an Etruscan oinochoe sherd was found at Tel Kabri (Niemeier and Niemeier 2002:238, 241–42, no. 42, figs. 5.93:14, 5.95:16), together with the East Greek pottery, and Etruscan kantharos fragments were found in Tomb 25 at Ras el-Bassit in North Syria, together with late seventh-century B.C. Greek pottery, including “Ionian” cups, an East Greek kantharos similar to the ones from Ashkelon, and a Samian amphora (Courbin 1993:31–32, 68, fig. 17.8, pl. 19.3). Aubet notes that Etruscan bucchero pottery is also found among the local pottery at the East Greek cities of Miletos, Samos, and Ephesos (to which should now be added an Etruscan bucchero kantharos sherd and an East Greek imitation of one from Assesos—Kalaitzoglou 2008:115, 369, pl. 25:183, 184), and she suggests that this “seems to reflect a clear integration of Etruscan commercial interests in the international exchange networks of the period, dominated by the Ionian cities” (Aubet 2007:448).<sup>47</sup>

For the late seventh century, Aubet postulates “an international trade network of huge scope that impinged in a special way on all of the Phoenician cities, from Tyre to Gades, Tharos, Ibiza, and Carthage” (2007:458) and that included not only Phoenicians but cities of East Greece and southern Etruria as well.<sup>48</sup> Since Chios, Samos, and Miletos provide the most commonly exported East Greek wares found at many sites, it would appear that Ashkelon and other sites of the southern Levant were part of a wide-

<sup>47</sup> No Etruscan sherds have yet been identified at Ashkelon or other cities in Philistia where East Greek pottery has been found, but this could be due as much to lack of recognition as to absence from the scene.

<sup>48</sup> For a somewhat different view, see Domínguez 2006: 436–42. Domínguez views the same evidence of Greek pottery from Huelva and other Iberian sites as signifying “the activity of merchants coming mostly from Ionia . . . who were attracted to the Tartessian *emporion*, and thus used pre-existing ports which were mostly in Phoenician hands.”

spread network within which wares from these cities were traded and no doubt within which other materials and commodities were also exchanged.<sup>49</sup> And since the assemblage of East Greek pottery types found in the southern Levant so closely resembles those from other regions and sites, such as Tocra in Cyrenaica (Hayes 1966; 1973) or Histria in the Black Sea region (Alexandrescu 1978), or Huelva in southern Iberia, it seems likely, therefore, that these East Greek vessels of disparate origins found at so many sites in the Mediterranean, including Ashkelon, were shipped together as part of a trade assemblage of which component types were distributed in varying proportions and amounts, depending on the tastes and needs of local markets. They were not individually shipped from their region or city of origin, or carried by homesick wandering individuals such as mercenary soldiers. Some types, such as amphorai or Corinthian perfume flasks, were probably valued most for their contents, whereas others, such as nicely decorated table ware or micaceous cooking pots, were desired for their appearance or function.

#### *Trade Between Greece and the Levant*

What is not clear is who conducted the trade between Greece and the Levant. Was it Greeks, Phoenicians, or both (or neither)? As shown by Villing (2006) in her discussion of the distribution of “Cypro-Phoenician” mortaria, in many of places, including Ashkelon, Greek wares were accompanied by abundant examples of Phoenician, Syrian, and Cypriot pottery. This suggests that to understand fully the significance of importations in a given place or region, we must look at the totality of what traveled together, not solely at East Greek imports, or any other kind of import. But whether it was Phoenician or Greek merchants who ultimately controlled the Levantine trade remains to be seen.<sup>50</sup>

<sup>49</sup> In assessing the role of pottery in this exchange, one needs to be cautious not to fall into the “positivist fallacy” outlined by Snodgrass (1980:126–28), whereby painted pottery, by its sheer abundance and conspicuousness in the archaeological record, appears to play a greater role in overseas trade than in fact it did. On this see also Gill 1988; 1991; 1994; Osborne 1996; and Salmon 2000 who argue in different ways that despite its relative unimportance economically, movement of painted pottery can be used as an indicator of trade in more valuable, but less “visible” commodities such as grain, wine, oil, metals, timber, textiles and slaves.

<sup>50</sup> Lehmann (1998:32) favors the hypothesis of Phoenician control, at least for trade with Syria. Papadopoulos (1997: 194) critiques the literature which overemphasizes the role of Greeks at the expense of Phoenicians and other eastern-

As noted by Gill (1994:104), the excavation of shipwrecks carrying pottery made in several different centers shows “that pots produced in one area could be carried by ships from another area.”<sup>51</sup> Long et al. (1992:202–25) published one such wreck of the late sixth century B.C. that carried Attic, Lakonian, and East Greek wares from Miletos, Samos, Klazomenai, Chios, Thasos, and Lesbos, as well as several Corinthian amphorai. The wreck carried a minimum of 68 East Greek and Corinthian amphorai, over 1,200 Ionian cups, several hundred Attic cups, and 20 lamps, as well as small amounts of other pottery shapes. It may have carried as many as 90 amphorai, 1,600 Ionian cups, 800 Attic cups, 100 lamps, and a number of other vessels (Long et al. 1992:205). Closer in time are the late seventh-century wreck at Kekova Adası, Turkey, where a number of Samian or Milesian amphorai traveled with over 100 basket-handled amphorai (Greene 2008), and the sixth-century wreck at Pabuç Burnu, off the southern coast of Turkey, which carried between 200 and 300 East Greek trade amphorai and a modest amount of plain wares including both micaceous and nonmicaceous mortaria (Greene et al. 2008:688, 696–97). These figures are somewhat sobering in comparison with the total number of Greek fragments (not vessels) from sites like Ashkelon, or the estimated number of vessels from Meşad Hāshavyahu, sites that are considered to have “a lot” of imports. Given the quantities of comparable types of pottery from shipwrecks, and given the chronological and typological homogeneity of the assemblages found at the land sites, it is not outside the realm of possibility that all of the late seventh-century East Greek and Early Corinthian pottery found in the southern Levant formed part of the cargo of a single ship that stopped at one or more ports along its route to deliver selections of its wares, of which foreign decorated pottery and amphorai of exotic wines and oils or flasks of perfumed oils were desirable but minor components.

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ers in Mediterranean trade. Morris and Papadopoulos (1998:254–56) suggest that Phoenicians played a role in the distribution of Corinthian pottery. See also Docter 2000: 84–85.

<sup>51</sup> See also Villing and Schlotzhauer 2006b:7 for possible variances between traders and what they traded. Just what constitutes the “nationality” of a merchant ship of this period of antiquity is a vexed question: are we talking about the owner, the captain, the merchant(s) who loaded the goods, or the one(s) who received them? Or about the origin(s) of the trade goods themselves, which are often mixed, as we have seen?

### *The Position of Ashkelon in East–West Trade*

Although scholars have long been occupied with contacts between the Aegean and North Syria at such sites as Al Mina, Tall Sūkās, and Ras el-Bassit, until recently the southern Levant was not regarded as an important area of contact with the Aegean (e.g., Boardman 1999a:38). Ashkelon is, so far, the first major coastal site between Egypt and Phoenicia to yield evidence for a thriving east–west trade in the late Iron Age.

Of the other known large-scale coastal entrepôts—Akko, Dor, and Jaffa—finds from Akko<sup>52</sup> and Jaffa<sup>53</sup> have yet to be completely published, and there is little evidence for Aegean contacts with Dor in the seventh century B.C. (Stewart and Martin 2005:81; Mook and Coulson 1995:99; Stern 1994:145),<sup>54</sup> though its western contacts flourished in the Persian period (Stewart and Martin 2005; Stern 1994:183–87).

No seventh-century Greek imports are yet published from Ashdod, a nearby Philistine coastal city, though it was supposedly destroyed in the same series of Babylonian campaigns in which Ashkelon and Ekron were vanquished (Dothan and Porath 1982:33–41 [Stratum 7]; 57 [destruction]; Dothan and Freedman 1967:11). According to Herodotus (II.157), Pharaoh Psamtik I besieged Ashdod for 29 years, and this siege is thought to have taken place between about 639 and 610 B.C. (Malamat 1950:218; 1953:29; but see Na’aman 1991:40). If so, the lengthy siege would have served as an effective deterrent to trade in that city. Some scholars now believe, however, that the site of Ashdod itself was not occupied in the seventh century and that the population had moved to Ashdod-Yam, which is not yet excavated (Fantalkin 2001:133–35 and n. 63).<sup>55</sup>

The port of Gaza, the fourth of the Philistine capitals extant in the seventh century, has only recently begun to be extensively excavated (Shanks 1997; Gitin 1998b:165) and no results have been published.

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<sup>52</sup> Some Greek pottery from Akko has appeared in the literature, but so far most is of the Persian period (Raban 1993; Dothan 1976: 22, 27–29; Dothan 1979). I know of at least one, unpublished, seventh-century bird bowl, however (see Waldbaum 1994: 59, n. 23).

<sup>53</sup> Fantalkin and Tal (2008:246) and Fantalkin (forthcoming b) note an absence of seventh-century B.C. remains at Jaffa.

<sup>54</sup> Gilboa and Sharon (2008:167) point out that Dor was virtually uninhabited following the withdrawal of the Assyrians ca. 630 B.C. and remained so until the beginning of the Persian period.

<sup>55</sup> Fantalkin (pers. comm., November 2007) reports some East Greek pottery from Ashdod; the quantity and contexts are not known to me.

Meşad ̄ashavyahu, Ashkelon's only rival for quantity and variety of Greek finds, is a much smaller and far less important site whose mercantile significance has yet to be demonstrated. Thus far, then, Ashkelon seems to have been the preeminent point of contact for trade with Greece in the late seventh century B.C. in the southern coastal region between the Nile Delta and the more prominent sites to the north, though this perception could change with further research.

*The Catalogue: Criteria for Inclusion; Arrangement*

The following catalogue includes 560 pieces of imported Greek pottery arranged by region of origin (Corinthian and East Greek), and within these larger classifications by shape: open decorated shapes followed by closed decorated shapes followed by open and closed coarse wares. There are individual entries for all decorated sherds and all diagnostics for which we have photographs, drawings, or both. Small decorated sherds for which we had no illustrations, and body sherds, unless they were analyzed or had significant decoration preserved (as for the "Wild Goat" oinochoai), are listed by field registration number after the catalogued items with which they are associated and are included in the overall counts of items discussed above, and in the introductions to each section.

Catalogued objects discussed in the introductory texts are indicated by catalogue number in bold (e.g., no. **123**). Uncatalogued items are indicated by a four-digit number in square brackets, corresponding to the entry in the author's database (e.g., [4321]). A few seventh-century East Greek sherds found by Phythian-Adams and housed in the Rockefeller Museum are included in Appendix A. Appendix B provides a concordance of Greek sherds found in each relevant layer, both catalogued and uncatalogued.

Each major type (or subtype when relevant) is presented in an introduction, in which the distribution of examples on the site and general features of the shape, range of sizes, colors, and decorations are examined. The type and parallels are discussed, paying particular attention to the distribution of similar imported material at other sites in the larger eastern Mediterranean region, as well as to examples found at other sites in the southern Levant.

Individual entries include dimensions in centimeters, clay texture (ranging from very fine to very coarse), clay color and inclusions, and a brief description of shape and decoration. Colors of clay and

painted decoration are described using the soil color names of the *Munsell Soil Color Charts* with their corresponding numbers for hue and value (e.g., "reddish yellow 5YR 6/6"). The findspot and registration number (if any) are followed by an indication of whether the piece in question is from a layer dated to 604 B.C., from pre-604 constructional fill, or from a post-604 context.

Fifty-one pieces were sampled by the present author for petrographic analysis and several other pieces were sampled at a later time by Daniel Master. An attempt was made to sample representatives of all major types represented: Group A consists of large jars, including amphorai and hydriai; Group B includes cooking pots and a mortarium; Group C includes jugs and oinochoai; Group D are probable "Wild Goat" oinochoai; and Group E are Ionian cups. Most of the samples consisted of small unregistered body sherds from types similar to registered ones, but some were small fragments broken off registered vessels. Petrography was performed by Daniel Master as part of a larger study of sherds from Ashkelon (Master 2001; see also chapter 4 in the present volume). His results are incorporated here in the introductions and catalogue entries for the sampled pieces.

Acknowledgments:

Thanks are due to Prof. Lawrence E. Stager, Director of the Leon Levy Expedition to Ashkelon, for inviting me to study and publish this material, and especially to Dr. Charles Adelman for initial classification of much of this material and for his generous assistance, good eye, and wise advice during two field seasons of study at Ashkelon. Dr. David Schloen helped with the initial sorting; Jill Baker, Heather Campbell, and Dorothy Phelps of the registration staff at Ashkelon gave much general assistance. Dr. Daniel Master generously shared results of his petrographic study of East Greek and other sherds and was most helpful in clarifying matters of stratigraphy. Dr. Alexander Fantalkin generously provided information on his new analysis and interpretation of the Greek material from Meşad ̄ashavyahu. Moshe Fischer and Alexander Fantalkin graciously supplied information on unpublished East Greek pottery from Yavneh-Yam. I also benefited greatly by the opportunity to consult with Dr. Udo Schlotzhauer and other members of the Miletos Expedition and Miletos Archive in Bochum, Germany, and with Dr. Michael Kerschner of the Ephesos Expedition in Vienna in the summer of 2003. They very generously shared their latest thinking on East Greek pottery chronology and provenances with me and provided me with numerous useful references.

Most of the drawings were produced by Mark Roughly. The photographs were taken by Ilan Sztulman, Heather Alexander, and Carl Andrews.

### Catalogue of Greek Pottery of the Seventh Century B.C. Found at Ashkelon

Catalogue entries include the following information:

1. The vessel class and/or style and/or part, and the dimensions of the piece (in centimeters).
2. A description of the piece (note the abbreviations below).
3. The field registration number and find context.
4. Parallels and/or previous publication details, if any.
5. All entries include a photograph or drawing or both of the piece unless otherwise noted.

The unique field registration number contains the following items of information, separated by periods:

1. The Israel Antiquities Authority license number and the last two digits of the year of excavation.
2. The 100-meter grid location.
3. The 10-meter square within the grid.
4. The layer and/or feature number, prefixed by "L" or "F."
5. The 1-meter fine-grid number within the square, prefixed by "FG."
6. The pottery bucket number, prefixed by "B."
7. The registration number of the sherd(s) or, in rare cases, an intact vessel.

In catalogue entry no. 1, for example, the field registration number is A72/92.50.48.L388.FG77.(1). Note that the findspot of the piece and the year it was excavated can be read from this number; in this example, it is Grid 50 Square 48 Fine-grid 77 Layer 388, excavated in 1992. (See chapter 11 of *Ashkelon 1* for a detailed explanation of the recording system.)

#### Abbreviations:

BF	Black Figure	l.	left	r.	right
C.	century	L	length	SJSh	several joining sherds
D	diameter	M	maximum	SNJSh	several nonjoining sherds
E	estimated	MWG	Middle Wild Goat	Th	thickness
EC	Early Corinthian	NCplt	nearly complete	w	white
ext.	exterior	NJSh	nonjoining sherds	W	width
H	height	p	purple	WG	Wild Goat
int.	interior	P	preserved	w-r-w	white-red-white
JSh	joining sherds	r	red		

#### Inclusion sizes:

fine	< 0.5 mm
small	0.5–1.0 mm
medium	1.0–2.0 mm
large	> 2.0 mm

### A. CORINTHIAN VESSELS (nos. 1–16)

Only 17 Corinthian fragments (16 catalogued and one uncatalogued) were identified, all from the Grid 50 excavation area. Three were found in use or destruction deposits dated to 604 B.C. These are an aryballos rim (no. 12) and two olpe or oinochoe parts (nos. 1, 3), one of which (no. 1) is Transitional style and therefore somewhat earlier than its context. Thirteen pieces are from the pre-604 constructional fill, including three olpai (nos. 2, 5, 6), five alabastra (nos. 7–11), and five aryballoi (nos. 13–16; one uncatalogued and unregistered). One olpe base fragment comes from a post-604 Persian-period fill (no. 4). Olpe fragment no. 2 is very similar to no. 1 and appears to be Transitional as well.

All Corinthian pieces are characterized by very fine, well-levigated clay with few or no inclusions ranging in color from pale brown (10YR 8/3) to very pale brown (10YR 7/3–7/4) to light gray (10YR 7/2, 2.5Y 7/2) to white (10YR 8/2–8/1; 5Y 8/1) to pale yellow (2.5Y 7/4). With the exception of these two Transitional olpai fragments, all other pieces appear to be Early Corinthian (EC) in style and decorated in the Black Figure (BF) technique consisting of black

painted silhouette over reserved clay ground with incised linear patterning through the black and occasional areas of added red or white paint placed over the black.

The Corinthian chronological sequence was established by Payne (1931) and thoroughly reviewed by Amyx (1988:397–431), who slightly lowers the dates arrived at by Payne for the periods between Late Geometric and Late Corinthian. Publications of pottery found at Corinth by the Corinth Excavations are invaluable (e.g., Amyx and Lawrence 1975; Stillwell and Benson 1984).

The scarcity of Corinthian imports at Ashkelon is consistent with the general situation in the southern Levant, Egypt, and Cyprus, though they are somewhat more abundant in Syria (Courbin 1990:506, 508 pl. 47 [Ras el-Bassit]; Robertson 1940:16–18, pl. 4 [Al Mina]; Ploug 1973: 17–23 [Tall Sūkās]), and a single Early Corinthian aryballos fragment was found at Sarepta in Lebanon (Koehl 1985: 51–52, 238, figs. 12, 23 no. 256). In the southern Levant, there is a complete lack of Protocorinthian pottery of the earlier seventh century and most of the known finds belong

to Early or Middle Corinthian, thinly distributed throughout the region. A piece or two have been found at several of the other sites destroyed in the Babylonian invasions of the late seventh and early sixth centuries: one piece was found in Stratum II, Area E, at Tel Batash–Timnah, and a single worn example came from Mešad Ḥashavyahu (Waldbaum and Magness 1997: 34–36; Waldbaum 1994:59; Magness 2001:144; Fantalkin 2001:74 n. 41, 97, fig. 34.9).

Clairmont (1955:101) lists Corinthian sherds in the Rockefeller Museum from Tell Shefelah and Tell Jemmeh. I have examined these sherds; the Tell Shefelah sherd is not Corinthian, whereas those from Tell Jemmeh *may* be Attic. In addition, two sherds found

at Tel Miqne–Ekron and published as Corinthian or imitation Corinthian (Waldbaum 1994:59, fig. 8, and n. 17; Gitin 1995:70, fig. 4.15; Waldbaum and Magness 1997:34–35, fig. 14) now appear to be the latter. (I thank Martha Risser for inspecting the sherds and providing her opinion [pers. comm. 2004]). Two more fragments were found in late Iron Age Stratum I at Tel Dan (Pakman 1992:236, fig. 5.12, 13). A few others are known from Tel Dor, Tell Abu Hawam, Tell Keisan, Tell Jemmeh, Tel Sera<sup>c</sup>, and the 1920–1921 British excavations at Ashkelon (see Waldbaum and Magness 1997:35 for summary with references). Although the repertoire of Corinthian pottery from seventh-century Ashkelon is small, it is larger than that found to date at any other site in the region.

#### CORINTHIAN OINOCHOAI/OLPAI (nos. 1–6)

Although no. 1 was found in the 604 B.C. use phase, it is almost certainly somewhat earlier than its context. The incised, black-polychrome scale pattern identifies this piece stylistically as belonging to the Transitional style (Amyx 1988:372–75, pl. 21.1; Amyx and Lawrence 1975:18, pl. 4.18; Payne 1931: 28–32, pl. 11 *bis*), dated conventionally to ca. 630–620/615 B.C. (Amyx 1988:428). It is thus the earliest piece of Corinthian pottery found at Ashkelon. A similar piece (no. 2) was found in the quarry fill underneath the marketplace. A large group of vessels with similar scale pattern is assigned to Middle Corinthian, conventionally dated ca. 595/590–570 B.C. (Amyx 1988: 149–59, pls. 58.3c, 61.1, 2; p. 428 for date). Given the secure *terminus ante quem*, however, it is unlikely that Ashkelon Corinthian pieces nos. 1 or 2 belong to the later group. It is interesting to note that “Transitional”

is the earliest Corinthian style found at such sites as Naukratis (Venit 1988:60; Möller 2000:217) and Istros (Histria) (Alexandrescu 1978:21).

Four fragments belong to EC olpai or oinochoai. A base (no. 3) comes from a 604 B.C. deposit. Another, very similar, no. 4, comes from a postdestruction context. One small, flat fragment (no. 5) with black-polychrome tongue pattern possibly belongs to an oinochoe shoulder of a type found at Corinth in the Anaploga Well and dated to the EC deposit (Amyx and Lawrence 1975:139 An 207; 141 An 215; 142–143 An 221; pl. 46 An 221; pl. 47 An 207, 215). The Ashkelon piece comes from the pre-604 B.C. quarry fill. The fourth piece (no. 6) is a fragment of either the lower body near the foot or the shoulder of the vessel. I was not able to examine this sherd so its exact nature must remain in question.

#### 1 Corinthian olpe or oinochoe. Transitional style. Body sherds. PH 5.8; PW 8.15; Th 0.35.

Eight joining sherds from body of a small olpe. Very fine, pale brown clay (10YR 8/3 at core) with no visible inclusions. Ext.: black-polychrome scale pattern. Scales outlined with double-incised compass-drawn lines arranged in diagonal rows of alternating added dull p over glossy black and black with added w dot in center of scale.

A72/92.50.48.L388.FG77.(1)

From 604 use phase (Plaza accumulation below Layers 384, 415, 418).

*Previous publication:* Stager 1996a:fig. 10 (bottom row center); 1996b:60 (color photo bottom, second from left); Waldbaum 2002b:62, fig. 13; Waldbaum, in press: pl. 14.3.1.8.



Scale 1:2

- 2 Corinthian olpe or oinochoe. Transitional style. Small body sherd. PH 2.1; PW 2.25; Th 0.35.

Very fine, very pale brown clay (10YR 7/3), no visible inclusions. Ext.: double incised, compass drawn, overlapping scale pattern alternating black and added r.

A55/94.50.49.L440.B133.(10614)

From pre-604 quarry fill.



Scale 1:1

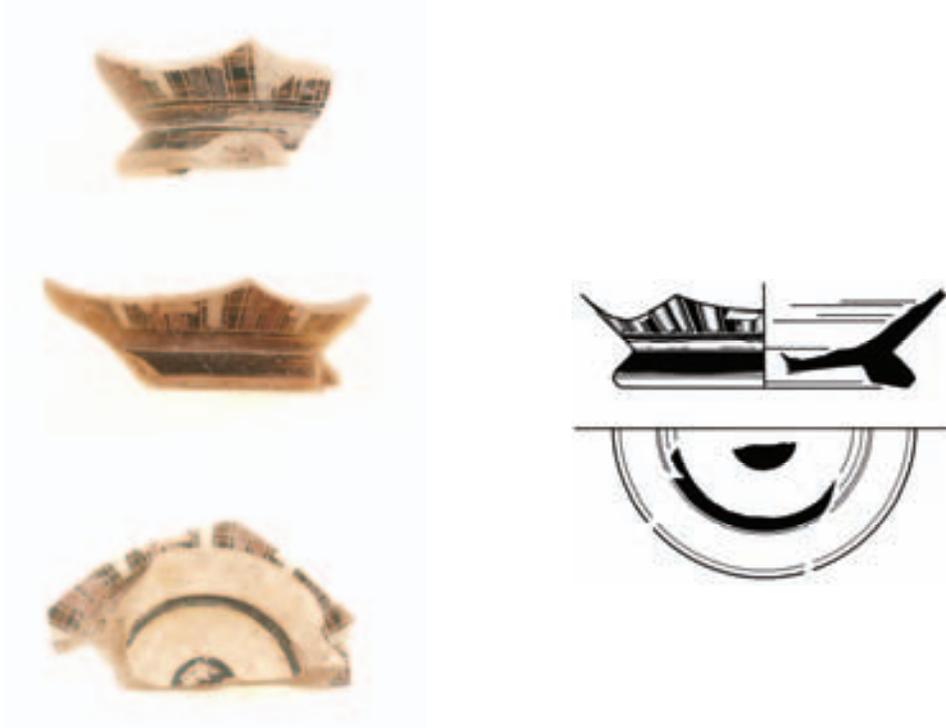
- 3 Corinthian olpe or oinochoe. EC. Base sherd. ED foot 8.0; W foot 1.1; PH 2.7; Th 0.3.

Fine, very pale brown clay (10YR 8/3) with no visible inclusions. Flaring foot with beveled edge and flat resting surface. Lower body flares up and outward. Reserved edge, resting surface and underside. Solid glossy black on outer foot and inner edge of foot. Black dot on center of underside. Black band on lowest part of body overlaid by horizontal band of added p; two horizontal incised lines above. Above this is a zone of incised tongues in streaky black, added w, black, two added p, black. Tongue pattern on lower body is unusual.

A73/93.50.49.L389.B21.(2)

From 604 use phase (East Street).

*Previous publication:* Waldbaum, in press: pl. 14.3.1.9.



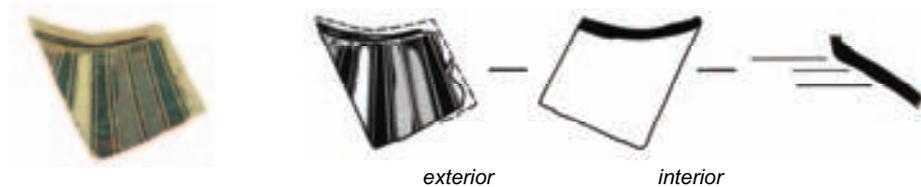
Scale 1:2

- 4 Corinthian olpe or oinochoe. EC. Body sherd. PH 2.8; PW 3.8; Th wall 0.3; Th transition to foot 0.7.  
 Fine, very pale brown clay (10YR 7/3) with no visible inclusions, some small voids. Sherd is from the very bottom of the vessel where it thickens as it meets the top of the foot. The lower body flares up and out as it ascends. Ext.: Lower body: zone of incised tongues in black alternate with two added p and added w tongues separated by incised vertical lines. Two parallel incised lines at join of body and foot.  
 A72/92.50.48.L381.B253.(10612)  
 From post-604 bedding for a Persian-period wall (Feature 352).



Scale 1:1

- 5 Corinthian olpe? EC. Shoulder sherd. PH 3.0; PW 3.1; Th 0.25.  
 Fine, very pale brown clay (10YR 7/3). No visible inclusions. Part of lower neck and flat shoulder. Line of streaky black paint on inner surface of neck. Ext.: incised vertical tongues or segments painted in pattern: added w, black, added p, black.  
 A78/95.50.48.L454.B43.(1)  
 From pre-604 quarry fill.



Scale 1:2

- 6 Corinthian olpe or oinochoe? EC? Body sherd? PH 3.4; PW 3.5; Th 0.3.  
 Not seen by author. Could be lower-body sherd from near foot or oinochoe shoulder depending on curvature. Ext.: incised lines.  
 A55/94.50.48.L449.FG39.B130.(1)  
 From pre-604 quarry fill.



Scale 1:1

## CORINTHIAN ALABASTRA (nos. 7–11)

Small, one-handled, perfumed-oil flasks—alabastra and aryballoi—are the most common and widely distributed of exported Corinthian pottery types in the EC period (Amyx 1988:375), and most of the few examples of Corinthian found at Ashkelon fall into these categories. As far as can be told from the small remaining fragments, all five of the preserved alabas-

tra are of the “sack” type with rounded base and low center of gravity (Amyx 1988:438). Most are from small vessels, originally ca. 6–9 cm high; one (no. 9) is larger than the norm—originally ca. 22 cm. in height (cf. Amyx 1988:85, pl. 19 for larger alabastra by the Columbus Painter). All are from the pre-604 quarry fill.

## 7 Corinthian alabastron. EC BF. Body sherd. PH 6.0; Th 0.25.

Neck, handle, rim and base broken away. About two-thirds of body preserved from base of neck to widest diameter. Very fine, very pale brown clay (10YR 8/3). No visible inclusions. Faded BF decoration with incision on ext. At base of neck: lower end of tongue pattern; on body: part of a large, incised, downward-pointing wing—of sphinx, siren, or bird. Behind wing, two round rosettes with petals indicated by criss-cross incision. Cf. Amyx 1988:pls. 33.1, 3–6; 34–37; 42–43 (shape); 33.1a, 40.1 (rosettes). Many similar examples from Corinth itself: Stillwell and Benson 1984:pls. 23–25.

A55/94.50.49.L440.B148.(1)

From pre-604 quarry fill.



## 8 Corinthian alabastron. EC. Body sherd. PH 2.7; W 2.9; Th 0.3.

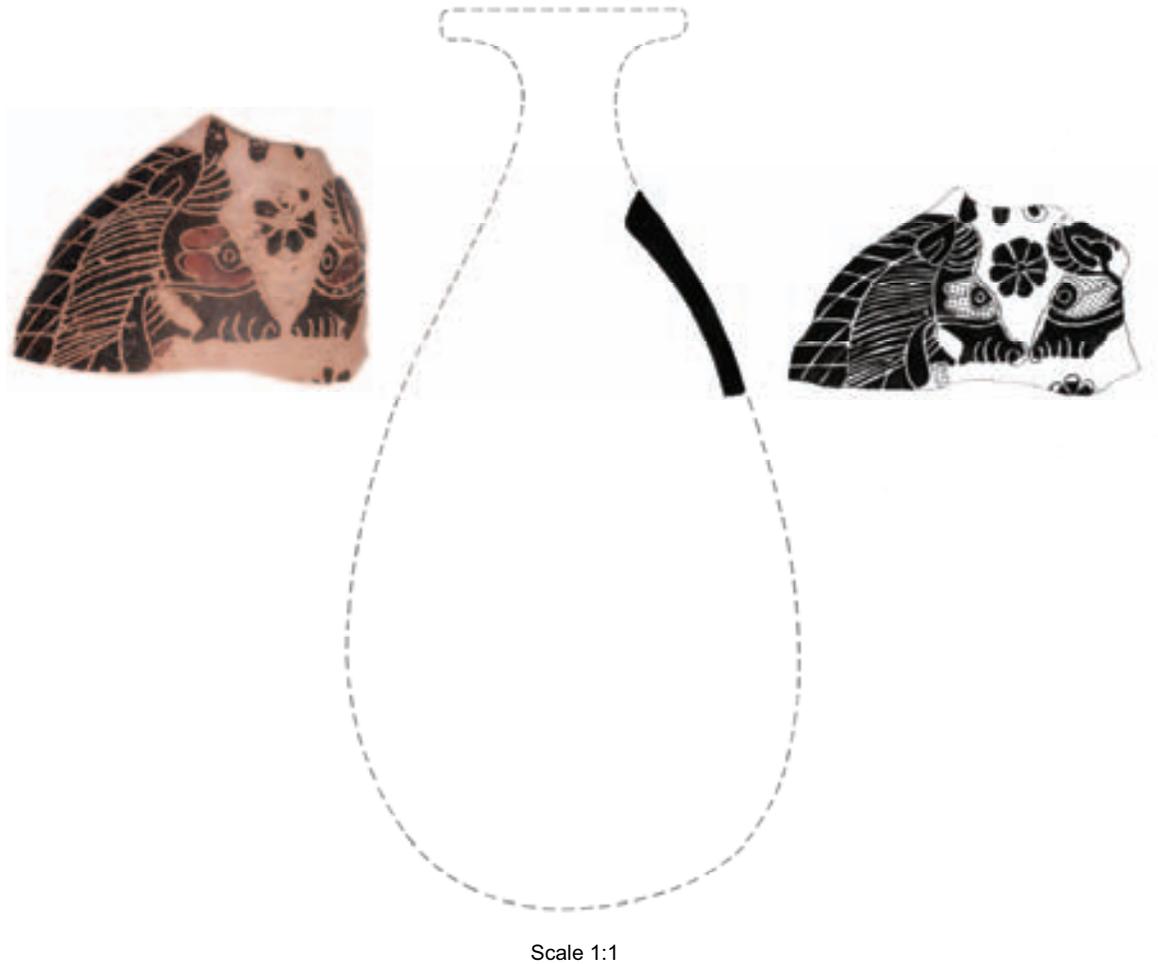
Lower neck, upper body preserved. Very fine, white (5Y 8/1) clay with occasional small white grits. Paint almost totally worn. Visible are three tongues on base of neck, one blobby rosette with petals defined by incision, part of a wing (of a sphinx? siren?). Similar to no. 7.

A89/96.50.48.L453.B4.(2)

From pre-604 quarry fill.



- 9 Corinthian alabastron. EC. Upper body/shoulder sherd. PH 3.5; PW 4.6; Th 0.4; est. original height ca. 20 cm. Fine, well-levigated, light gray clay (10YR 7/2), very few inclusions. Sparse fine white grits erupting to surface. Ext.: Remains of tongues on base of neck; two opposed lions' heads in black figure with incision in manes, ruff, muzzle; added r around eyes and on tongue of l. figure. Incised black rosette between heads; tips of another below face on r. Cf. Amyx 1988:60–61, pl. 19; 81 pl. 33.6; 85 pl. 35 for facing lions on alabastra; pl. 35 also for larger alabastra. A55/94.50.57.L256.(10616)  
From pre-604 quarry fill.



- 10 Corinthian alabastron. Body sherd. PH 1.6; PW 2.1; Th 0.3. Small body sherd of fine, well-levigated, very pale brown (10YR 7/3) clay; heavy wheel ridges on int. Ext.: incised parallel diagonal lines contained within curved space (part of a lion's mane?). Added r over much of sherd; slight indentation below upper corner. A55/94.50.49.L436.FG49.B69.(10613)  
From pre-604 quarry fill.



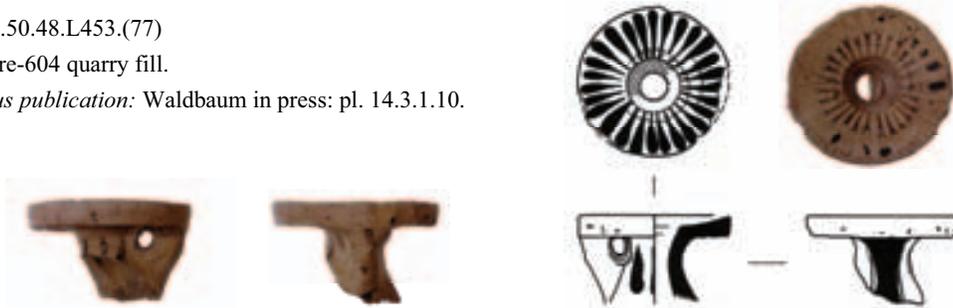
- 11** Corinthian alabastron. EC. Rim with handle. D rim 4.0; PH 2.4; Th rim 0.5.

Very fine, well-levigated, light gray (2.5Y 7/2) clay; few small white and dark inclusions; some voids. Round convex rim, reverse conical neck, handle from underside of rim to upper shoulder formed by poking a rod through solid clay. Finger marks at base of handle. On top of rim: tongues; edge of rim very worn but probably short strokes or tongues; tongues on neck; back of handle solid black, now worn off. Cf. Amyx 1988: pls. 36.1, 2 for ext. rim; 43.3 back of handle.

A80/97.50.48.L453.(77)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.1.10.



Scale 1:2

#### CORINTHIAN ARYBALLOI (nos. 12–16)

The remains of five aryballos rims or bases are preserved—one from a 604 layer, the rest from the constructional fill. Where the bases are preserved (nos. 13, 14, 15), all are globular or spherical in shape and all have a dimple in the center of the base surrounded

by a radiating rosette pattern (cf. Amyx 1988:pl. 38.1a, 46.1, 47.2). One unregistered and uncatalogued body sherd probably comes from an aryballos as well.

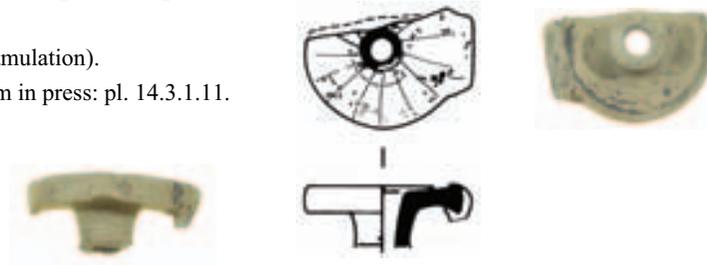
- 12** Corinthian aryballos. EC. Rim sherd. D rim 4.0; Th rim 0.7; D neck 1.3; W handle 1.8.

Ca. half of rim, neck and upper handle preserved. Very fine, white (10YR 8/1) clay. No visible inclusions. Top of rim slightly concave with slight overhang at edge. Cylindrical neck. Incised radiating lines on top. Worn, dark gray paint on underside of rim. A few patches of paint on top of rim.

A72/92.50.48.L393.B402.(4)

From 604 use phase (Plaza accumulation).

*Previous publication:* Waldbaum in press: pl. 14.3.1.11.



Scale 1:2

- 13** Corinthian spherical aryballos. EC. Base sherd. 2.5 × 2.0; Th 0.3.

Very fine, well-levigated, white (10YR 8/2) clay. A few small white inclusions. Wheel ridges on int. bottom. Ext.: surface very pale brown (10YR 7/4) slip with dark reddish-brown paint (5YR 3/4). Center of base broken down middle. Dimple in center surrounded by small, widely spaced rosette petals. To one edge, part of an incised ornament.

A89/96.50.47.L302.FG37.B41.(1)

From pre-604 quarry fill.



Scale 1:1

**14** Corinthian spherical aryballos. EC. Base sherd. H 2.5; W 6.05; Th 0.3.

Base and lower body preserved. Some worn paint still adhering. Very fine, white clay (5Y 8/1). No visible inclusions. Wheel ridges on int. Dimple in center of underside surrounded by two concentric circles. Rosette petals or tongues radiate outward from there. Patches of worn black paint preserved on some petals. Two sets of parallel horizontal bands above.

A78/95.50.48.L452.B88.(16)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.1.12.



Scale 1:2

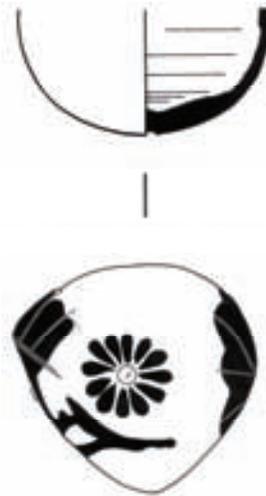
**15** Corinthian globular aryballos. EC. Base sherd. PH 3.5; Th 0.3 wall, 0.8 bottom.

Very fine, well-levigated, light gray (10YR 7/2) clay with few inclusions. Int.: strongly ridged with wheel marks; thickest at base. Ext.: worn paint and incision. Dimple in center of underside. Neatly drawn rosette petals around dimple. To one side, part of a large, blobby rosette with petals/segments separated by criss-cross incisions; to other side, remains of a wing? with incised feathers. Some worn black paint adhering.

A78/95.50.48.L454.(2)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.1.13.



Scale 1:2

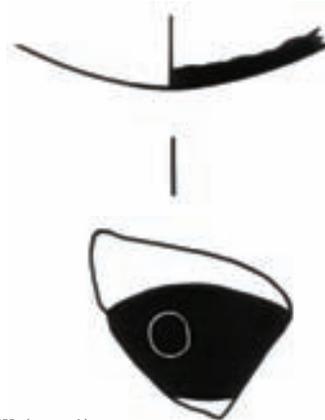
**16** Corinthian aryballos. EC? Base sherd? H 1.0; W 2.9; Th 0.3.

Very fine, pale yellow (2.5Y 7/4) clay with few or no inclusions. Strong wheel ridges on int. Decoration poorly preserved and almost unintelligible. Incised circle surrounded by ovoid black area, mostly worn away.

A78/95.50.48.L452.(128)

From pre-604 quarry fill.

(No photograph.)



Scale 1:1

**Uncatalogued Corinthian aryballos body sherd from pre-604 quarry fill (qty. 1):**

[3424] Aryballos? EC? A78/95.50.48.L452 not registered

## B. EAST GREEK DECORATED WARE: OPEN FORMS (nos. 17–283)

Although most of the imported Greek pottery from Ashkelon can be dated securely to the late seventh century B.C. on stratigraphic and stylistic grounds, a small group of cups and bowls may belong to an earlier period. All but one example were found in the pre-604 B.C. constructional fill and therefore could date considerably earlier. These include a single skyphos of “Al Mina Ware” (no. 17), which may date as early as the late eighth century B.C. but more likely should be dated later in the seventh century (see above, note 8), and a number of hemispherical bird

and rosette bowls of the seventh century plus a few miscellaneous bowls or cups (nos. 18–32). However, the vast majority of imported Greek drinking vessels found in the 604 B.C. use phase and destruction debris and in the pre-604 constructional fills are so-called Ionian cups (nos. 33–253), with a few related kantharoi (nos. 254–57), as well. The final category of East Greek open forms are stemmed or footed dishes (nos. 258–83), which are mainly South Ionian and specifically Milesian in origin, but possibly also Aiolian in a few cases.

## “AL MINA WARE” SKYPHOS (no. 17)

The rim of a skyphos (no. 17) found in the pre-604 fill in Grid 50, is of a type once identified by Boardman as “Al Mina Ware” because it was first recognized at that site and originally believed to have been made there (Boardman 1959). Shape and general decorative scheme are Greek Late Geometric (LG), though Boardman does cite Cypriot parallels, and the ware has usually been dated stylistically to the late eighth century (Boardman 1959:161, 167). Because of the distinctive striped treatment of the interiors of many examples, and the fact that a number of examples have now been found on Cyprus (Coldstream 1979; 1989:94), Boardman now regards this type as “the produce of emigrant Geometric Greek potters” living in Cyprus (Boardman 1999a:41–42). He refers to it elsewhere as “Euboeo-Levantine” and, coming full circle, allows that it could have been “made in the east, perhaps Al Mina itself” (Boardman 1999b:148). Optical emission spectrographic analyses performed on three examples of this type showed a Cypriot origin to be likely but not conclusive (Jones 1986:695–96). In a recent study, Kearsley suggests that the variations in fabric and decoration for examples found at Al Mina indicate a mixture of origins ranging from imported Greek skyphoi to “skyphoi made by Near Easterners either in Cyprus or in Al Mina in imitation of the Greek wares . . . and skyphoi which may have been made by a Greek potter at Al Mina.” Kearsley distinguishes the Greek-made from the imitation skyphoi by the fine, hard-fired clay with no inclusions, and painted interiors for the former and softer, coarser clay with dark and white inclusions and reserved interiors for the latter, with those made by a Greek potter at Al Mina as falling somewhere in between (Kearsley 1995:78). If this interpretation is correct, the Ashkelon skyphos belongs to the Greek-made category. Luke (2003:19), however, states that pending further analyses “there is currently no reli-

able evidence for Greek production of Greek wares at Geometric Al Mina,” and Descoeudres (2002:58, n. 63) refers to Kearsley’s argument as “circular,” noting that her conclusions have not yet been tested analytically. According to U. Schlotzhauer of the Miletos excavations, large quantities of these kinds of vessels have been found in stratified contexts at Kalabaktepe at Miletos dating to Phase 4 (first half of the seventh century to ca. 600 B.C.). Schlotzhauer is of the opinion that the profile of the Ashkelon sherd is archaic rather than Geometric (pers. comm. May 2003). Master performed a petrographic analysis of this sherd and his preliminary interpretation suggests that it clusters with three Corinthian samples (pers. comm. 2001).

The ware is very rare in Israel. A fragment comes from Dor; according to the excavator, it was found on a floor in a gateway dated to the Assyrian destruction of 734 B.C. (Stern 1993:27, larger sherd). A couple more such sherds were found in less secure contexts (Mook and Coulson 1995:95, fig. 3.8:1 no. 295; Stern 1993:27, smaller sherd; Waldbaum 1994:58, fig. 7a, b right). Another is reported from Tell er-Ruqeish (Lehmann 1996:467). In Phoenicia proper, one fragment comes from Sarepta (Koehl 1985:48, 128–129, fig. 10 no. 222), two more from Khaldeh (Saidah 1971:194, 197.b, c), another from Byblos in a mixed context (Dunand 1958:939–40, fig. 1054 no. 17605). A few examples are also known at Tall Sūkās in North Syria (Ploug 1973:16–17, pl. 2 nos. 44–47), though not nearly so many as at nearby Al Mina, and others were found at Ras el-Bassit (Courbin 1986:fig. 20 with Greek graffito). In addition to these, Lehmann refers to examples from Tell Judeideh, Ras Ibn Hani, Tarsus, and Tyre (Lehmann 1996:467, with references). Since the context of the Ashkelon piece may be considerably later than the apparent date of the sherd, it is difficult to speculate about its significance at the site.

## 17 “Al Mina Ware” skyphos. Rim sherd. H 2.5; W 2.9; Th 0.3.

Very fine, very pale brown clay (10YR 8/3); nonmicaceous with few if any inclusions. Rim rounded and curved outward, offset from convex bowl. Ext. and int.: very pale brown slip (10YR 8/3). Ext.: horizontal lines; one on rim, one at carination. Below: remains of four vertical lines overlapping the horizontal. Paint is pale brown to brown (10YR 6/3–5/3). Int.: broad brown horizontal line on rim; narrower one at join of rim to bowl.

A89/96.50.49.L451.B20.(5)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.1.6; 2002b:62, fig. 14.



Scale 1:1

## HEMISPHERICAL BOWLS (nos. 18–32)

**Bird bowls (nos. 18–23).** Five rim fragments and three body sherds, two uncatalogued, probably come from hemispherical bird bowls. Two were found in 604 B.C. use or destruction layers (no. 18 and an uncatalogued body sherd), five (nos. 19–22 and one unregistered body sherd) were found in pre-604 fills, and one (no. 23) in a post-604 Persian-period fill in Grid 57. All but the last were found in Grid 50.

All the rims are characterized by light brown to pink clay (7.5YR 6/4–7/4), most with little or no mica, and occasional to many white grits. Unlike the more numerous “Ionian” cups, which have everted rims and handles attached at the widest part of the body, the bird bowl rims make a continuous curve into the concave bowl and the handles are attached just under the rim. Although complete decorative scheme is lacking in all examples, and only one (no. 23) had part of a bird preserved, the remaining configuration of vertical and horizontal lines is paralleled in known bird bowls. While some examples have solid dark brown to black interiors, others have horizontal bands of added red paint (no. 19) or white-red-white (w-r-w) (nos. 20–23, and an uncatalogued body from 604 debris) on the inside below the rims. In addition, one rim sherd (no. 19) has the remains of three parallel diagonal lines at the lower right edge of the sherd, incised after firing. Since they are incomplete, it is difficult to know whether these are the remains of a letter or number.

Bird bowls were classified by Coldstream (1968: 298–301), who traces their origin from East Greek Geometric bird kotylai and assigns their manufacture to Rhodes. Coldstream divides the bird bowls into four groups based on development of the decoration and ranging in date throughout the seventh century.

More recently, R. M. Cook discussed the development, paying somewhat more attention to changes in shape and interior treatment (Cook and Dupont 1998: 26, and see also Kerschner 1997:189–93). According to Cook, the treatment of the interior with w-r-w stripes is found only in Groups III and IV (ca. 650–615 and 615–600 B.C., respectively). The replacement of a ring foot by a disk with small depression in the center like our nos. 26–28 (classified here with the rosette bowls, which also have this feature) also seems to be a late feature. These characteristics suggest that the bird bowl fragments from Ashkelon belong to one or both of the later groups and are not much earlier, if at all, than their contexts.

Because bird bowls were first identified in quantity at sites on Rhodes, they were thought to have originated there (see, e.g., Kinch 1914:134–36, fig. 44, pls. 23.1, 3, 25.11, 42.18). Scientific analyses since the 1980s, however, point away from Rhodes and toward a North Ionian provenance, but the exact place of manufacture still has not been isolated. Some bird bowls found at Al Mina and others from Ephesos and Delos were analyzed by optical emission spectrography and tentatively given an Ionian provenance (Jones 1986:644–52 [Delos], 666 [Ephesos], 697–98 [Al Mina]; cf. Dupont 1983:40–41 “north Ionian”).

Kerschner et al. performed neutron activation analysis (NAA) on several bird bowls from Miletos and found that they all “were produced in only one pottery workshop according to the same recipe.” They could not locate the workshop, though it did not appear to be at Miletos (Kerschner et al. 1993:208–9). More recently, Kerschner determined that the bird bowls had been imported to Miletos from a North Ionian center, possibly in the vicinity of Teos or Kla-

zomenai (Kerschner 2002; Kerschner in Akurgal et al. 2002:63–72 and see summary pp. 144–45 “Provenance Group B/C”). Daniel Master performed petrographic analyses on samples of three bird bowls from Ashkelon (nos. 19–21) and two rosette bowls (nos. 24, 25) and found that all five samples clustered closely together and appear to share the same provenance, though they did not fit into his other Greek categories (Master, pers. comm. 2001). This conclusion would also seem to rule out Miletos, if that is the accepted provenance of MileA Ic–d/Middle Wild Goat II pottery (Master’s Category 13).

Aside from Ashkelon, bird bowls have been found at several other sites in Israel, though not in great numbers. One comes from Dor, though it was not found in a good context (Stewart and Martin 2005: 81; Stern 1995b:89, fig. 5.10A, misidentified as “late Geometric . . . second half of the 8th cent.”), another from Tel Dan Area T/1 no. 30494 (unpublished but in a Stratum I, late Iron Age context of the late seventh–early sixth century B.C., Pakman 1992: 154\*; I thank the late A. Biran and D. Pakman for allowing me to see this piece and mention it), a possible base of another from Meşad Ḥashavyahu (Fantalkin 2001:79, figs. 29.4\*, 42.2; Naveh 1962a: fig. 7.13); five examples came from Tel Kabri, Area E, all out of context (Niemeier 1990:XXXV, fig. 22.2; Niemeier and Niemeier 2002:223–25, figs. 5.92:1–5; 5.93:1–4); and three more from unstratified contexts at Tell Keisan (Briend and Humbert 1980: 125, fig. 35). In neighboring Phoenicia, four unstratified bird bowl sherds of types dated to the early to mid-seventh century are known from Tyre (Coldstream and Bikai 1988:42, pl. 13 nos. 114–17). In North Syria, bird bowls are found at Al Mina (Robertson 1940:12–16), Ras el-Bassit (Courbin 1978:41, pl. 16.6, end of the seventh century; 1990:508, after the middle of the seventh century; 1986:198), and Ras Ibn Hani (Bounni et al. 1978:284, 285 fig. 30). Curiously, bird bowls are not represented at Tall Sūkās (Ploug

1973:41). On Cyprus they are known in small quantities at Amathus (Thalmann 1977:65, 67–68 esp. no. 18 with w-r-w bands on interior, pls. 1.15, 2.6, 7 for feet; Coldstream 1987:29, pl. 15); and at Salamis (Calvet and Yon 1977:13–14, pl. 4.35–41; 1978:44, pl. 19).

Elsewhere in the eastern Mediterranean bird bowls have a fairly wide distribution. In East Greece proper, Boardman identified several at Emporio on Chios, of which the latest, from Period IV, last third of the seventh century, are closest to the Ashkelon fragments (Boardman 1967:132–34, pls. 42, 43). At the Sanctuary of Hera on Samos, several were found—two in Samos Fundgruppe XXVII dated before 600 B.C. (Walter 1968: 88, 119, nos. 476–78, pl. 85). Others are known at Miletos (von Graeve 1973/74:86, 95–97 nos. 59–60, 62, pl. 24) and Ephesos (Kerschner 1997: 107–8, pl. 1.1, 2; 119, pl. 4.22; 124, pl. 5.34; 128, pl. 6.42, 43; 135–36, pl. 7.49–51, pl. 8.54; 147–48, pl. 10.74–78; 159–63, pl. 14.107–11). Among ca. 130 fragments of bird bowls found at Tarsus in Cilicia, one example of a late type was found together with an Assyrian tablet dated 636 B.C. (Hanfmann 1956: 167; 1963:132, 297–99, esp. 298 no. 1462, pl. 99; see also Boardman 1965 for discussion of bird bowls from Tarsus). A few are also known from nearby Mersin (Barnett 1939–40:115, pl. 78.12, 80.1).

Bird bowls are also known at sites in North Africa and Egypt. At Tocra, Hayes at first refers to the bird and rosette bowls found there as “Rhodian” (Hayes 1966: 44) but later withdraws from this opinion (Hayes 1973:20). There are several examples of the late seventh-century type (Hayes 1973:20–22, fig. 8, pl. 12). They also appear at Naukratis (Price 1924: 184–86; Venit 1988:1–3, pls. 1, 2; Möller 2000:141, 255), and there is possibly one from Migdol, although Oren does not discuss it (Oren 1984:fig. 23.1). In the Black Sea area they are found at Istros (Histria) in Romania (Lambrino 1938:37–46; Alexandrescu 1978:57–58, pl. 21).

**18** Bird bowl. Rim sherd with handle attached. ED rim 20.0; H 2.5; Th wall 0.4; Th handle 1.1.

Medium fine, light brown clay (7.5YR 6/4) with few fine micaceous inclusions; some small white grits, some erupting to surface. Straight, pointed rim curving directly into convex wall. Horizontal loop handle just below lip. Ext.: reserved with vertical lines to l. of handle; ext. handle and top of rim: worn black paint. Int.: streaky dark brown paint (7.5YR 4/2).

A73/93.50.49.L418.FG50.B22.(1)

From 604 destruction debris on floor in Building 406 Room 423.



- 19 Bird bowl. Rim sherd with handle stump. ED rim 18.0; PH 3.6; W 6.2; Th 0.5.

Medium fine, faintly micaceous light brown clay (7.5YR 6/4) with small to medium white grits, some erupting to surface; some voids. Straight rounded rim, curving into convex bowl. Handle root begins just under rim. Burnished int. and ext. Ext.: light brown slip (7.5YR 6/4). Dark brown paint on top of rim and outer edge of handle. Vertical dark brown line to left of handle, possible remains of a vertical ray to r. At lower r. edge, three parallel diagonal lines incised after firing. Break obscures possible join among them. A letter? Int.: solid dark brown slip (7.5YR 4/4); horizontal band of added r (10R 4/4) below rim. Petrographic analysis: D. Master (pers. comm. 2001).

A89/96.50.49.L449.B6.(15)

From pre-604 quarry fill.

*Previous publication:* Waldbaum 2002b:fig. 12, top l.



Scale 1:2

- 20 Bird bowl. Rim sherd with handle stump. ED rim 14.0; PH 4.1; Th 0.4.

Medium fine, light brown clay (7.5YR 6/4) with occasional very fine micaceous inclusions; numerous small white grits, some erupting to surface. Straight rounded rim, convex wall; handle root for horizontal loop handle begins just under rim. Finger marks around handle root. Burnished int. and ext. Ext. surface slipped(?) light brown (7.5YR 6/4). Lustrous black paint along top of rim, ext. surface of handle, and a pattern of vertical lines to r. of handle. One thick line, widened at top; three parallel vertical lines, touch of black at lower r. break. Int.: yellowish-red paint (5YR 5/6) streaked darker near rim. Added light reddish brown (5YR 6/4=white?)-reddish brown (2.5YR 4/4=red)-light reddish brown below rim (an early form of w-r-w design for cups?). Petrographic analysis: D. Master (pers. comm. 2001).

A78/95.50.48.L453.(18)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.2; 2002b:62, fig. 12 top r.



Scale 1:2

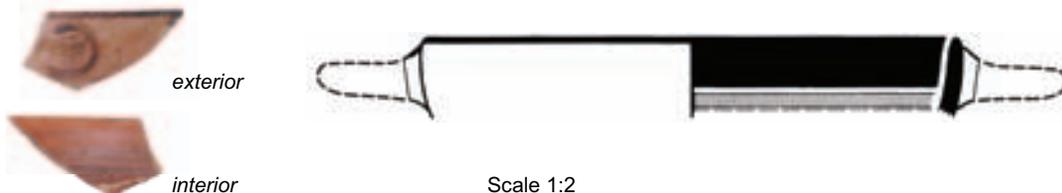
- 21 Bird bowl. Rim sherd with handle stump. ED rim 14.5; PH 2.1; W 3.15; Th 0.4.

Medium fine, nonmicaceous pink clay (7.5YR 7/4) with many small white grits. Straight rounded rim, curving into convex bowl. Left handle stump begins just under rim. Edge of right handle root preserved also. Ext.: reserved. Black paint along edge of rim and top of handle stump. Int.: streaky lustrous yellowish-red paint (5YR 5/6). Below rim remains of thick w-r-w lines (red = 2.5YR 4/6). Petrographic analysis: D. Master (pers. comm. 2001).

A78/95.50.48.L452.(207)

From pre-604 quarry fill.

*Previous publication:* Waldbaum 2002b:62, fig. 12 bottom r.



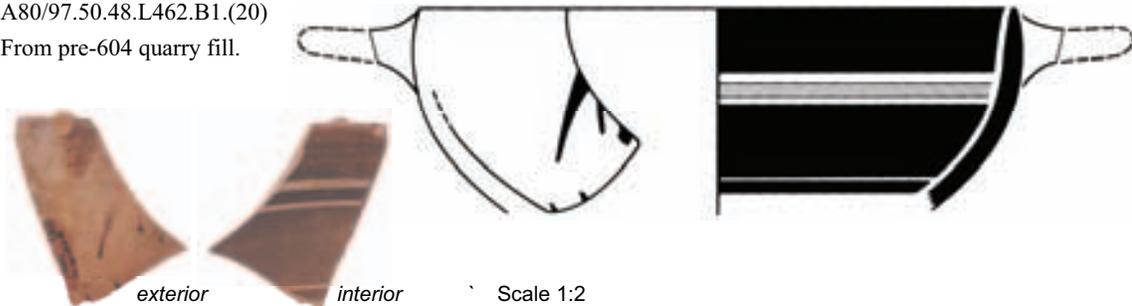
Scale 1:2

- 22 Bird bowl. Rim sherd with handle stump. ED rim 16.0; PH 5.45; Th 0.5.

Medium, light brown (7.5YR 6/4) clay with occasional fine micaceous inclusions and some small white grits. Straight, pointed rim curving into convex wall. Handle stump below rim. Finger marks around handle root. Ext.: reserved and burnished. Traces of worn black paint along edge of rim and ext. of handle. To r. of handle and on lower part of sherd remains of dark brown to very dark greyish brown (10YR 3–2/2) lines or rays. Int.: solid, lustrous dark brown (10YR 3/3) paint. Remains of one group of broad w-r-w horizontal lines (red is dusky red 7.5R 3/2); below, near edge, a white line.

A80/97.50.48.L462.B1.(20)

From pre-604 quarry fill.



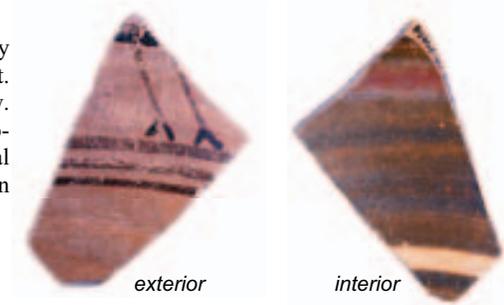
- 23 Bird bowl. Body sherd. PH 4.9; PW 3.4; Th 0.4.

Lower body of shallow cup or bowl. Medium fine, micaceous, clay with some small white grits. Int.: solid black to matte brown paint. Reserved line near lower edge, added w-r-w lines above and below. Ext.: small section of lower-body line of a bird and two thin, diagonal legs, each ending in two toes set on a base of three horizontal lines. Ground is light reddish brown (5YR 6–5/4) with dark brown (7.5YR 3/2) to black paint.

A40/90.57.68.L346.B255.(2)

From post-604 Persian-period fill.

(No drawing.)



#### Uncatalogued bird bowl body sherds (qty. 2):

[4257] A72/92.50.48.L415.B428 not registered; from 604 use phase (Plaza accumulation).

[4386] A78/95.50.48.L452 not registered; from pre-604 quarry fill.

**Rosette bowls (nos. 24–29).** Only two certain fragments of rosette bowls were found at Ashkelon (nos. 24, 25). They are rim sherds with rosettes on the exterior. In addition, three flat disk bases with central depression (nos. 26–28), one low, flat ring base (no. 29), and one uncatalogued body sherd were found in the fills. These could come either from rosette or from bird bowls and are included here with the rosette bowls. All pieces were from the pre-604 quarry fill in Grid 50.

In the rim sherds, the clay is pink to light brown (7.5YR 7/4–6/4) with fine, sparse micaceous inclusions and white grits. The bases range from pale brown (10YR 6/3) to light brown to brown (7.5YR 6/4–5/4). No. 24 appears to be a standard rosette bowl with remains of two dot rosettes composed of seven dots each to the side of the handle. The interior is plain black. No. 25 is a less common type with a

quatrefoil rosette composed of four connected dots. The interior is solid black, somewhat iridescent paint with remains of one horizontal added red line.

Rosette bowls commonly have ring feet (Cook and Dupont 1998:27), though some from Tocra have flat or slightly tilted disk feet (Hayes 1973:20). Alternatively, the flat disk feet may belong to an early type of banded bowl akin to rosette and bird bowls in shape and fabric (Hayes 1973:20, 23, fig. 8.2015, 2028; Thalmann 1977:68–69, pl. 1.19–21, 2.1–5). The three disk bases all have different diameters and differently sized depressions in the center of the underside, ranging from little more than a pinprick (no. 26) to almost two centimeters (no. 28). Clays range from pale brown to light brown to brown (10YR 6/3–7.5YR 6/4–5/4) with little or no mica and small white or dark grits in two of the three. All three have reserved circles in the center of the floor surrounded by

dark paint varying from dark brown (7.5YR 4/2–4) to reddish brown (5YR 5/4). The fourth base (no. 29) is similar to the others in fabric but differs in that it has a flat ring base instead of a disk foot.

Rosette bowls are generally considered to descend from bird bowls and to share their distribution. Like the bird bowls, they were thought at first to originate in Rhodes, but scientific analyses have shown some to belong to Dupont's "North Ionian 2" group, and at least one to Miletos (Dupont 1983:33, fig. 7, 40–41; Jones 1986:667–71, 703–4). Kerschner places some in his "Provenance Group B/C" together with the bird bowls, which he locates in North Ionia, and others in Groups E and G, also North Ionia or Aiolis (Group G) (Kerschner in Akurgal et al. 2002:71–72, 141–42, summary 144–45). Master's petrographic analysis of two samples (nos. 24, 25) showed that they cluster with samples of bird bowls (nos. 19–21) and do not seem to come from Miletos (see above under bird bowls). The earliest rosette bowls apparently overlap the later bird bowls, beginning in the last quarter of the seventh century and continuing into the late sixth (Cook and Dupont 1998:26). Most, like Ashkelon no. 24, have seven-dot rosettes in the handle zone, but a few, like Ashkelon no. 25, have a quatrefoil rosette (e.g., Calvet and Yon 1977:14, pl. 5.44; Kerschner 2007:125, fig. 26, Provenance Group G/g; Akurgal et al. 2002:104, pl. 3 cat. no. 51).

In the Aegean, rosette bowls have been found on Chios at Emporio in contexts covering the seventh through mid-sixth centuries (Boardman 1967:170, pl. 65 nos. 853–59), at Smyrna (Kerschner in Akurgal et al. 2002:104, pl. 3.50–52), and at Vroulia on Rhodes

(Kinch 1914:136–38, pls. 25, 43). Elsewhere in the Mediterranean, one example comes from Cyrene (Schaus 1985:58, pl. 19 no. 311 [ca. 590–550 B.C.]) and several come from Tocra (Hayes 1966:44–46, 53–55, fig. 28 nos. 722–32; Hayes 1973:20, 24, pl. 13 nos. 2031–36, "early type" with w-r-w bands on the interior from Deposit I [ca. 620–590 B.C.]). They also appear at Naukratis (Price 1924:186, fig. 10; Venit 1988:4, pl. 3.7; Möller 2000:141, 255–56). In Cilicia they were found at Mersin (Barnett 1939–40:116, pl. 78.13). They appear at Istros (Histria) in the Black Sea region (Lambrino 1938:46–58; Alexandrescu 1978:58–59, pl. 21).

Rosette bowls seem to be relatively rare in North Syria. None is shown in Robertson's publication of early Greek pottery from Al Mina (Robertson 1940); only two small sherds, possibly late, or not before ca. 600 B.C., were found at Tall Sūkās (Ploug 1973:41–43, pl. 7 nos. 140, 141a). They did appear at Ras el-Bassit (Courbin 1990:508; 1978:41, pl. 18 fig. 13). In Phoenicia proper, one was found at Sarepta (Koehl 1985: 51, 137, figs. 12, 23 no. 250), and another at Tyre (Coldstream and Bikai 1988:42, pl. 13.118). Rosette bowls are somewhat more numerous on Cyprus than elsewhere in the eastern Mediterranean (Gjerstad 1977:30–31, pl. 11 [Ayia Irini, Salamis, Tomb 42, Marion]; Calvet and Yon 1977:14, pl. 5.42–44; 1978: 44–45, pl. 20 [Salamis]; Thalmann 1977:68–69 nos. 19–21, pl. 1.16–18 [Amathus—at least 15 examples altogether]). Two disk bases from Meşad Ḥashavyahu may be from rosette bowls (Fantalkin 2001:79, fig. 42.3–4). I know of no other examples in Israel.

#### Rims:

**24** Rosette bowl. Rim sherds. 2JSh. ED rim 14.0; PH 3.5; W handle 3.7; Th wall 0.45; Th handle at root 1.0.

Medium fine, light brown clay (7.5YR 6/4) with fine, sparse, micaceous inclusions and many small white grits, some erupting to surface. Straight pointed rim curving into convex wall. Horizontal loop handle attached just below rim. Finger marks around handle roots. Ext.: slip worn and discolored. Worn black paint on ext. of handle. Two dot-rosettes with seven dots each—larger one near r. edge; smaller to l. (just to r. of handle). Below: a series of worn black lines. Int.: once either solid black or black striped. Paint now much worn. Petrographic analysis: D. Master (pers. comm. 2001).

A78/95.50.48.L453.(45)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.3



Scale 1:2

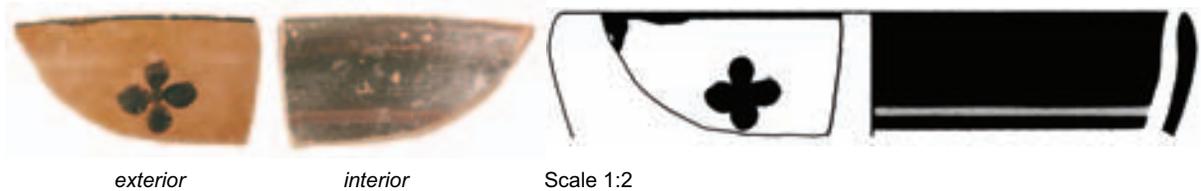
- 25 Rosette bowl. Rim sherd. ED rim 16.5; PH 3.2; Th 0.5.

Medium fine, faintly micaceous pink clay (7.5YR 7/4) with some small to medium white grits, some erupting to surface causing pitting on int. paint. Straight rounded rim curving into convex bowl. Burnished int. and ext. Ext.: strong brown slip (7.5YR 5/6), black paint over edge of rim and upper wall. Below: a quatrefoil rosette. To l. edge, a trace of red paint. Int.: iridescent black paint with one horizontal red line (weak red 10R 4/2). Petrographic analysis: D. Master (pers. comm. 2001).

A78/95.50.48.L452.B33.(23)

From pre-604 quarry fill.

*Previous publication:* Waldbaum 2002b:fig. 12, bottom left.



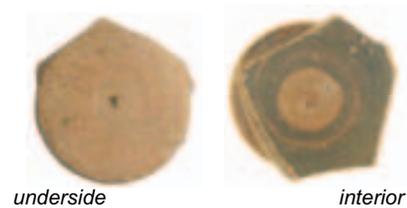
*Bases:*

- 26 Rosette bowl. Base sherd. D foot 3.8; H foot 0.5; PH 1.5.

Medium fine, light brown clay (7.5YR 6/4) with fine micaceous inclusions; small white grits. Flat, low disk base with small depression in center of underside; straight outer edge. Only a small part of the floor survives. Reserved circle in center of floor. Streaky dark brown paint (7.5YR 4/2-4) on floor and outer edge of foot and lowest part of ext. bowl. Underside and rest of preserved bowl reserved.

A78/95.50.48.L452.(253)

From pre-604 quarry fill.



- 27 Rosette bowl. Base sherd. D foot 3.3; H foot 0.45; PH 1.2; Th wall 0.5.

Medium, pale brown clay (10YR 6/3). Fine sparse micaceous inclusions; small dark grits. Flat disk base with conical depression in underside; groove around opening. Int.: dark gray (10YR 4/1) to dark brown streaky paint. Reserved circle in center of floor. Ext.: underside of foot and lower bowl reserved; outer edge of foot and join to wall light brown to brown paint.

A89/96.50.49.L453.B133.(19)

From pre-604 quarry fill.



- 28 Rosette bowl. Base sherd. D foot 4.65; H foot 0.75; D central depression 1.75.

Medium, brown clay (7.5YR 5/4) with gray core in bottom of floor. Low disk base with round depression in center of underside. Most of bowl and floor missing, but part attached to foot is very thick. Int.: bottom of floor reddish-brown paint (5YR 5/4). Center of floor reserved with small circle of paint in very center, another around that. Ext. and top of foot worn dark reddish-brown paint (5YR 3/2-3). Underside reserved with a few drips.

A80/97.50.48.L452.(65)

From pre-604 quarry fill.

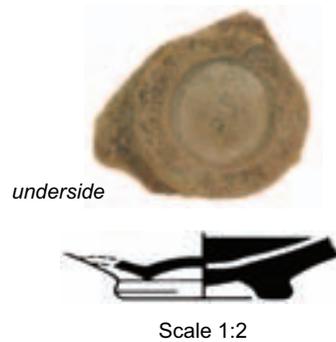


- 29 Rosette bowl. Base sherd. D foot 4.7; H foot 0.6; W resting surface 0.8; PH 1.6; Th wall 0.7.

Medium, brown clay (7.5YR 5/4) becoming gray toward inner surface. Fine micaceous inclusions and occasional small white grits. Complete low ring foot with flat resting surface; slight nipple in center of underside. Flat outer surface of foot. Underside and resting surface reserved; some irregular stripes of red paint on outer wall. Int.: solid dark reddish brown (5YR 3/3).

A78/95.50.48.L452.(123)

From pre-604 quarry fill.



**Uncatalogued rosette or bird bowl body sherd from pre-604 quarry fill (qty. 1):**

[4535] A78/95.50.48.L452 not registered

**Miscellaneous bowls or cups (nos. 30–32).** The following five sherds come from either bowls or cups. Their shapes and decoration do not conform to those of standard bird or rosette bowls, nor yet of “Ionian” cups. All are from the pre-604 quarry fill in Grid 50.

No. 30 for example, differs from the other “Ionian” cups in having a rim that is not as offset and in having vertical stripes on the upper bowl. The transition from rim to bowl is not continuous, however, so it does not belong with the hemispherical

bowls. Clay and paint are different from those of “Al Mina Ware” skyphos (no. 17). It conforms to none of the established types of “Ionian” cup and probably comes from a different sort of vessel. A couple of rim sherds (no. 31 and an uncatalogued rim sherd) do not preserve either a continuous or offset join to the bowl and hence it is not clear what sort of vessel they belong to. No. 32 is a hemispherical bowl but the preserved decoration does not conform to either bird or rosette decorative schemes.

- 30 Miscellaneous bowl or cup. Rim sherd. PW rim 1.2; PH 1.6; Th rim 0.4.

Fine, reddish-yellow clay with fine sparse micaceous inclusions. Rim convex on int., straight on ext., rounded on top. Int. worn black. Ext.: Three dark brown horizontal stripes on rim; four vertical stripes or strokes on upper body.

A89/96.50.49.L453.(31)

From pre-604 quarry fill.



Scale 1:1

- 31 Miscellaneous bowl or cup. Rim sherd. ED rim 15; PW rim 2.9; PH 2.9; Th 0.7.

Medium fine, brown clay (7.5YR 5/4). Fine, sparse micaceous inclusions. Thick, convex, rounded rim, possibly continuing into bowl but no part of bowl preserved. If continuous curve then possibly a bird or rosette bowl. Int.: streaky reddish brown to yellowish red (5YR 4/4–6). At lower, broken edge are remains of an added w line. Ext.: reserved. A few horizontal burnishing marks. Two horizontal and vertically curved red lines (2.5YR 4/6) form part of a pattern.

A78/95.50.48.L462.(12)

From pre-604 quarry fill.

(No photograph.)



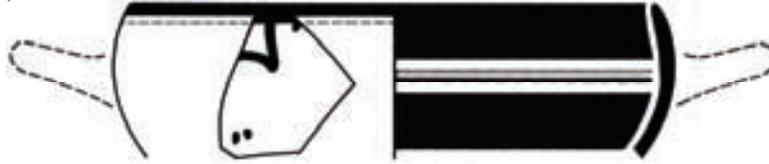
Scale 1:2

- 32 Miscellaneous bowl or cup. Rim sherd. ED rim 14.0; PW rim 0.7; PH 4.0; Th 0.4.

Medium, light brown clay (7.5YR 6/4). Fine, sparse micaceous inclusions; many small white grits, some erupting to surface. Rounded rim curves directly into convex bowl. Int.: solid black paint. Broad w-r-w band across widest diameter. Ext.: very dark brown band on top and ext. of rim; lighter, worn band below that. Rest reserved (or very worn); a few small patches of paint and traces of linear pattern. Possibly belongs to another kind of late seventh-century hemispherical bowl related to rosette bowls.

A78/95.50.48.L452 not registered; from pre-604 quarry fill.

(No photograph.)



Scale 1:2

**Uncatalogued miscellaneous bowl or cup sherds from pre-604 quarry fill (qty. 2):**

[4387] Body sherd. A78/95.50.48.L452 not registered

[4420] Rim sherd. A78/95.50.48.L461 not registered

**“IONIAN” CUPS OR CUPS WITH EVERTED RIM (nos. 33–253)**

A total of 845 fragments of “Ionian” cups have been recovered; of these, 155 came from 604 B.C. use or destruction layers, 670 from the pre-604 fills, and 20 from post-604 contexts. In the Grid 38 excavation area, 55 “Ionian” cup fragments came from 604 B.C. use or destruction layers and 7 came from post-604 contexts; the remainder were found in Grid 50. This is by far the largest category of Greek pottery found in these contexts. None of the “Ionian” cups is complete, but for several a full profile or most of the profile was preserved (nos. **35, 59, 66, 118, 119, 125, 127, 134, 219**). The rest are sherds. The two best-preserved specimens (nos. **35, 66**) came from the pre-604 quarry fill and not from the destruction debris.

“Ionian” cups are often called “Black-Glazed Cups” (e.g., Catling and Shipley 1989:188; Hayes 1966:111), although paint colors vary considerably from a deep, glossy black through grays and various brown tones (7.5YR 3/4, 5/4; 10YR 4/1, 3/1, 3/2, 5/2) to reds (10R 4/8, 2.5YR 4/8, 5YR 5/4, 4/3, 3/3, 3/4; 2.5YR 4/4), reddish yellow and yellowish red (5YR 4/6, 5/6, 5/8). More recently, Schlotzhauer has proposed the term “Knickrandschalen,” or cups with everted rim, as more accurate and neutral geographically than “Ionian” cups, and for those which originate in Samos or Miletos, “südionische Knickrandschalen” (Schlotzhauer 2000:413). This terminology has been gaining acceptance but is still not universally adopted. For the sake of efficiency, I have preferred to use the term “Ionian” cups with quotation marks to indicate that these are so-called Ionian but not necessarily Ionian in origin.

These cups differ from the rosette and bird bowls in having rims set off rather sharply from their relatively deep bowls and a pair of horizontal or slightly tilted loop handles placed below the rim at the widest diameter of the bowl. Where preserved, bases vary from a fairly low ring foot to a stem, though none of the Ashkelon examples has a high stem. Decoration is simple and exclusively linear, generally consisting of varying groupings of dark horizontal lines, bands, and solid areas against a reserved ground, and sometimes embellished with red and/or white lines added over the black and referred to as “added red” or “added white.”<sup>56</sup> Most of the Ashkelon “Ionian” cups have a fine, well-levigated texture and thin walls, but some range from medium to medium-coarse in texture. Most, but not all, examples contain fine micaceous inclusions and some have other inclusions as well. Clay colors range from gray (2.5YR N5, 10YR 5/1) through browns (10YR 5/3, 7.5YR 5/2–5/4–5/6), light and pale browns (7.5YR 6/4, 10YR 6/3), yellowish browns (10YR 5/4–5/6, 10YR 6/4), yellowish red (5YR 5/6–5/8) to reddish brown (5YR 4/4, 5YR 5/3–5/4, 5YR 6/4) and reddish yellow (5YR 6/6, 7.5YR 6/6) with a few weak red (2.5YR 5/2), pale red (2.5YR 6/2), and pink (7.5YR 7/4) examples.

Like much other East Greek pottery, “Ionian” cups were once thought to originate on Rhodes, with some coming from Samos (Hayes 1966:111). Recently, however, this picture has changed as further research

<sup>56</sup> Schlotzhauer (2000:412, 413, figs. 293–96) notes a number of everted-rim cups from Miletos with Milesian “Wild Goat” decoration instead of exclusively linear patterns.

on sites and analytical work now show that these cups were made in a number of centers including Samos, Miletos, southern Ionia, possibly Aiolis, and elsewhere (Cook and Dupont 1998:129; Jones 1986: 281, 665 [Samos], 667 ["South Ionian 3"]; Dupont 1983:27, 40; and cf. Möller 2000:142 n. 419).

Ten pieces from Ashkelon were sampled for petrographic analysis (Samples E1–E10); however, most of these fell into Master's Category 19, "petrographically unidentified," because they were so fine and well-levigated that it was impossible to categorize them by this method (Master 2001:147). Only three (nos. 249/E1, 251/E6, 253/E9) could be petrographically identified, and all three fell into Master's Category 13, generally "Samo-Milesian," although they are not from identical types of cups (Master 2001: 138–41).

Cups with everted rims are widespread throughout the Mediterranean from Spain to the Levant (Catling and Shipley 1989:188 n. 5) in the period from the late seventh century until the fifth century B.C. (Cook and Dupont 1998:129–31). In the eastern Aegean, they are common on Rhodes (Kinch 1914:24–26, 142–51, pls. 8.2, 43.23,1; 45); Samos, where they appear to have a local development (Kopcke 1968:257–60 nos. 18–23, pl. 95; Isler 1978a:92–96, 149–56, Beilage 1, 2, 13–17, pls. 47.129, 130, 49.135, 138; 1978b:77–80; Fürtwängler 1980:163–66; Fürtwängler and Kienast 1989:81–83); Miletos (von Graeve 1973/4:85, 97–100, pl. 25; 1978:36; Schlotzhauer 2000) and Ephesos (Kerschner 1997:112, pl. 2.10, 11; 115, pl. 3.12, 13; 119–20, pl. 4.23, 24; 131, pl. 6.44–46; 139, pl. 8.57; 147–52, pl. 11.79–86; 163–68, pl. 15.112–24). More than 100 examples were found in the 608 B.C. destruction level at Assesos (Kalaitzoglou 2008: 67–92; 343–63; pls. 5–19). They are rare at Emporio on Chios but all examples there fall within the seventh century (Boardman 1967:135, fig. 83.457, 459). In Cyprus they turn up at Amathus (Thalman 1977: 70–72, pls. 3, 4; Coldstream 1987:30–31, pl. 9.25–26, pls. 16, 17), Salamis (Calvet and Yon 1977: 15–17, pls. 7–9; 1978:46–48, pl. 22), Kition (Coldstream 1981:19, 21–22, pl. 17), and elsewhere (Gjerstad 1977:32–34, pls. 13–16). They are the type of Greek vessel most frequently imported to Tarsus (Hanfmann 1956:167–73, 177 figs. 4–15; 1963:282–83, 287–90, pls. 95, 96) and appear also at Mersin (Barnett 1939–40:116–17 nos. 1–5, 118 nos. 1–5, pls. 49.2, 5–7; 79.8, 9; 80.5–8). They are found in the Black Sea region at Istros (Lambrino 1938:81–94; Alexandrescu 1978:114–18 figs. 30, 31). In North Africa and Egypt, quantities were found at Naukratis (Price 1924:181–82; Venit 1988:50–52; Möller 2000: 142–43, 257–58), Tocra (Hayes 1966:111–25, figs.

55–58 [East Greek examples only]; 1973:55–56, fig. 23), and a few at Migdol along with local imitations (Oren 1984:27, figs. 23.2, 4; 42–43).

In Syria and Phoenicia, numbers of cups were found at Al Mina in Strata 6 and 5 (Robertson 1940: 13; Clairmont 1955:108, pl. 22), Tall Sūkās (Ploug 1973:27–38; Riis 1979:20, 21, figs. 53–55; 22, 24, figs. 67–70; Lund 1986:57, 60), Ras el-Bassit, Tomb 25 and other contexts (Courbin 1993:30–31, 67–68, fig. 17.4–6, pl. 20.1–3; 1978:41, figs. 3, 4, 10; 1986: 198), Ras Ibn Hani (Bounni et al. 1978: 284, fig. 29.2, 8) and Sarepta (Koehl 1985:137–39 nos. 251–55, fig. 23), and Lehmann (1996:474–78) refers to other unpublished ones.

In Israel "Ionian" cups are one of the most prevalent forms of Greek import in the late seventh century, with one appearing in a tomb at Achziv (Cullican 1982:67, pl. 6g [restored with three handles]) and others in excavated contexts at Tell Keisan (Nodet 1980:126; Salles 1980:150, pl. 22.4, 5), Tell Dan, Stratum I (Pakman 1992:fig. 5.14), and Tel Kabri, Area E (Niemeier 1994:\*32–\*33, fig. 19.4–7; Niemeier and Niemeier 2002:225–32) in the north; and in Philistia at Meşad Ḥashavyahu, where there are an estimated 42 vessels (Naveh 1962a:fig. 7:1–12; Reich 1986:69; 1989; Wenning 1989:188–89; Fantalkin 2001:75–79, 102 table 16), Tel Miqne–Ekron in late seventh-century destruction levels (Gitin 1989b:48, fig. 2.13.8; 1995: 70, fig. 4.5.14, 16; 1995:70; 1997:92, fig. 12.16, 17; 1998b:167, fig. 3.16, 17 and several more unpublished), Tel Batash–Timnah in the late seventh-century destruction (Magness 2001:142–43), Tel Erani Stratum V (Brandl 1997:257; unpublished sherds in the Israel Antiquities Authority store-rooms at Romema in Jerusalem), and "a few pieces" at Yavneh-Yam (Fantalkin 2001:133; forthcoming a: figs. 3:2, 3; 4:2, 3; Fisher 2002:51, fig. 3a).

There have been several attempts to classify cups with everted rims in the past but no absolute agreement as to how best to accomplish this. The most commonly referred to are the classifications of Villard and Vallet (1955:14–34) and Hayes (1966:111–24), where the different "types" are classified according to their forms and decorative schemes. Ploug (1973:27–38), Isler (1978b:77–81), and others also provide somewhat different classifications based primarily on finds from their respective sites. These varying typologies have been reconciled most recently by Lehmann (1996:475 [table]) and most fully by Catling and Shipley (1989:199–200; cf. Cook and Dupont 1998:206, ch. 18 n. 1), and further discussed by Schlotzhauer (2000) and Kalaitzoglou (2008:67–92).

For the most part, the Ashkelon cups fall within preexisting classification schemes. It should be noted,

however, that all the “types” presented below begin before the end of the seventh century, so some of the types proposed by Hayes (Types X, XI) and Villard and Vallet (Types B2, B3), which belong completely to the sixth century or later, are absent from our repertoire. I have identified six types and two variants within the already defined types, as well as some miscellaneous pieces which were not easily classifiable, and I have made no attempt to further refine the existing typologies. This is, in any case, difficult to do given the very fragmentary nature of most of the Ashkelon material, in which key diagnostic parts are often missing from a specimen, preventing a complete description of possible variants. It is worth noting that among the seven types of Ionian cup identified at Meşad Ḥashavyahu only two (IC 1 and IC 5) correspond to types found at Ashkelon (Fantalkin 2001:75–79).

#### Ashkelon Type 1 “Ionian” cups (nos. 33–58).

These are small, thin-walled, all-black cups with added white-red-white decoration. One nearly complete cup and more than 70 fragments were found at Ashkelon. They belong to Hayes’s “Rhodian” Type III = Villard and Vallet Type A1 (Hayes 1966:112; Villard and Vallet 1955:15–18, 29; cf. Kalaitzoglou 2008:73, 85 tab. 4, 348–49, pl. 11 no. 32, “Type A,

variant IIIc1”). Villard and Vallet (1955: 29) date this type from ca. 640/630–600 B.C. and examples are known from late seventh-century contexts at many of the sites listed above in the general description of Ionian cups, including in the Levant at Al Mina (Robertson 1940:13), Tall Sūkās (Ploug 1973:29 [Group 2 only one sherd, no. 102]), Ras el-Bassit (Courbin 1993:31 no. C 565, fig. 17.6, pl. 20.3), Meşad Ḥashavyahu Type IC 1 (Fantalkin 2001:75–77, fig. 28.7), and Tel Miqne–Ekron (Gitin 1989b:fig. 2.13:8; 1995:65, fig. 4.5.14); cf. Waldbaum and Magness 1997:27–29 figs. 2–4 for discussion.

The type is defined as a small, thin-walled cup with straight or slightly convex rim offset from its bowl; a deep bowl with high center of gravity; two thin, horizontal loop handles set at the widest diameter of the bowl; and a low conical, trumpet-shaped foot. The ware is very fine and delicate. Rim thicknesses vary from 0.15 to 0.35 cm with most about 0.2 cm, and the estimated diameters of the rims are from about 9 to 15 cm. The entire surface is covered inside and out with a lustrous black paint, except for a reserve line on the inside of the lip, a reserve band in the handle zone, and the underside and resting surface of the foot. Groups of w-r-w lines are placed on the inside and outside of the rim and on the inside and outside of the body below the handle zone.

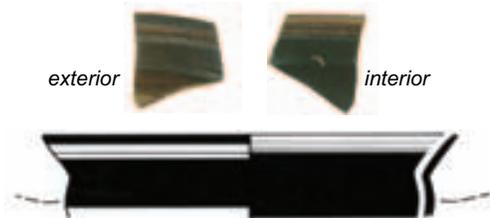
Seven pieces of Ashkelon Type 1 “Ionian” cups, comprising 3 rims (one uncatalogued), one uncatalogued handle, and 3 uncatalogued body sherds, were found in 604 B.C. use or destruction contexts (all in Grid 50):

- 33 Type 1 “Ionian” cup. Rim sherd. ED rim 11; H rim 1.5; PH 2.4; Th rim 0.2; Th wall 0.2.

Fine, strong brown clay (7.5YR 4/6). No visible inclusions. Thin straight pointed rim, tilted outward, offset at join to bowl. Upper bowl convex. Int.: reserved line inside rim. Top of rim, lower rim, and bowl solid glossy black. W-r-w (faded white) below reserve. Ext.: rim and upper bowl solid glossy dark brown (7.5YR 3/4). W-r-w (faded) on upper rim below edge and aligned with or a little higher than int. band. White line at join of bowl and rim.

A72/92.50.58.L262.(7a)

From 604 destruction debris on floor in Building 234 Room 227.



Scale 1:2

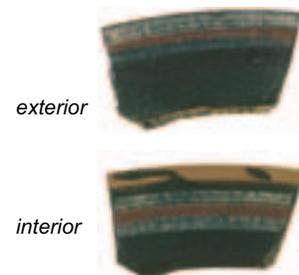
- 34 Type 1 “Ionian” cup. Rim sherd. ED rim 15; H rim 1.35; Th 0.2.

Fine, gray to dark gray clay (10YR 5/1-4/1). No visible inclusions. Thin, convex, pointed rim, tilted outward. Bowl not preserved. Int.: reserved line just inside rim. Rest of rim solid glossy black, some slops and smears of black leading into reserve area. W-r-w below reserve. Ext.: top of rim and rest solid glossy black. W-r-w just under edge of rim (above level of int. band).

A72/92.50.58.L262.(7b)

From 604 destruction debris on floor in Building 234 Room 227.

(No drawing.)



Scale 1:1

**Uncatalogued Type 1 "Ionian" cup rim sherd from 604 use phase (qty. 1):**

[4718] A72/92.50.49.LF393.B185.(1)

**Uncatalogued Type 1 "Ionian" cup handle from 604 use phase (qty. 1):**

[4238] A72/92.50.48.L398.B364.(10)

**Uncatalogued Type 1 "Ionian" cup body sherds from 604 use phase or destruction debris (qty. 3):**

[4258] A72/92.50.48.L393.B438 not registered

[4259] A73/93.50.48.L430.B107 not registered

[4942] A72/92.50.58.L262 not registered

The following Type 1 "Ionian" cup pieces were found in the pre-604 B.C. quarry fill in Grid 50: one complete profile, 17 rims (3 uncatalogued), 7 bases (2 uncatalogued), 5 handles (all uncatalogued), and 38 body fragments (all uncatalogued). Three body sherds were analyzed petrographically with inconclusive results; the rest are uncatalogued. Six of the bases do not have w-r-w lines preserved; however, the low, thin trumpet shape of the foot belongs to this type of cup.

*Complete profile:***35** Type 1 "Ionian" cup. Complete profile. SJSh. H 6.8; D rim 10.6; W handle 3.2; Th rim 0.2; D foot 3.3.

Fine, micaceous reddish-brown clay (5YR 5/4) with very small white grits, some pitting. Tall, offset, sharply carinated rim with pointed lip. Deep convex bowl narrowing sharply as it descends; conical spreading trumpet-shaped foot; horizontal loop handle on upper bowl below join with rim. Int.: lip reserved; rest of bowl solid (but mottled) lustrous black. Two groups of w-r-w lines, one on rim, one on upper body. Red: dusky red (10R 3/3). Ext.: all black except for reserved handle zone. Two groups of w-r-w lines in same position as int. Resting surface and underside of foot reserved.

A78/95.50.58.LF318.(14)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.4; Waldbaum 2002b:58, fig. 2 bottom; Waldbaum and Magness 1997:27, fig. 3 bottom.



Scale 1:2

*interior*

*Rims:*

- 36** Type 1 "Ionian" cup. Rim sherds. 2JSh. ED rim 11; H rim 1.65; PH 4.4; Th handle at root 0.9; Th rim 0.2; Th wall 0.25. Fine brown clay (7.5YR 5/4) with many fine micaceous inclusions. Tall, thin, pointed rim, tilted outward, offset at join with bowl. Bowl convex to globular. Handle stump at widest diameter. Int.: edge of lip reserved; rest solid glossy black. Band of w-r-w below reserved rim, another on int. bowl below handle zone. Ext.: uneven reserved band in handle zone; rest solid glossy black. W-r-w on rim (wider than on int.); w-r-w on bowl below handle zone and below w-r-w on int. bowl.

A78/95.50.48.L452.(127)

From pre-604 quarry fill.



Scale 1:2

- 37** Type 1 "Ionian" cup. Rim sherd. ED rim 12; H rim 1.5; PH 4.3; Th rim 0.2; Th wall 0.2.

Fine, strong brown clay (7.5YR 5/6) becoming gray in bowl. Fine micaceous inclusions. Slightly convex rounded rim, tilted outward, offset at join with bowl. Bowl convex, tapering to base. Int.: reserved just inside rim, rest solid dullish black. W-r-w under reserve on rim and bowl. Ext.: reserved band in handle zone; w-r-w just under edge of rim and on lower bowl, a bit below level of int. band.

A78/95.50.48.L452.(150)

From pre-604 quarry fill.



Scale 1:2

- 38** Type 1 "Ionian" cup. Rim sherd. ED rim 9; H rim 1.4; PH 4.2; Th rim 0.2; Th wall 0.2.

Fine, strong brown clay (7.5YR 5/6). Fine micaceous inclusions. Slightly convex pointed rim, tilted outward, offset at join with bowl. Bowl convex. Int.: top of rim black; reserved just inside; rest solid glossy somewhat iridescent black. W-r-w on rim under reserve; again at lower broken edge. Ext.: reserved band in handle zone, rest solid glossy black. W-r-w just under rim and below handle zone. Red is dark red (10R 3/6).

A78/95.50.48.L452.(157)

From pre-604 quarry fill.



Scale 1:2

- 39** Type 1 "Ionian" cup. Rim sherd. ED rim 11; H rim 1.45; Th rim 0.25.

Fine, yellowish-red clay (5YR 5/6). No visible inclusions. Thin, straight, pointed rim, tilted outward. Only a small part of upper bowl preserved at join. Int.: reserved band inside rim. Rest of rim solid glossy black. W-r-w below reserved band. Ext.: solid black. W-r-w just below top of rim, above level of int.

A78/95.50.58.LF318.(29)

From pre-604 quarry fill.



Scale 1:2

- 40 Type 1 "Ionian" cup. Rim sherd. ED rim 14.0; PW 3.0; H 1.75; Th 0.3.  
Straight pointed rim. Solid glossy iridescent black. W-r-w int. and ext.  
A78/95.50.48.L452.(206a)  
From pre-604 quarry fill.



Scale 1:2

- 41 Type 1 "Ionian" cup. Rim sherd. ED rim 12; H 1.5; PW 2.4; Th 0.2.  
Straight rounded rim; iridescent black. W-r-w int. and ext.  
A78/95.50.48.L452.(199)  
From pre-604 quarry fill.



Scale 1:2

- 42 Type 1 "Ionian" cup. Rim sherd. H 1.2; PW 2.4; Th 0.2.  
Straight pointed rim, w-r-w int. and ext., wider on ext.  
A78/95.50.48.L452.(219)  
From pre-604 quarry fill.  
(No drawing.)



Scale 1:1

- 43 Type 1 "Ionian" cup. Rim sherd. H 1.5; PW 1.2; Th 0.2.  
Straight pointed rim, glossy black with w-r-w int. and ext.,  
higher on ext.  
A78/95.50.48.L452.(224)  
From pre-604 quarry fill.  
(No drawing.)



Scale 1:1

- 44 Type 1 "Ionian" cup. Rim sherd. H 1.35 PW 2.0 Th 0.2.  
Glossy black. W-r-w int. and ext., higher on ext.  
A78/95.50.48.L452.(223)  
From pre-604 quarry fill.  
(No drawing.)

Scale 1:1  
interior view

- 45 Type 1 "Ionian" cup. Rim sherd. H 1.4; PW 0.7; Th 0.2.  
Dull black; w-r-w int. and ext., higher on ext.  
A78/95.50.48.L452.(225)  
From pre-604 quarry fill.  
(No drawing.)



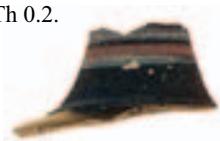
Scale 1:1

- 46 Type 1 "Ionian" cup. Rim sherd. H 1.2; PW 2.1; Th 0.15.  
W-r-w int. and ext.; higher on ext.  
A78/95.50.48.L452.(229)  
From pre-604 quarry fill.  
(No drawing.)



Scale 1:1

- 47 Type 1 "Ionian" cup. Rim sherd. H rim 1.15; PW 1.3; Th 0.2.  
Glossy black; w-r-w int. and ext., higher on ext.  
A78/95.50.48.L452.(228)  
From pre-604 quarry fill.  
(No drawing.)



Scale 1:1

- 48 Type 1 "Ionian" cup. Rim sherd. H rim 1.9; PW 1.0; Th 0.2.  
 W-r-w int. and ext., higher on ext.  
 A78/95.50.48.L452.(226)  
 From pre-604 quarry fill.  
 (No drawing.)



Scale 1:1  
 interior view

- 49 Type 1 "Ionian" cup. Rim sherd. ED rim 9.0; H rim 1.25; PH 3.75; Th rim 0.2; Th wall 0.35.  
 Fine, dark reddish-gray clay (5YR 4/2). Fine sparse micaceous inclusions. Thin, rounded, slightly convex rim, tilted outward; upper wall convex with high center of gravity. Int.: rim reserved; rest is solid glossy black. Band of w-r-w on rim under reserved line and on lower curve of bowl (white very worn). Ext.: reserved band at widest diameter (handle zone?). Rest is solid glossy black. Band of w-r-w on rim and on lower curve of bowl slightly higher than int. bands. Red is 2.5YR 4/6 ("red").  
 A89/96.50.49.L451.B115.(8)  
 From pre-604 quarry fill.



exterior interior Scale 1:2

Bases:

- 50 Type 1 "Ionian" cup. Base sherd. D foot 3.5; H foot 0.8; Th foot at edge 0.2.  
 Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions. Small flaring reverse-conical trumpet foot. Underside reserved. Floor and outer surface glossy black. W-r-w concentric circles around center of floor. Red is weak red (10R 4/4).  
 A78/95.50.48.L453.(24)  
 From pre-604 quarry fill.



Scale 1:2 top bottom

- 51 Type 1 "Ionian" cup. Base sherd. D foot 5.8; H foot 1.9; Th foot at edge 0.3.  
 Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small to medium white grits, some erupting to surface. Some drag marks on underside. Large flaring reverse-conical trumpet foot with part of floor still attached. Underside reserved. Floor and outer surface of floor solid iridescent black.  
 A78/95.50.48.L453.(51)  
 From pre-604 quarry fill.



Scale 1:2 top bottom

- 52 Type 1 "Ionian" cup. Base sherd. D foot 4.25; H foot 0.9; Th foot at edge 0.3.  
 Fine brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small white grits. Floor and wall missing. Flaring reverse conical trumpet foot, turned up slightly at edge. Underside reserved. Upper surface solid black.  
 A78/95.50.48.L451.(1)  
 From pre-604 quarry fill.



Scale 1:2 top bottom

- 53 Type 1 "Ionian" cup. Base sherd. D foot 3.4; H foot 0.8; Th foot at edge 0.25.

Medium fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small white grits. Floor and wall missing. Small, flaring reverse conical "trumpet" foot, slightly beveled outer edge. Underside reserved. Ext. surface very dark brown to black.

A78/95.50.48.L452.(143)

From pre-604 quarry fill.



Scale 1:2



top



bottom

- 54 Type 1 "Ionian" cup. Base sherd. D foot 3.3; H foot 1.0; PH 1.35; Th foot wall 0.3.

Fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small white grits. Thin, reverse conical foot; very little of floor preserved. Underside and edge of foot reserved. Floor and outer foot solid black.

A78/95.50.58.LF318.(20)

From pre-604 quarry fill.



Scale 1:2



top



bottom

*Analyzed body sherds* (see figure 10.3 after cat. no. 253):

- 55 Type 1 "Ionian" cup. Body sherd. Th 0.2.

Fine micaceous inclusions and fine white and small black grits. Fine, reddish-gray clay (5YR 5/2). Int.: solid black with worn w-r-w lines. Ext.: flaking black, reserved line, faded w-r-w. Petrographic analysis: Sample E2, Category 19, "petrographically unidentified" (Master 2001:59, 147).

A78/95.50.48.L453 not registered; from pre-604 quarry fill.

- 56 Type 1 "Ionian" cup. Body sherd. Th 0.2.

Fine micaceous inclusions and some small white grits. Body sherd at turn to lip. Fine reddish-brown clay (5YR 5/3). Int.: solid black with w-r-w lines. Ext.: black, reserve, w-r. Petrographic analysis: Sample E3, Category 19, "petrographically unidentified" (Master 2001:71, 147).

A78/95.50.48.L454 not registered; from pre-604 quarry fill.

- 57 Type 1 "Ionian" cup. Body sherd. Th 0.3.

Fine paste with small white grits, some very fine mica, pinkish-gray clay (5YR 6/2). Int.: solid, somewhat iridescent black; w-r-w lines. Ext.: same. White is more faded. Petrographic analysis: Sample E4, Category 19, "petrographically unidentified" (Master 2001:80, 147).

A89/96.50.49.L449.B2 not registered; from pre-604 quarry fill.

**Uncatalogued Type 1 "Ionian" cup rim sherds from pre-604 quarry fill (qty. 3):**

[4209] A78/95.50.47.L285.(10)

[4367] A78/95.50.48.L452.(216)

[4755] A78/95.50.49.L449.(15)

**Uncatalogued Type 1 "Ionian" cup handles from pre-604 quarry fill (qty. 5):**

[4482] A78/95.50.48.L452.(247)

[4483] A78/95.50.48.L452.(246)

[4493] A78/95.50.48.L452 not registered

[4879] A78/95.50.57.L256 not registered

[4880] A78/95.50.57.L256 not registered

**Uncatalogued Type 1 "Ionian" cup bases from pre-604 quarry fill (qty. 2) :**

[4337] A78/95.50.48.L452.(149) (Same reg. no. as 177 but not the same vessel.)

[4872] A78/95.50.57.L256.(39)

**Uncatalogued Type 1 "Ionian" cup body sherds from pre-604 quarry fill (qty. 35):**

[4215] A89/96.50.47.L310.B88 not registered

[4518] A78/95.50.48.L452 not registered

[4260] A73/93.50.48.L405.FG24.B27 not registered

[4519] A78/95.50.48.L452 not registered

[4520] A78/95.50.48.L452 not registered	[4529] A89/96.50.48.L453.(78)
[4521] A78/95.50.48.L452 not registered	[4536] A80/97.50.48.L453.B6.(25)
[4522] A78/95.50.48.L452 not registered	[4537] A78/95.50.48.L453 not registered
[4523] A78/95.50.48.L452 not registered	[4527] A89/96.50.48.L462.B10 not registered
[4524] A78/95.50.48.L452 not registered	[4802] A89/96.50.49.L449.B2 not registered
[4525] A78/95.50.48.L452 not registered	[4803] A89/96.50.49.L449.B2 not registered
[4526] A78/95.50.48.L452 not registered	[4804] A89/96.50.49.L449.B2 not registered
[4530] A78/95.50.48.L452 not registered	[4777] A89/96.50.49.L451.B101 not registered
[4531] A78/95.50.48.L452 not registered	[4800] A89/96.50.49.L451.B26 not registered
[4532] A78/95.50.48.L452 not registered	[4801] A89/96.50.49.L451.B17 not registered
[4533] A78/95.50.48.L452 not registered	[4805] A78/95.50.49.L451 not registered
[4534] A78/95.50.48.L452 not registered	[4903] A78/95.50.57.L256 not registered
[4538] A78/95.50.48.L452 not registered	[4904] A78/95.50.57.L256 not registered
[4539] A78/95.50.48.L452 not registered	[4906] A78/95.50.57.L256 not registered
[4555] A78/95.50.48.L452 not registered	[4907] A78/95.50.57.L256 not registered
[4528] A89/96.50.48.L453.B9 not registered	

Two Ashkelon Type 1 “Ionian” cup sherds, one unregistered, came from post-604 contexts in Grid 38:

**58** Type 1 “Ionian” cup. Rim sherd. PH 2.9; PW 4.2; Th 0.25.

Lower part of sharply offset rim; convex wall. Fine, micaceous, light reddish-brown (5YR 6/4) clay. Int.: solid glossy black. Ext.: lower rim and upper body solid glossy black. Narrow reserved band in handle zone. W-r-w near lower preserved edge.

A40/90.38.74.LF355.B260.(1)

Persian-period subfloor fill.

(No drawing.)



Scale 1:1

**Uncatalogued Type 1 “Ionian” cup rim sherd from post-604 Persian-period fill:**

[2542] A61/91.38.84 not registered

**Ashkelon Type 2 “Ionian” cups (nos. 59–63).**

These are large, thick-walled cups with w-r-w lines, some with white scallops on the rim. They are a variant of Ashkelon Type 1. Five rim sherds with w-r-w linear decoration—four with added white scallops pendent from the lip—came from the pre-604 quarry fill. Rim diameters vary from 17 to 29 cm; the ware is thicker and coarser than Type 1, with more inclusions, and the paint is less glossy and uniform.

Only one example (no. 59) is preserved much below the handle zone, but what is preserved is covered with dark paint, except for a reserved line inside the lip and a reserved band in the handle zone. W-r-w lines are placed on the interior and exterior of the rim and body below the handle zone (where preserved). No. 63 is somewhat smaller than the others and does not have scallops on the rim, but it is larger and thicker than the norm for Type 1 and so has been included here.

These cups do not conform to any of the types discussed by Hayes, Villard and Vallet, or others. Hayes cites a type he calls “Samian Type iii” (Hayes 1966:115) with wavy line just below the lip, but examples at Samos and elsewhere show the wavy line to be in black against a reserved ground on the lip (e.g., Isler 1978b:77, pl. 32 fig. 3; Fürtwängler 1980: 201 fig. 12; Schlotzhauer 2000:fig. 297, Type 5), not white on black. Part of a stemmed dish that had a wavy white line painted over black beneath the rim on the interior was found at Ephesos and dated second half of the seventh century or first half of the sixth century B.C. Kerschner compares the technique of painting white lines over dark ground to Lydian examples found at Sardis about 60 miles inland from Ephesos (Kerschner 1997:127, pl. 5.38, p. 186 fig. 21; and cf. Hanfmann 1983:79, figs. 86, 127). All of the Ashkelon examples come from the pre-604 quarry fill underneath the marketplace in Grid 50.

- 59 Type 2 “Ionian” cup. Rim sherd. SJSh. D rim 23.4; PH 15.15; PW 10.4; H rim 2.4; Th rim 0.5; Th wall 0.4.

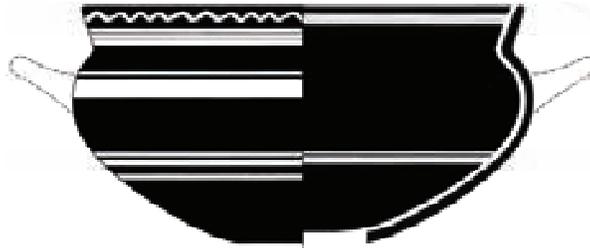
Medium, light brown clay (7.5YR 6/4). Occasional fine micaceous inclusions; small to large white and black grits, some erupting to surface. Several joining sherds and some nonjoining sherds of a very large cup. Tall, rounded rim, tilted outward and making a reverse curve at join to bowl. Very deep convex bowl, tapered inward toward base. Foot and handles not preserved. Int.: solid lustrous iridescent black paint. On rim, remains of added w just inside lip; w-r-w horizontal stripes below that. W-r-w stripes on lower body below widest diameter (white is faded leaving dull black “ghost”). Ext.: white scallops pendent from rim. W-r-w below carination. Reserved band on upper body in handle zone. Rest of paint very streaky black to red. Two “ghost” bands now red (once white?).

A80/97.50.57.L274.B11.(4)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.14.

(No photograph.)



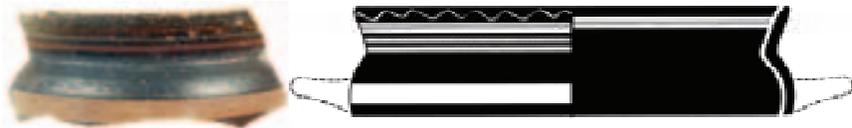
Scale 1:4

- 60 Type 2 “Ionian” cup. Rim sherd. ED rim 23; H rim 2.5; PH 6.0; Th rim 0.5; Th wall 0.45.

Medium, yellowish-red clay (5YR 5/6). Fine sparse micaceous inclusions, small to large white grits, some erupting to surface. Tall, straight rounded rim, offset at join with bowl. Upper bowl convex. Handle root at left edge; finger marks around it. Int.: top of rim worn black paint; narrow reserved band below. Rest of rim and bowl iridescent black; w-r-w (uneven) on middle of rim. Ext.: rim and upper bowl iridescent black. Handle zone reserved. Remains of black to dark brown band below on broken edge. On rim added r-w-r, with red lines wider than white. White scallops pendent from lip.

A80/97.50.48.L453.B27.(79)

From pre-604 quarry fill.



Scale 1:4

- 61 Type 2 “Ionian” cup. Rim sherd. ED rim 28; H rim 2.6; PH 3.3; Th rim 0.6.

Medium, reddish-brown clay (5YR 5/4) with dark gray core. Fine sparse micaceous inclusions, small white grits, some erupting to surface. Tall rounded straight rim of large cup. Rim tilted outward. Little of bowl preserved but apparently convex. Int.: top and just inside rim reserved; rest solid black. Wide band of r-w-r applied over black. Red is 2.5YR 4/8 lower; 2.5YR 4/4 upper. Ext.: solid dark brown to black. On ext. rim added w scallop; below it added w-r-w.

A78/95.50.48.L451.B263.(112)

From pre-604 quarry fill.



Scale 1:4

- 62 Type 2 “Ionian” cup. Rim sherd. ED rim 29; H rim 2.8; Th 0.7.

Medium, brown clay (7.5YR 5/4). Fine micaceous inclusions; small white grits, some erupting to surface. Broken at join with bowl. Convex rounded rim, tilted outward. Int.: top and just inside rim reserved; rest solid black with w-r-w across middle. Ext.: solid black; “ghost” of w scallop pattern on rim; w-r-w below.

A78/95.50.48.L452.(197)

From pre-604 quarry fill.



Scale 1:4

- 63 Type 2 “Ionian” cup. Rim sherd. ED rim 17; H rim 2.4; Th rim 0.5.

Medium, brown clay (7.5YR 5/4). Fine micaceous inclusions, occasional small white grits, some small to medium voids. Tall, thick, slightly convex, rounded rim, tilted outward, offset at join with bowl. Most of bowl not preserved. Int.: reserved just inside rim, rest solid very dark grayish brown (10YR 3/2). Band of w-r-w across middle of rim (weak red 10R 4/4). Ext.: solid grayish brown. W-r-w across rim at higher level than on int.

A78/95.50.48.L452.(218)

From pre-604 quarry fill.



Scale 1:4

**Ashkelon Type 3 “Ionian” cups (nos. 64–103).** This is another common type of Ionian cup, generally referred to as Hayes’s “Rhodian” Type V (Hayes 1966: 112) or Villard and Vallet Type B1, now generally considered to be South Ionian in origin (Schlotzhauer and Villing 2006:60–61, fig. 23; Schlotzhauer 2000:fig. 298). Villard and Vallet give its chronological range as ca. 620–580 (1955:23–24, 29). This type is characterized by a low, broad bowl with short, tilted rim, offset from the bowl, a low ring foot, and two thin, horizontal loop handles at the widest diameter of the bowl. It also has added red decoration. Like Ashkelon Type 1, the ware is very thin and fine with some fine mica and few other inclusions. Rim diameters vary from about 10 to 16 cm; rim thickness varies from 0.2 to 0.4 cm.

In contrast to Type 1, however, these cups are not completely painted on the exterior. Glossy to iridescent dark paint (usually black but ranging to very dark brown, brown, and even red) covers the interior, except for a reserve line at the lip, and the outer rim and upper bowl to handle level. The outer foot and sometimes the lower bowl are also painted. One or more added red lines appear on the inside of the rim and bowl, appearing as concentric circles around the center of the floor, and on the outside where the rim meets the bowl or just below that point.

In the Levant, similar cups are found at Tall Sūkās (Ploug 1973:29 Group 4, no. 104), at Tel Kabri Stratum E2a (Niemeier and Niemeier 2002:229 no. 12, figs. 5.94.1, 5.93.7), and at Tel Miqne–Ekron (Gitin 1995: 65 fig. 4.5 no. 16).

Fragments of eight Ashkelon Type 3 “Ionian” cups (2 bases, 1 uncatalogued handle, and 5 uncatalogued body sherds) come from the 604 B.C. use phase or destruction debris in Grid 50. Unfortunately, no photographs or drawings of these pieces are available:

- 64 Type 3 “Ionian” cup. Base sherd. ED foot 5; H foot 3.0; W resting surface 0.2; PH 1.3; Th wall 0.3.

Fine brown clay (10YR 5/3) with fine sparse micaceous inclusions, occasional small dark grits. Low, flaring ring foot with narrow rounded resting surface. Floor and outer edge of foot and lowest part of wall black. Underside, resting surface and outer wall reserved. Two added r concentric circles near center of floor.

A72/92.50.48.L392.FG71.B347.(1)

From 604 use phase (Building 276 Room 421 occupational debris on floor).

- 65 Type 3 “Ionian” cup. Base sherd. ED foot 6; PH 1.6; Th wall 0.25.

Fine, light brown clay (7.5YR 6/4). No visible mica. Low, narrow ring foot with rounded resting surface, beveled on outer edge. Int.: solid lustrous black with remains of group of three concentric circles in added r (dusky red 10R 3/3). Ext.: reserved. Black over lower body and top of foot. Underside and resting surface reserved.

A72/92.50.57.LF212.FG44.B265.(1)

From 604 use phase (Building 234 Room 206 plaster floor).

**Uncatalogued Type 3 “Ionian” cup handle from 604 use phase (qty. 1):**

[4236] A72/92.50.48.L393.B409.(14); from 604 use phase (Plaza accumulation).

**Uncatalogued Type 3 “Ionian” cup body sherds from 604 use phase or destruction debris (qty. 5):**

[4263] A72/92.50.48.L393.B426 not registered; from 604 use phase (Plaza).

[4264] A72/92.50.48.L393.B402 not registered; from 604 use phase (Plaza).

[4730] A72/92.50.49.L373.FG3.B182.(2); from 604 use phase.

[4859] A73/93.50.57.L234.B19 not registered; from 604 use phase (floor makeup).

[4941] A72/92.50.58.L262.FG43.B122.(7); from 604 destruction debris in Building 234 Room 227.

A total of 77 pieces of Ashkelon Type 3 “Ionian” cups came from the large pre-604 quarry fill in Grid 50, including one complete profile, 29 rims (9 uncatalogued), 15 bases (2 uncatalogued), one uncatalogued handle, and 31 body sherds (2 analyzed, 29 uncatalogued):

*Complete profile:*

**66** Type 3 “Ionian” cup. 4JSh. H 5.0; ED rim 10.0; W handle 2.8; Th rim 0.2; D foot 4.0.

Fine, micaceous reddish-brown clay (5YR 5/4) with occasional small to medium white grits, some erupting to surface. Offset, sharply carinated, short rim with rounded lip, convex bowl, low ring foot, slight nipple in center of underside. Horizontal loop handle part way down bowl from rim. Finger marks around handle roots. Int.: black with added r concentric lines: two on rim, three on lower bowl; two in center of floor. Red is weak red (10R 4/3). Ext.: black on rim and upper bowl; top of handle; lowest part of bowl and foot including resting surface. Rest of bowl and underside reserved. One added r line on upper bowl.

A89/96.50.49.L449.B12+63.(9)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.5; 2002b:58, fig. 2 top; Waldbaum and Magness 1997:27, fig. 3 top.



Scale 1:2

*Rims:*

**67** Type 3 “Ionian” cup. Rim sherds. 2NJS. ED rim 12.0; PH 3.1; H rim 0.7; Th rim 0.2; Th wall 0.3.

Fine, yellowish-red clay (5YR 5/6), many fine micaceous inclusions, some small white grits. Very short rounded rim, tilted outward and offset at join with bowl. Shallow groove at ext. join. Convex bowl. Handle stump at widest diameter. Int.: edge of rim black. Rest is solid lustrous red (10R 4/8). Added r horizontal line about halfway down rim (weak red 10R 4/4). Ext.: very pale brown slip (10YR 7/3) now worn. Over rim and upper bowl streaky dark gray paint (10YR 4/1). Narrow reserved line just below edge of rim.

A73/93.50.57.L248.B144.(1) + A73/93.50.57.F13.L245.B130

From pre-604 quarry fill.



Scale 1:2

- 68 Type 3 "Ionian" cup. Rim sherd. ED rim 14; H rim 1.15; PH 4.2; Th rim 0.25; Th wall 0.2.

Fine, yellowish-red clay (5YR 5/6). Fine sparse micaceous inclusions, occasional small white grits, some erupting to surface. Straight, rounded rim, tilted outward, offset at join with bowl. Shallow groove at ext. join. Int.: brown line on top of rim; reserve line just inside; rest of rim and bowl brown (10YR 5/3) to very dark grayish brown (10YR 3/2). Two added r lines: one just under reserve; one at lower broken edge (red is 10R 4/8). Ext.: reserved. Black/brown on lower rim and upper bowl; streaky brown/black band on lower bowl. Added r line just below join between rim and bowl.

A78/95.50.48.L452.(162)

From pre-604 quarry fill.



Scale 1:2

- 69 Type 3 "Ionian" cup. Rim sherd. ED rim 10.0; W rim 1.35; H rim 0.9; PH 3.45; Th rim 0.25; Th wall 0.2.

Fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small white grits. Short, convex, rounded rim, tilted outward, offset at join with bowl. Int.: narrow reserved band inside rim; lower rim and bowl solid dark reddish brown (5YR 3/3). Two added r lines on rim. Ext.: rim and upper bowl dark reddish brown (5YR 3/3). Brown band below handle zone. Rest of bowl reserved.

A78/95.50.48.L453.(27)

From pre-604 quarry fill.



Scale 1:2

- 70 Type 3 "Ionian" cup. Rim sherd. ED rim 11; H rim 1.0; PH 2.0; Th rim 0.2; Th wall 0.2.

Fine, yellowish-red clay (5YR 5/6). Fine sparse micaceous inclusions, occasional white grits. Slightly convex, pointed rim, tilted outward, offset at join with bowl. Bowl convex. Int.: top of rim black; narrow reserved band inside rim. Lower rim and bowl solid glossy black. Three added r lines on rim. Ext.: rim and upper bowl solid black. Lower bowl reserved.

A78/95.50.48.L453.(29)

From pre-604 quarry fill.



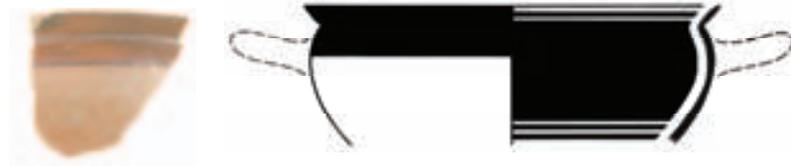
Scale 1:2

- 71 Type 3 "Ionian" cup. Rim sherd. ED rim 11; H rim 0.8; PH 3.9; Th rim 0.2; Th wall 0.25.

Fine, strong brown clay (7.5YR 5/6). Fine micaceous inclusions, occasional small white grits, some erupting to surface. Short, slightly convex pointed rim, tilted outward, offset at join with bowl. Bowl convex to globular. Int.: top of rim dark brown; reserved just inside edge of rim. Rest of rim and bowl solid glossy dark reddish brown (5YR 3/4). Pair of added r lines on lower rim; another on lower bowl. Red is weak red (10R 4/4). Ext.: rim and upper bowl solid yellowish red (5YR 4/6). Rest of bowl reserved.

A78/95.50.48.L454.(10)

From pre-604 quarry fill.



Scale 1:2

- 72 Type 3 "Ionian" cup. Rim sherd. ED rim 12.0; H rim 0.75; PH 1.9; Th rim 0.2; Th wall 0.2.

Fine, light brown clay (7.5YR 6/4). Fine sparse micaceous inclusions, occasional small white grits. Short, slightly convex pointed rim, tilted outward, offset at join with bowl. Bowl convex. Int.: thin reserved line inside rim; rest of rim and bowl solid dark reddish brown (5YR 2.5/2). 3–4 mm added r line on rim under reserved line (dusky red, 10R 3/4). Ext.: rim and upper bowl dark reddish brown. Two narrow added r lines on upper bowl; rest of bowl reserved.

A78/95.50.48.L453.(47)

From pre-604 quarry fill.



Scale 1:2

- 73 Type 3 "Ionian" cup. Rim sherd. ED rim 13.0; H rim 0.9; PH 2.95; Th rim 0.2; Th wall 0.35.

Fine yellowish-red clay (5YR 5/6). Many fine micaceous inclusions; some small white grits. Short rounded convex rim, tilted outward. Slight groove at join to bowl. Upper bowl convex. Int.: black line on top of rim, reserved band inside edge. Rest is solid streaky dark reddish brown. Faded added r line at bottom of rim, above join to bowl. Ext.: very dark brown on ext. rim and upper bowl. Rest reserved (discolored).

A89/96.50.49.L453.B46.(6)

From pre-604 quarry fill.



Scale 1:2

- 74 Type 3 "Ionian" cup. Rim sherds with handle. 4JSh. D rim 11.8; H rim 1.15; PH 4.2; Th rim 0.2; Th wall 0.3; W handle at root 3.0; Th handle 0.8;

Fine brown clay (7.5YR 5/4). Fine sparse micaceous inclusions; some small white grits. Thin, pointed rim, tilted outward. Upper bowl convex, horizontal loop handle at widest diameter of bowl. Int.: lip reserved; rest of rim, bowl solid glossy black. Two added r lines (weak red 10R 4/4) inside rim; three on lower preserved curve of bowl. Ext.: top of rim and upper bowl solid black. One added r line below join of rim and handle. Top and ext. handle solid glossy black.

A89/96.50.49.L453.B54.(10) rim + A89/96.50.49.L449.B14.(9) handle

From pre-604 quarry fill.



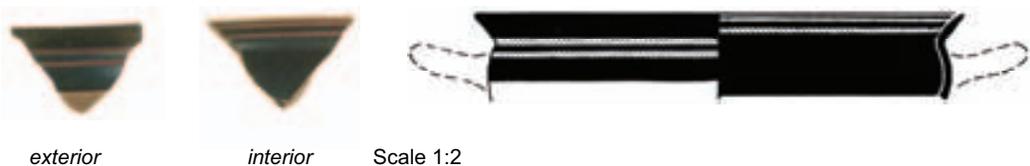
Scale 1:2

- 75 Type 3 "Ionian" cup. Rim sherd. ED rim 13.0; H rim 1.25; PH 2.4; Th rim 0.2; Th wall 0.2.

Fine, light reddish-brown clay (5YR 6/4). Fine micaceous inclusions, some small white grits. Thin, straight rounded rim, tilted outward. Upper bowl convex. Int.: reserved band inside rim; rest solid glossy black. Two added r lines (weak red 10R 4/4) on rim below reserved line. Ext.: rim and upper bowl solid glossy black. Bowl below reserved. Added r line at join of rim and bowl; another on upper bowl.

A89/96.50.49.L453.B133.(17)

From pre-604 quarry fill.



Scale 1:2

- 76 Type 3 "Ionian" cup. Rim sherd. ED rim 11.0; H rim 0.9; PH 2.8; Th rim 0.2; Th wall 0.2.

Fine, reddish-yellow clay (7.5YR 6/6). Fine sparse micaceous inclusions, occasional small white grits and voids. Thin, straight, rounded rim, tilted outward, offset at join with bowl. Bowl convex. Int.: thin reserved line inside rim; rest of rim and bowl solid lustrous black. Added r line on rim; another at lower, broken edge. Ext.: rim and upper bowl black with two added r lines on shoulder. Another black line at lower broken edge; rest of bowl reserved. Red is weak red (10R 4/4).

A78/95.50.48.L454.(6)

From pre-604 quarry fill.



Scale 1:2

- 77 Type 3 "Ionian" cup. Rim sherd. ED rim 18.0; H rim 1.4; PH 3.7; Th rim 0.5; Th wall 0.4.

Medium fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions. Straight, rounded rim, tilted outward, offset at join with bowl. Slight groove at ext. join. Bowl convex. Int.: dark paint mostly flaked off. "Ghosts" of a white or red line and possibly another red line on rim. Ext.: black on rim and upper bowl. Faded added r on upper bowl. Rest of bowl reserved. Much discoloration.

A80/97.50.48.L462.B1.(22)

From pre-604 quarry fill.



Scale 1:2

- 78 Type 3 "Ionian" cup. Rim sherd. H 0.95; PW rim 2.55; Th 0.3.

Ext.: solid dark brown. Int.: reserved below edge; solid brown below; 1 added r line.

A78/95.50.48.L452.(201)

From pre-604 quarry fill.

(No photograph.)



Scale 1:2

- 79 Type 3 "Ionian" cup. Rim sherd. ED rim 17.0; H rim 1.25; PH 2.65; Th rim 0.2; Th bowl 0.2.

Fine, yellowish-red clay (5YR 5/6). Fine sparse micaceous inclusions, some small white grits. Thin, straight rounded rim, tilted outward. Upper bowl convex. Int.: reserved line inside rim; rest of rim and bowl solid glossy black. Two worn added r lines on rim below reserved line. Ext.: rim and upper bowl solid glossy black. Bowl below reserved. Two worn and faded added r lines on upper bowl. Top of rim black.

A89/96.50.49.L451.B108.(11)

From pre-604 quarry fill.



Scale 1:2

- 80** Type 3 "Ionian" cup. Rim sherd. ED rim 11.0; PH 2.45; H rim 0.8; Th rim 0.3; Th wall 0.3.

Fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions. Short, rounded rim, tilted outward, offset at join with bowl. Bowl convex. Int.: thin reserved line just inside rim. Rest is solid streaky dark brown to black. Ext.: top of rim and top of bowl lustrous black. Thin line of added r (2.5YR 4/6) on upper bowl.

A78/95.50.57.L256.(23)

From pre-604 quarry fill.

(No photograph.)



Scale 1:2

- 81** Type 3 "Ionian" cup. Rim sherd. ED rim 17; PH 2.85; H rim 1.4; Th rim 0.45; Th wall 0.3.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions. Thick rounded rim, tilted outward and offset where it joins the bowl. Upper body convex. Int.: solid lustrous dark brown (7.5YR 3/2). Two added r (weak red 10R 4/4) lines—one about halfway down rim; the other at lower, broken edge. Ext.: pink slip (7.5YR 7/4) on lower bowl. Rim and upper bowl yellowish red (5YR 5/6) with added r narrow band right across join between rim and bowl. Top of rim apparently reserved.

A78/95.50.57.L256.(24)

From pre-604 quarry fill.



Scale 1:2

- 82** Type 3 "Ionian" cup. Rim sherd. ED rim 11.0; H rim 0.9; PH 3.35; Th rim 0.2; Th wall 0.2.

Fine, brown clay (7.5YR 6/4). Fine micaceous inclusions. Short, thin, pointed rim, tilted outward. Convex bowl. Handle stump at widest diameter. Finger marks around handle root. Int.: reserved narrow band just inside rim. Rest is solid glossy black. Two narrow added r lines (lower one worn); upper one (10R 4/6). Ext.: top of rim, outer rim, upper bowl, outer handle, and lower (broken) edge of bowl glossy black. Rest of bowl reserved. Two added r horizontal lines on shoulder.

A78/95.50.57.L256.(30)

From pre-604 quarry fill.



Scale 1:2

- 83** Type 3 "Ionian" cup. Rim sherds with handle. 2JSh. ED rim 13.0; H rim 0.85; PH 4.2; W handle at root 3.5; Th rim 0.2; Th wall 0.2; Th handle at root 0.9.

Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions. Short, convex, pointed rim, tilted far outward and offset at join with bowl. Convex to globular wall, horizontal loop handle at widest diameter. Int.: narrow reserved band just inside rim; rest of int. rim and bowl solid lustrous black. On rim: two added r lines; on lower bowl three horizontal (concentric) r lines (weak red 10YR 4/4). Ext.: top of rim, ext. rim, upper bowl and outer handle solid black. Two added r lines on upper body across top of handle root. Lower body reserved. Dark brown band across lower part.

A78/95.50.58.LF318.(25)

From pre-604 quarry fill.



Scale 1:2

- 84** Type 3 "Ionian" cup. Rim sherd. ED rim 13.0; H rim 1.1; PH 3.2; Th rim 0.25; Th wall 0.2.

Fine, yellowish-red clay (5YR 5/8). Fine sparse micaceous inclusions, some small white grits, some erupting to surface. Thin, convex, pointed rim, tilted outward and offset at join with bowl. Convex to globular bowl, handle root at widest diameter. Int.: narrow reserved band inside rim; rest of rim and bowl solid glossy streaky very dark grayish brown (10YR 3/2). Two added r lines on rim under reserve (2.5YR 4/6). Ext.: solid glossy black over top of rim, ext. rim and upper bowl. Lower bowl reserved. Two added r lines across upper bowl.

A78/95.50.58.LF318.(31)

From pre-604 quarry fill.



Scale 1:2

- 85** Type 3 "Ionian" cup. Rim sherd. ED rim 14.0; H rim 1.1; PH 3.6; Th rim 0.45; Th wall 0.4.

Fine, light yellowish-brown clay (10YR 6/4). Many fine micaceous inclusions. Rounded rim, convex on both sides, tilted outward. Convex bowl. Int.: Solid streaky very dark brown. One added r line across lower rim, another near lower (broken) edge of bowl. Ext.: rim and upper bowl streaky dark reddish brown (5YR 3/4). Rest reserved.

A80/97.50.58.L396.(9)

From pre-604 quarry fill.



Scale 1:2

- 86** Type 3 "Ionian" cup. Rim sherd. ED rim 11; PH 2.95; H rim 0.9; Th rim 0.15; Th wall 0.2.

Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions. Thin, pointed rim, tilted outward. Upper bowl globular. Int.: narrow reserved band just inside rim; rest solid glossy black. Two r (weak red 10R 4/4) narrow bands just below reserved band. Ext.: top and ext. of rim, and upper bowl solid glossy black. Two added r bands on upper bowl over black.

A78/95.50.57.L256.(20)

From pre-604 quarry fill.

(No drawing.)



Scale 1:2

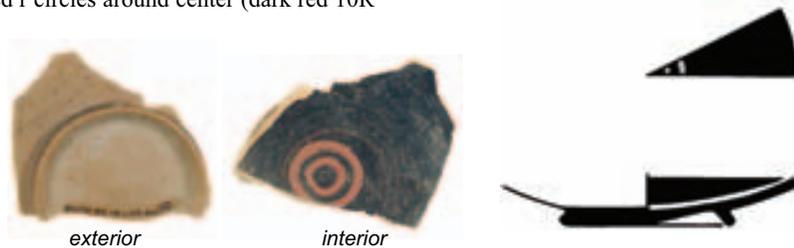
*Bases:*

- 87** Type 3 "Ionian" cup. Base sherd. D foot 4.5; H foot 0.35; W resting surface 0.3; PH 1.3; Th wall 0.3; Th floor 0.4.

Fine, strong brown clay (7.5YR 5/6). Fine sparse micaceous inclusions. Low flaring ring foot with narrow resting surface. Slight nipple in center of floor; outer wall convex. Underside, resting surface and outer wall reserved. Outer surface of foot streaky dark brown; int. solid black with two added r circles around center (dark red 10R 3/6).

A80/97.50.48.L453.B6.(70)

From pre-604 quarry fill.



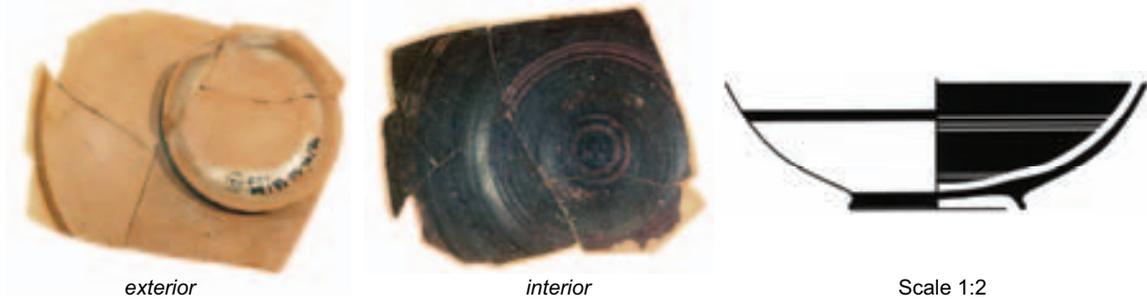
Scale 1:2

- 88 Type 3 "Ionian" cup. Base sherds. D foot 4.6; H foot 0.4; W resting surface 0.2; PH 3.5; Th wall 0.2.

Fine, reddish-brown clay (5YR 5/4). Many fine micaceous inclusions, occasional small white grits, some voids. Low ring foot, almost straight. Narrow, flat resting surface. Lower wall globular to convex. Int.: solid lustrous black. Around center of floor are two concentric circles in added r. At edge of floor three concentric added r circles; on lower wall three added r lines (weak red 10R 4/4). Ext.: underside, resting surface and lower wall reserved. Yellowish-red paint around outer edge of foot (5YR 4/6). Dark brown line at join of foot and bowl. Yellowish-red line around top of preserved part of bowl, at level of int. red lines.

A78/95.50.58.LF318.(15)

From pre-604 quarry fill.



exterior

interior

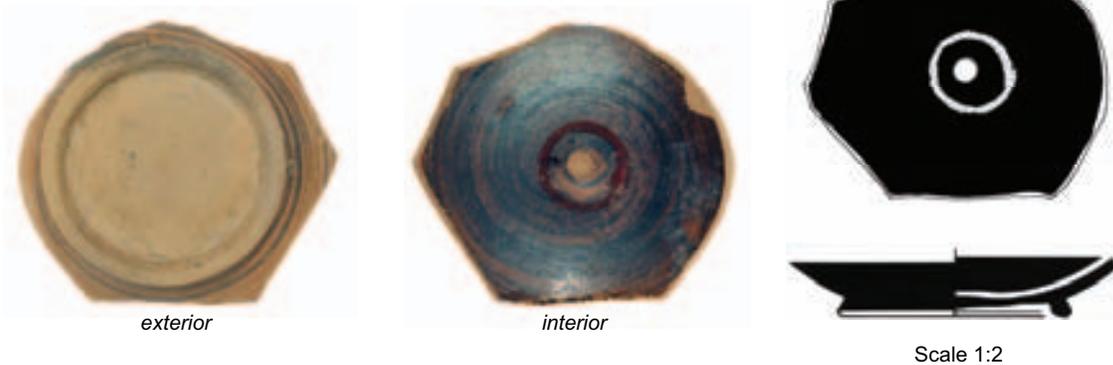
Scale 1:2

- 89 Type 3 "Ionian" cup. Base sherd. D foot 6.2; W resting surface 0.5; H foot 0.5; PH 1.5; Th wall 0.3.

Fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions; some small to medium white grits, some erupting to surface; some voids. Low, slightly flaring ring foot; flat resting surface. Lower bowl slopes up and out. Int.: streaky dark reddish-brown to reddish-brown paint (5YR 3/4-4/4) laid on in spiral pattern. Reserved circle in center of floor; around it one circle of added r (dusky red 10R 3/4). Ext.: paint on foot crackled and wearing off. Underside and resting surface reserved. Lower bowl and outer foot streaky brown (7.5YR 5/4) to dark brown paint in circular pattern.

A80/97.50.58.L396.(2)

From pre-604 quarry fill.



exterior

interior

Scale 1:2

- 90 Type 3 "Ionian" cup. Base sherds. 2JSh. D foot 5.4; H foot 0.4; PH 1.6; Th wall 0.35; Th floor 0.4; W foot 0.35.

Medium fine, brown clay (7.5YR 5/4). Fine, sparse micaceous inclusions, some small white grits. Low flaring ring foot with rounded resting surface, sloping outer edge. Lower wall convex. Slight nipple in center of underside. Int.: solid lustrous black, somewhat dulled. In center are remains of two added r concentric circles, now almost completely worn off showing bare clay. Ext.: wall, underside, resting surface reserved. Remains of reddish band at top outer edge of foot. Another on lower wall.

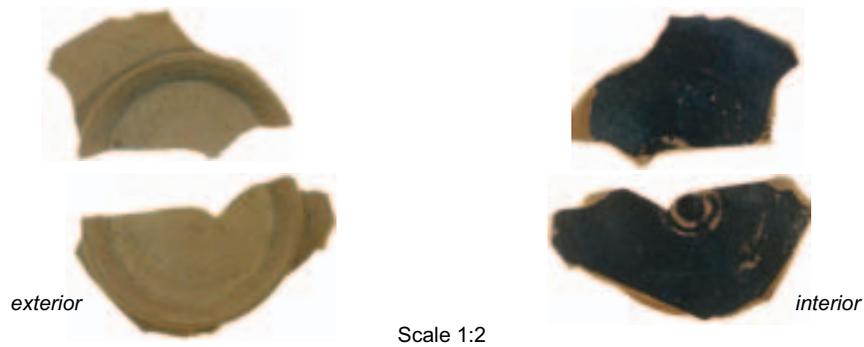
A89/96.50.49.L451.B148.(18+19)

From pre-604 quarry fill.

(Photographs on facing page.)

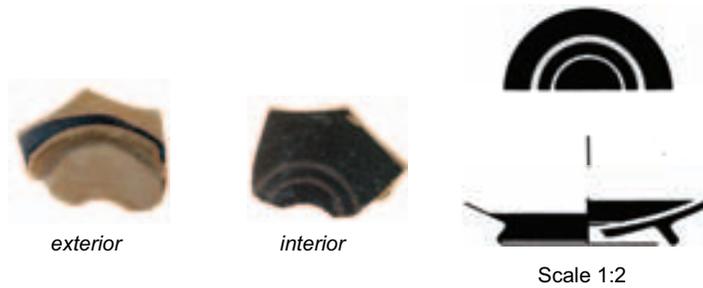


Scale 1:2



- 91 Type 3 “Ionian” cup. Base sherd. ED foot 5.0; PH 1.5; H foot 0.6; Th wall 0.2; Th floor 0.25; W foot 0.3. Fine, yellowish-red clay (5YR 5/8), grayer toward outer edge. Fine sparse micaceous inclusions, some small white grits. Low ring foot, somewhat flaring, with rounded resting surface; convex lower wall. Int.: solid glossy black with two concentric added r circles (faded). Ext.: reserved upper wall, underside, and resting surface. Lower wall and outer side of foot black.

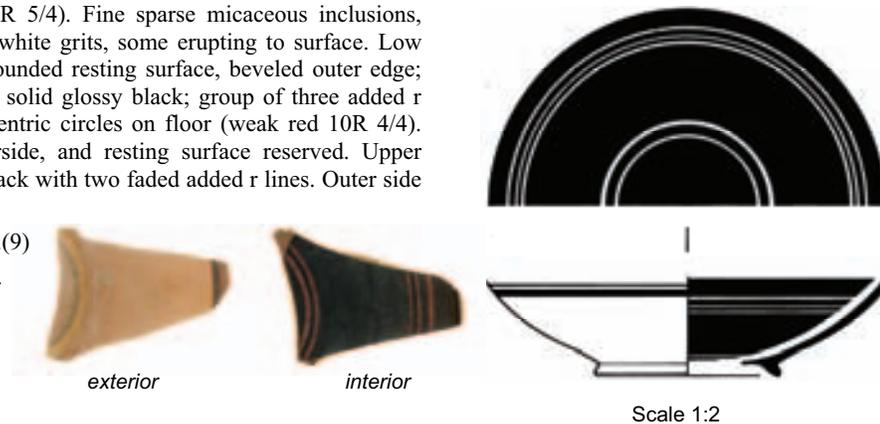
A89/96.50.49.L451.B102.(25)  
From pre-604 quarry fill.



- 92 Type 3 “Ionian” cup. Base sherd. ED foot 5; PH 2.6; H foot 0.35; Th wall 0.2; W foot 0.25.

Fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, some small to medium white grits, some erupting to surface. Low ring foot with narrow rounded resting surface, beveled outer edge; lower wall convex. Int.: solid glossy black; group of three added r lines on wall, two concentric circles on floor (weak red 10R 4/4). Ext.: lower wall, underside, and resting surface reserved. Upper (broken) edge of wall black with two faded added r lines. Outer side of foot reddish brown.

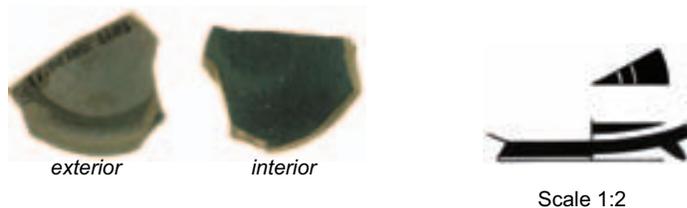
A89/96.50.49.L453.B73.(9)  
From pre-604 quarry fill.



- 93 Type 3 “Ionian” cup. Base sherd. ED foot 5; H foot 0.5; W foot 0.2; PH 1.05.

Fine, hard, dark brown clay (7.5YR 4/2). Fine sparse micaceous inclusions. Low, flaring ring foot with pointed resting surface. Little of lower wall preserved. Int.: solid black. “Ghost” of two concentric circles (added r?) at center. Ext.: reserved (slipped? discolored?) grayish brown (10YR 5/2). Black over ext. of foot.

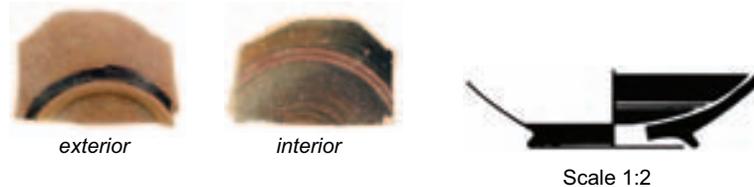
A80/97.50.49.L453.B3.(21)  
From pre-604 quarry fill.



- 94 Type 3 "Ionian" cup. Base sherd. ED foot 4.5; H foot 0.4; W resting surface 0.3; PH 1.9; Th wall 0.3; Th floor 0.45. Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions and occasional small white and dark grits. Very smooth outer surface. Low flaring ring foot with beveled outer edge and narrow resting surface. Floor slightly concave on int.; lower wall convex. Ext.: underside, resting surface, and most of lower wall reserved. Ext. surface of foot and wall where it meets foot very dark brown. Int.: streaky black to dark brown. Two added r lines around outer center (weak red 10R 4/4).

A78/95.50.48.L452.(104)

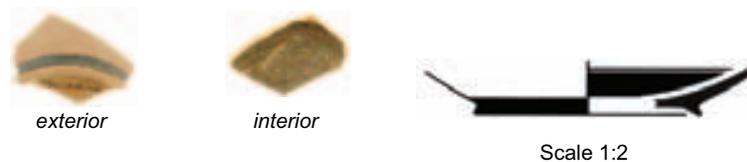
From pre-604 quarry fill.



- 95 Type 3 "Ionian" cup. Base sherd. ED foot 7.0; H foot 0.35; W resting surface 0.2; PH 1.5; Th wall 0.2; Th floor 0.3. Fine, pale brown clay (10YR 6/3). Fine, sparse micaceous inclusions, occasional small white grits. Low flaring ring foot with pointed resting surface. Lower wall convex. Underside, resting surface, and most of lower wall reserved. Outer surface of foot and wall where it meets foot black. Int.: iridescent black. Remains of added r line.

A78/95.50.48.L452.(137)

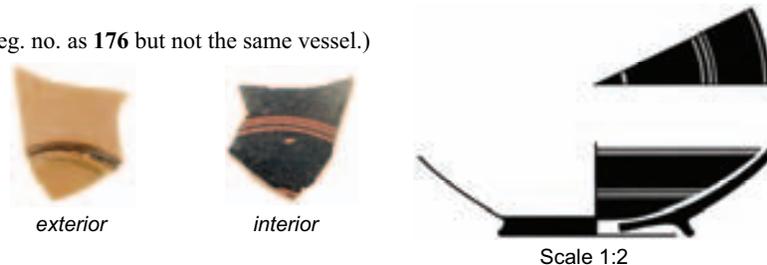
From pre-604 quarry fill.



- 96 Type 3 "Ionian" cup. Base sherd. ED foot 4–5; H foot 0.45; W resting surface 0.25; PH 1.9; Th wall 0.3; Th floor 0.25. Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small white grits. Very smooth outer surface. Low, flaring ring foot with beveled outer edge, narrow resting surface. Lower wall convex. Two shallow concentric grooves in underside. Ext.: underside, most of resting surface and most of lower wall reserved. Outer surface of foot, wall where it meets foot, very dark brown. Some of paint slopped over onto resting surface. Int.: solid black. Remains of added r circle around center. Group of three r lines farther up; part of another on upper (broken) edge (dark red 10R 3/6).

A78/95.50.48.L452.(140) (Same reg. no. as 176 but not the same vessel.)

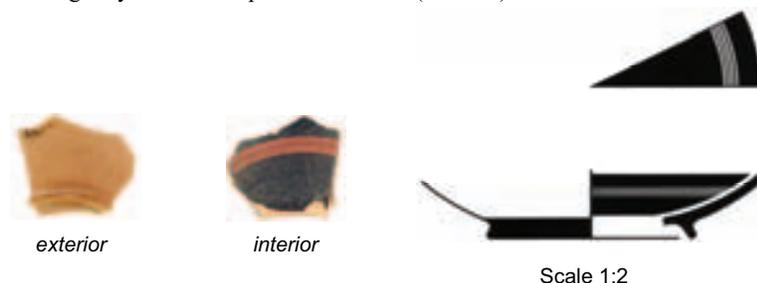
From pre-604 quarry fill.



- 97 Type 3 "Ionian" cup. Base sherd. ED foot 5; H foot 0.3; W resting surface 0.25; PH 1.8; Th wall 0.3; Th floor 0.3. Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small white grits. Very smooth outer surface. Low flaring ring foot with beveled outer edge, narrow resting surface. Lower wall convex, most of floor missing. Underside, resting surface, and most of lower wall reserved. Outer edge of floor and wall where it meets foot yellowish-red paint (5YR 5/6). Int.: solid glossy black. Group of four added r (10R 4/6) lines.

A78/95.50.48.L452.(145)

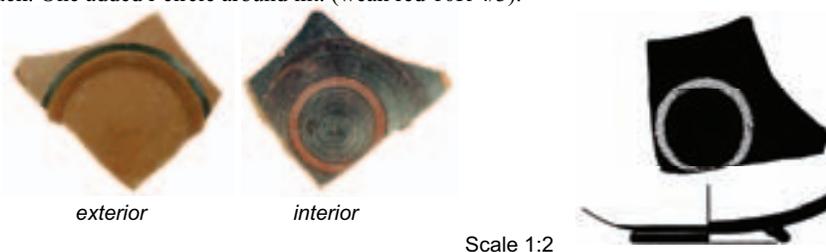
From pre-604 quarry fill.



- 98** Type 3 “Ionian” cup. Base sherd. ED foot 4.5; H foot 0.3; W resting surface 0.2; Th wall 0.4; Th floor 0.3. Medium, yellowish-red clay (5YR 5/6). Fine sparse micaceous inclusions, occasional small to medium white and dark grits; voids. Low flaring ring foot with narrow pointed resting surface. Lower wall convex, floor flat. Ext.: underside, resting surface, and most of lower wall reserved. Outer surface of foot and wall where it meets the foot black to very dark brown. Int.: iridescent black. One added r circle around int. (weak red 10R 4/3).

A78/95.50.48.L452.(151)

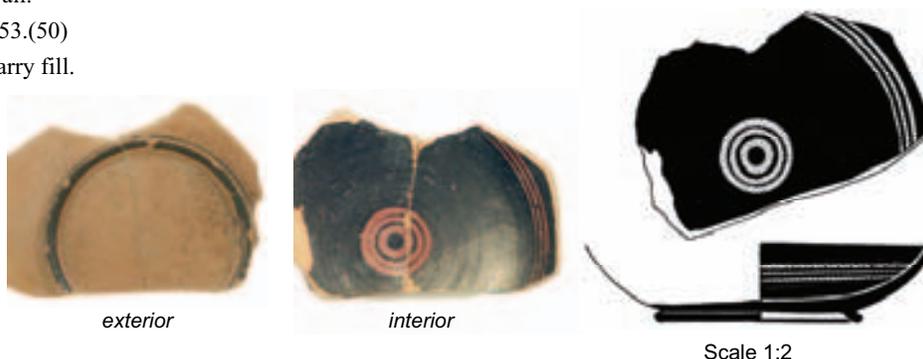
From pre-604 quarry fill.



- 99** Type 3 “Ionian” cup. Base sherd. 2JSh. D foot 5.6; H foot 0.35; W resting surface 0.2; PH 1.8; Th wall 0.2; Th floor 0.3. Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional small dark grits and voids. Very smooth surface. Low ring foot with narrow spreading resting surface, slight groove in upper surface of foot. Fairly flat floor, lower wall convex. Ext.: underside and lower wall reserved; outer surface of foot, underside, and lower inner surface of foot black. Int.: solid glossy black. Three added r concentric circles around center of floor. Three thinner r lines farther up wall.

A78/95.50.48.L453.(50)

From pre-604 quarry fill.



*Analyzed body sherds* (see figure 10.3 after cat. no. 253):

- 100** Type 3 “Ionian” cup. Body sherd from lower part of vessel. Th 0.5 at floor, 0.2 at wall. Fine micaceous inclusions and small white grits in fine, yellowish-red clay (5YR 5/6). Int.: solid iridescent black; three concentric r (weak red 10R 4/2) circles around floor. Ext.: reserved above, black below. Petrographic analysis: Sample E10, Category 19, “petrographically unidentified” (Master 2001:47, 147). A55/94.50.48.L439.B71 not registered; from pre-604 quarry fill under Plaza.
- 101** Type 3 “Ionian” cup. Body sherd with turn to rim. Th 0.25. Fine micaceous inclusions in fine reddish-gray clay (5YR 5/2). Int.: solid matte black with three parallel added r lines (weak red 10R 4/3). Ext.: top: dull black with two parallel added r lines; reserved; black; reserved. Petrographic analysis: Sample E8, Category 19, “petrographically unidentified” (Master 2001:106, 147). A78/95.50.58.LF318 not registered; from pre-604 quarry fill.

**Uncatalogued Type 3 “Ionian” cup rim sherds from pre-604 quarry fill** (qty. 9):

[4240] A73/93.50.48.L405.B25.(23)

[4248] A73/93.50.48.L444.B5.(27)

[4372] A78/95.50.48.L452.(221) (Same reg. no. as [4440] but not the same vessel.)

[4440] A78/95.50.48.L452.(221) (Same reg. no. as [4372] but not the same vessel.)

[4442] A78/95.50.48.L452.(202)

[4462] A78/95.50.48.L452.(227)

[4769] A89/96.50.49.L451.B90.(14) (Same reg. no. as **150** and [4768].)

[4905] A78/95.50.57.L256 not registered

[4966] A78/95.50.58.LF318.(28)

**Uncatalogued Type 3 "Ionian" cup bases from pre-604 quarry fill (qty. 2):**

[4249] A73/93.50.48.L444.B32.(28)

[4250] A73/93.50.48.L444.B26.(29)

**Uncatalogued Type 3 "Ionian" cup handle from pre-604 quarry fill (qty. 1):**

[4978] A78/95.50.58.LF318.(33)

**Uncatalogued Type 3 "Ionian" cup body sherds from pre-604 quarry fill (qty. 29):**

[4261] A73/93.50.48.L439.B69 not registered

[4552] A78/95.50.48.L452 not registered

[4554] A78/95.50.48.L452.(236)

[4557] A78/95.50.48.L452 not registered

[4558] A78/95.50.48.L452 not registered

[4559] A78/95.50.48.L452 not registered

[4560] A78/95.50.48.L452 not registered

[4561] A78/95.50.48.L452 not registered

[4562] A78/95.50.48.L452 not registered

[4563] A78/95.50.48.L452 not registered

[4566] A78/95.50.48.L452 not registered

[4567] A78/95.50.48.L452 not registered

[4569] A78/95.50.48.L452 not registered

[4570] A78/95.50.48.L452 not registered

[4584] A78/95.50.48.L452 not registered

[4585] A78/95.50.48.L452 not registered

[4586] A78/95.50.48.L452 not registered

[4553] A89/96.50.48.L453.B128 not registered

[4564] A89/96.50.48.L453.B98 not registered

[4582] A78/95.50.48.L453 not registered

[4583] A89/96.50.48.L453.B53 not registered

[4565] A78/95.50.48.L461 not registered

[4729] A72/92.50.49.L420.FG22.B52 not registered

[4908] A78/95.50.57.L256 not registered

[4909] A78/95.50.57.L256 not registered

[4910] A78/95.50.57.L256 not registered

[4911] A78/95.50.57.L256 not registered

[4914] A78/95.50.57.L256 not registered

[4982] A78/95.50.58.LF315.(15)

The following Ashkelon Type 3 "Ionian" cup sherds came from post-604 contexts in Grid 50:

**102** Type 3 "Ionian" cup. Rim sherd. ED rim 11.0; PH 2.1; Th 0.3.

Fine, light brown, micaceous clay. Int.: solid glossy black with two thin horizontal added r lines. Ext.: solid, dark reddish brown (5YR 2.5/2) on rim with three thin, horizontal, added r lines. Preserved part of bowl reserved.

A40/90.50.58.L199.F180.B325.(6)

Persian-period pit or pottery dump.

(No drawing.)



Scale 1:1

**103** Type 3 "Ionian" cup. Rim sherd. ED rim 16.0; PH 1.8; Th 0.3.

Fine, very micaceous, very pale brown (10YR 7/4) clay. Sharply offset, tilted rim. Int.: somewhat metallic, dark gray (5YR 3/1) paint with added dark reddish-gray (5YR 4/2) stripes. Ext.: paint completely worn.

A40/90.50.49.L280.B330.(3)

Persian-period fill.

(No drawing.)

*black-and-white  
photographs*

*exterior**interior*

Scale 1:1

**Uncatalogued Type 3 "Ionian" cup body sherd from a post-604 context in Grid 38 (qty. 1):**

[4195] A55/94.38.84.L385.B162 not registered; from foundation trench for earliest Persian-period wall.

**Ashkelon Type 4 “Ionian” cups (nos. 104–89).** This is the most common type at Ashkelon, although it does not appear in Hayes’s or Villard and Vallet’s classification. Cups of this type do turn up elsewhere in the eastern Mediterranean, where they are related to Hayes’s “Rhodian” Type V and Villard and Vallet’s Type B1 in shape and decorative pattern, but lack the added red lines. On Cyprus, they appear at Salamis (Calvet and Yon 1977:17 nos. 88–98, pl. 9; 1978:48, pl. 22 fig. 4g) and Amathus (Thalmann 1977:71 “Group E derived from Vallet-Villard, B1” nos. 56–65, pl. 3:10, 14, 15; 4:1, 9). At Tall Sūkās, Ploug’s Group 9 also is noted as similar (Ploug 1973:32–33). Some examples are also published from Assesos (Kalaitzoglou 2008: 74, 354, pl. 15 nos. 64–69 “Type B Variant 5b”). Although some examples of this type are thin and delicate, like most of the

Ashkelon Type 3 cups, with rim thickness about 0.2 cm, some are considerably larger, thicker, and coarser, with rim diameters ranging from ca. 11 to 21 cm and rim thickness from 0.2 to 0.4 or even 0.5 cm. Some examples (e.g., nos. **108, 115, 127, 133, 137–51, 153, 155–57, 161–62**) have a shallow groove at the join of rim to bowl. Most have a profile with a medium-deep, rounded bowl; but some have a deeper, more conical bowl (e.g., nos. **134–39**). There is considerable variation in surface color with paint colors ranging from red (2.5YR 4/8; Calvet and Yon note examples of this type with red paint at Salamis [1977:17 no. 89; 1978:48]) to yellowish red (5YR 4/6, 5/6, 5/8), reddish brown (2.5YR 4/4, 5YR 4/3, 5/4), dark reddish brown (5YR 3/2, 3/3, 3/4), dark brown (7.5YR 3/2, 4/2), to dark gray and very dark grayish brown (10YR 3/1, 3/2, 4/2, 4/3) to black.

A total of 14 rims (2 uncatalogued) and 2 bases of Ashkelon Type 4 “Ionian” cups were identified in 604 B.C. use or destruction layers. Two of the rims came from Grid 38 destruction layers, the rest from Grid 50.

*Rims:*

**104** Type 4 “Ionian” cup. Rim sherd. ED rim 13.0; PH 3.3; H rim 0.8; Th rim 0.2; Th wall 0.3.

Fine, thin, light brownish-gray clay (2.5YR 6/2). Sparse fine micaceous inclusions; many small white grits, some erupting to surface, and some brown grits. Short concave rounded rim, tilted outward and offset at join with bowl. Bowl convex, handle stump of horizontal loop handle preserved. Int.: solid streaky lustrous black paint except for reserved line inside edge of rim. Ext.: worn solid black on rim, faded on upper body. Slip discolored and worn very pale brown (10YR 7/4).

A73/93.38.84.L299.FG52.B164.(1)

From 604 destruction debris on floor of Building 776 Room 312.



Scale 1:2

**105** Type 4 “Ionian” cup. Rim sherds. SNJSh. ED rim 19.0; H rim 1.4; PH 4.1; Th rim 0.35; Th wall 0.4.

Medium fine, pale brown clay (10YR 6/3). Many fine micaceous inclusions, occasional small white grits, some erupting to surface, occasional small voids. Short rounded rim, tilted outward and offset at join to body. Remains of handle stump with finger marks around it, just below join. Upper body convex, light groove just below join to rim. Int.: faded, worn streaky black paint on lip and int. bowl; possibly on lower rim as well (not totally gone; with “ghost” line). Ext.: light gray slip (2.5YR 7/2) possible “ghost” of dark paint on rim and upper body. Four body sherds have same slip on ext., streaky black on int.

A73/93.38.84.L299.FG53.B150.(2)

From 604 destruction debris on floor of Building 776 Room 312 in Grid 38 Square 84 Fine-grid 52 Bucket 166 (1 sherd), Fine-grid 53 Bucket 159 (1 sherd), Fine-grid 54 Bucket 139 (2 sherds).



Scale 1:2

- 106** Type 4 “Ionian” cup. Rim sherd. ED rim 16; H rim 1.8; PH 3.4; Th rim 0.4; Th wall 0.45.

Medium fine, brown clay (7.5YR 6/4) with many fine micaceous inclusions, small to medium white grits, occasional voids. Straight rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: reserved band inside rim, rest of rim and int. bowl reddish brown (5YR 5/4) shading to dark reddish brown (5YR 3/3) on rim. Ext.: rim and upper bowl streaky dark brown (7.5YR 4/2). Lower bowl reserved.

A72/92.50.48.L393.B342.(6)

From 604 use phase (Plaza accumulation).



Scale 1:2

- 107** Type 4 “Ionian” cup. Rim sherd. ED rim 14; H rim 0.9; PH 2.3; Th rim 0.4; Th wall 0.35.

Fine, light brown clay (7.5YR 6/4) with fine micaceous inclusions, some small voids. Short rounded rim tilted outward and offset at join with bowl. Bowl convex. Decoration, Int.: top of rim dark brown; upper int. of rim reserved; lower rim and bowl red (2.5YR 4/8). Ext.: rim and upper bowl streaky dark reddish brown (5YR 3/3–4); lower bowl reserved.

A72/92.50.48.L393.B348.(8)

From 604 use phase (Plaza).



Scale 1:2

- 108** Type 4 “Ionian” cup. Rim sherds. SJSh. ED rim 14.0; H rim 1.05; PH 4.05; Th rim 0.3; Th wall 0.3.

Fine, light brown clay (7.5YR 6/4) with many fine micaceous inclusions, occasional small white grits. Short rounded rim, tilted outward and offset at join with bowl. Shallow groove at ext. join. Bowl convex and globular. Int.: top of rim and just inside rim black to very dark brown; reserved band below; rest of rim and int. of bowl streaky dark reddish gray to reddish brown (5YR 4/2–3). Ext.: rim and upper bowl streaky yellowish red (5YR 5/6); lower bowl reserved.

A72/92.50.48.L393.B415.(9)

From 604 use phase (Plaza).



Scale 1:2

- 109** Type 4 “Ionian” cup. Rim sherd. ED rim 12; H rim 0.95; PH 2.5; Th rim 0.3; Th wall 0.4.

Fine, reddish-yellow clay (7.5YR 6/6). Fine micaceous inclusions, some small white and dark grits, some erupting to surface. Short, rounded rim, tilted far outward, offset at join with bowl. Upper bowl convex; handle stump at widest diameter. Int.: Very thin uneven reserved line inside lip. Top of rim, rest of rim and bowl solid yellowish red (5YR 5/8). Ext.: rim and upper bowl yellowish red. Rest of bowl and handle reserved. Fleck of paint left on ext. handle.

A72/93.50.48.L415.B455.(21)

From 604 use phase (Plaza/street build-up).



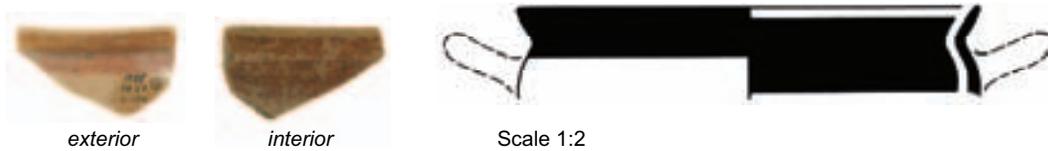
Scale 1:2

- 110** Type 4 "Ionian" cup. Rim sherd. ED rim 12; PH 2.5; H rim 1.1; Th rim 0.3; Th wall 0.35.

Fine, yellowish-red clay (5YR 5/6). Many fine micaceous inclusions. Short, rounded rim, tilted outward. Fine ridge at join with upper bowl. Bowl convex to globular. Int.: reserved horizontal band inside lip. Rest solid reddish brown (2.5YR 4/4). Now very worn. Ext.: top of rim reserved. Rest of rim and upper bowl red (10R 4/8).

A3/88.50.57.L134.(1)

From 604 destruction debris on floor of Building 234 Room 234.



- 111** Type 4 "Ionian" cup. Rim sherd. ED rim 15; PH 2.0; H rim 0.9; Th rim 0.3; Th wall 0.3.

Fine, yellowish-red clay (5YR 5/6). Many fine micaceous inclusions. Short, rounded rim, tilted outward, offset at join to bowl. Upper bowl convex. Int.: narrow reserved line about halfway down rim; rest solid red (2.5YR 4/8) glossy paint, now somewhat worn. Ext.: top of rim reserved. Lower rim and upper body red. Rest of body reserved.

A3/88.50.57.L134.(2)

From 604 destruction debris on floor of Building 234 Room 234.

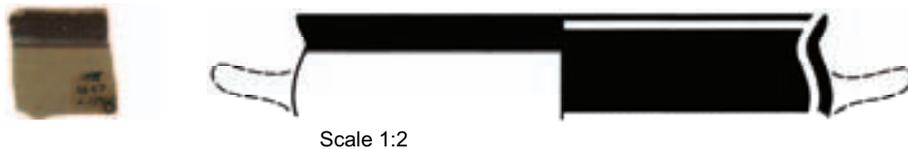


- 112** Type 4 "Ionian" cup. Rim sherd. ED rim 14; PH 2.8; H rim 0.8; Th rim 0.3; Th wall 0.35.

Fine, reddish-yellow clay (7.5YR 6/6). Fine micaceous inclusions. Short rounded rim, tilted outward and offset where it meets bowl. Bowl convex; curve rather shallow. Int.: narrow uneven reserved line inside lip. Rest is solid reddish brown (2.5YR 4/4). Ext.: solid reddish brown over top of rim, rim and upper bowl. Rest of bowl reserved.

A3/88.50.57.L134.(3)

From 604 destruction debris on floor of Building 234 Room 234.



- 113** Type 4 "Ionian" cup. Rim sherds. 2NJSh. ED rim 16; H rim 1.5; PH 4.6; Th rim 0.4; Th wall 0.45–5.0.

Medium fine, strong brown clay (7.5YR 5/6) with somewhat redder core. Fine sparse micaceous inclusions, occasional small white and dark grits. Straight, pointed rim, tilted outward and offset at join to bowl. Upper bowl convex. Edge of handle root to right edge of smaller piece. Int.: reserved band inside lip. Top of rim and int. rim and bowl streaky dark reddish gray. Ext.: Rim and upper bowl streaky dark reddish gray; rest has thin, washy slip, light yellowish brown (10YR 6/4).

A72/92.50.58.L262.FG54.B157.(3) +

A72/92.50.58.L262.FG11.B212.(3)

(Same reg. no. as [4939]

but not same vessel.)

From 604 destruction debris on floor of Building 234 Room 227.

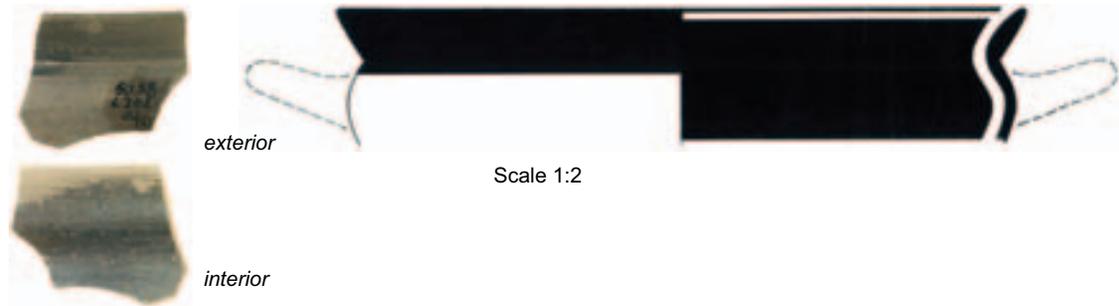


- 114** Type 4 “Ionian” cup. Rim sherd. ED rim 18; H rim 1.8; PH 3.65; Th rim 0.5; Th wall 0.3.

Medium, grayish-brown clay (10YR 5/2). Fine micaceous inclusions; small white and dark grits. Pointed rim, straight on ext., convex on int., tilted outward and offset at join to bowl. Shallow groove at ext. join. Int.: reserved line filled with light brownish-gray slip (10YR 6/2) (discolored?) inside lip. Top of rim and rest of rim and bowl worn black. Ext.: very worn. Rim and upper bowl worn black. Lower bowl slipped light brownish gray.

A72/92.50.58.L262.B2.(4a) (Same reg. no. as **115** and [4938] but not the same vessel.)

From 604 destruction debris on floor of Building 234 Room 227.



- 115** Type 4 “Ionian” cup. Rim sherd. ED rim 18.4; H rim 1.6; PH 2.55; Th rim 0.35; Th wall 0.4.

Fine, brown clay at core (7.5YR 5/4) grayer at edges. Many fine micaceous inclusions, some small white and dark grits, voids. Straight, rounded rim, tilted outward and offset at join to bowl. Shallow rounded groove at ext. join. Int.: reserved line filled with light brownish-gray slip (10YR 6/2) inside lip. Rest streaky black. Ext.: paint completely worn.

A72/92.50.58.L262.B1.(4b) (Same reg. no. as **114** and [4938] but not the same vessel.)

From 604 destruction debris on floor of Building 234 Room 227.



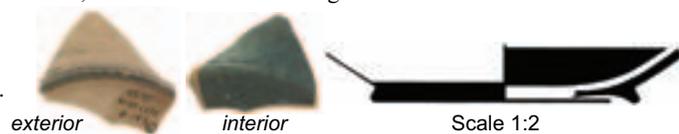
*Bases:*

- 116** Type 4 “Ionian” cup. Base sherd. ED foot 7.0; H foot 0.35; PH 1.7; Th wall 0.3.

Fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions; some small white grits. Low ring foot with rounded resting surface, beveled on ext. edge. Lower wall slopes up; slightly convex. Int. wall and floor solid iridescent black. Ext.: dark brown paint on lower wall at join with foot, over ext. foot and resting surface. Rest of wall and underside reserved.

A72/92.50.49.L374.B197.(1)

From 604 use phase (Building 406 Room 375).



- 117** Type 4 “Ionian” cup. Base sherd. ED foot 7.3; W resting surface 0.9; H foot 0.4; PH 2.6; Th wall 0.3; Th floor 0.2.

Fine, dark gray clay (10YR 4/1) with grayish-brown core (10YR 5/2). Many fine micaceous inclusions, occasional small to medium white grits. Low spreading ring foot with wide, slightly concave resting surface. Groove at join with bowl; outer edge of foot turns up. Lower bowl slopes out and up. Int.: solid reddish brown (5YR 4/4). Ext.: underside and resting surface reserved. Lower bowl and outer foot faded and discolored reddish brown; upper bowl washy light (discolored) slip.

A72/92.50.58.L262.FG12.B214.(5)

From 604 destruction debris on floor of Building 234 Room 227.

(No photograph.)



Scale 1:2

**Uncatalogued Type 4 “Ionian” cup rim sherds from 604 use phase (qty. 2):**

[4251] A72/92.50.48.L393.B345.(13)

[4252] A72/92.50.48.L393.B342.(7)

One complete profile, 57 rims (11 uncatalogued), and 26 bases (3 uncatalogued) of Ashkelon Type 4 “Ionian” cups were found in the pre-604 quarry fill in Grid 50:

*Complete profile:*

**118** Type 4 “Ionian” cup. SJS. ED rim 14.0; ED foot 8.0; H foot to rim 5.6; H foot 0.3; W handle at root 3.1; Th handle at root 1.2; Th rim 0.25; Th wall 0.4.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions. Short, pointed rim, tilted outward, offset at join with bowl. Bowl convex to globular. Horizontal loop handle at widest diameter. Small low ring foot with flat resting surface. Flat floor/underside. Int.: reserved band inside lip; rest of rim and bowl are solid red (2.5YR 4/6) with some variation. Ext.: rim, upper and lower bowl, ext. foot and ext. handle streaky red to reddish brown. Rest of bowl, resting surface and underside reserved.

A78/95.50.48.L461.(9)

From pre-604 quarry fill.



Scale 1:2

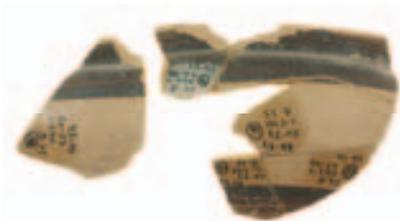
*Rims:*

**119** Type 4 “Ionian” cup. Rim sherds. SJS. ED rim 14; PH 4.9; H rim 0.8; Th rim 0.25; Th wall 0.3.

Fine, light yellowish-brown to very pale brown clay (10YR 6/4–7/4). Fine micaceous inclusions. Short rounded rim tilted outward and offset at join to bowl. Bowl convex with high center of gravity, tapering downward. Int.: reserved band just inside lip. Rest of rim and bowl streaky dark gray to reddish-brown paint, very worn and flaked. Ext.: streaky dark gray to very dark grayish brown (10YR 3/1–3/2) over rim, upper body, and lowest part of preserved bowl. Rest of bowl reserved.

A73/93.50.57.L240.B75.(15+16)

From pre-604 quarry fill.

*exterior**interior*

Scale 1:2

- 120** Type 4 “Ionian” cup. Rim sherd. ED rim 13.0; PH 2.35; H rim 0.8; Th rim 0.35; Th wall 0.35.

Fine, light yellowish-brown clay (10YR 6/4). Fine micaceous inclusions, some small voids. Short rounded rim, tilted outward and offset at join to body. Convex upper body. Int.: solid lustrous dark reddish brown (5YR 3/2) except for reserved band near base of rim. Ext.: streaky dark reddish brown over top of rim, ext. and upper body.

A73/93.50.57.L240.B68.(15)

From pre-604 quarry fill.



Scale 1:2

- 121** Type 4 “Ionian” cup. Rim sherd. ED rim 19; H rim 1.7; PH 2.9; Th rim 0.4; Th wall 0.3.

Medium fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional small white grits. Straight, rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: top of rim, just inside rim, lower rim, and bowl dark reddish brown (5YR 3/2–3). Reserved band inside rim. Ext.: rim and upper bowl dark reddish gray (5YR 4/2). Reserved below.

A78/95.50.48.L452.(159)

From pre-604 quarry fill.



Scale 1:2

- 122** Type 4 “Ionian” cup. Rim sherd. ED rim 11; H rim 0.9; PH 2.8; Th rim 0.35; Th wall 0.3.

Fine, light brown clay (7.5YR 6/4); many fine micaceous inclusions. Short, convex, rounded rim, tilted outward and offset at join with bowl. Bowl convex. Int.: reserved line inside rim; dark grayish-brown line at top of rim; lower rim and bowl dark brown to dark grayish brown (10YR 4/3–2). Ext.: rim and upper bowl worn brown (7.5YR 5/4). Lower bowl slipped very pale brown (10YR 7/3).

A78/95.50.48.L452.(161)

From pre-604 quarry fill.



Scale 1:2

- 123** Type 4 “Ionian” cup. Rim sherd. ED rim 12; H rim 0.9; PH 2.6; Th rim 0.2; Th wall 0.3.

Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions. Short, straight rim, tilted outward, offset at join with bowl. Bowl convex. Int.: top of rim dark brown; reserve band inside; rest of rim and bowl dark reddish brown (5YR 3/3). Ext.: dark brown on rim and upper bowl. Lower bowl slipped pale brown (10YR 6/3).

A78/95.50.48.L452.(179)

From pre-604 quarry fill.



Scale 1:2

- 124** Type 4 "Ionian" cup. Rim sherd. ED rim 15; H rim 1.0; PH 2.4; Th rim 0.3; Th wall 0.3.

Medium fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions; occasional small to large white grits, including at least one piece of white stone. Short, straight rounded rim, tilted outward and offset at join with bowl. Narrow ridge and groove at ext. of join. Upper bowl convex. Int.: reserved line inside lip, rest of rim and bowl very dark brown to black. Ext.: dark brown on rim and upper bowl (7.5YR 3/2). Rest of bowl slipped pink to light brown (7.5YR 7/4-6/4).

A78/95.50.48.L452.(198)

From pre-604 quarry fill.



Scale 1:2

- 125** Type 4 "Ionian" cup. Rim sherd. ED rim 12; H rim 0.9; PH 5.3; Th rim 0.3; Th wall 0.35; W handle at root 4.25; Th handle at root 1.55.

Medium, light yellowish-brown clay (10YR 6/4). Many fine micaceous inclusions, occasional small to large white grits; small dark grits. Short, convex, rounded rim, tilted outward, offset at join with bowl. Bowl convex, tapered downward; horizontal loop handle tilted upward at widest diameter. Int.: Reserved just inside lip; rest of rim and bowl solid lustrous very dark brown to black. Ext.: rim and upper bowl, outer handle black; lower bowl streaky brownish black. Rest of bowl reserved.

A89/96.50.48.L452.B6.(230)

From pre-604 quarry fill.



Scale 1:2

- 126** Type 4 "Ionian" cup. Rim sherd. ED rim 14; PW rim 1.4; H rim 0.9; PH 4.45; W handle at root 3.8; Th handle at root 1.4; Th rim 0.3; Th wall 0.4.

Medium, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, occasional small white grits, some erupting to surface; small to large voids. Short, pointed rim, tilted outward, offset at join with bowl. Shallow ridge at ext. join. Upper bowl convex; handle at widest diameter; underside of handle flattened. Int.: narrow reserved band inside lip, rest of rim and bowl solid red (2.5YR 4/6). Ext.: top of rim, top of bowl, and ext. handle red; rest reserved.

A78/95.50.48.L452.(242)

From pre-604 quarry fill.



Scale 1:2

- 127** Type 4 "Ionian" cup. Rim sherd. ED rim 14; H rim 1.05; PH 4.4; W handle at root 4.25; Th handle at root 1.5; Th rim 0.25; Th wall 0.3.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, occasional small white grits, some small to medium voids. Short, rounded rim, tilted outward, offset at join with bowl. Slight groove at ext. join. Complete horizontal loop handle at widest diameter. Int.: reserved band inside lip. Rest of rim and bowl mottled, streaky dark red to dark reddish brown (2.5YR 3/6-2.5/4). Ext.: rim and upper bowl, ext. handle, and lowest part of bowl dark reddish brown; rest of bowl reserved.

A89/96.50.48.L453.B63.(33)

From pre-604 quarry fill.



Scale 1:2

- 128** Type 4 “Ionian” cup. Rim sherd. ED rim 12; H rim 0.9; PH 2.8; Th rim 0.2; Th wall 0.25.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions. Thin short, straight rounded rim, tilted outward, offset at join with bowl. Bowl convex. Int.: narrow reserved band inside lip; top of rim, lower rim, bowl streaky yellowish red (5YR 5/6) to dark reddish brown (5YR 3/2). Ext.: rim and upper bowl dark reddish brown; lower bowl reserved.

A89/96.50.48.L453.B62.(37)

From pre-604 quarry fill.



Scale 1:2

- 129** Type 4 “Ionian” cup. Rim sherd. ED rim 14; PW rim 1.5; H rim 1.1; PH 2.4; Th rim 0.3; Th wall 0.4.

Fine, yellowish-red clay (7.5YR 6/6). Many fine micaceous inclusions, occasional small voids. Short, convex rounded rim, tilted outward, offset at join with bowl. Bowl convex. Int.: reserved band inside lip; rest of rim and bowl streaky red (2.5YR 4/6). Ext.: rim and upper bowl streaky red; lower bowl slipped light brown (7.5YR 6/4).

A78/95.50.48.L453.(55)

From pre-604 quarry fill.



Scale 1:2

- 130** Type 4 “Ionian” cup. Rim sherd. ED rim 12.8; PH 2.75; H rim 0.9; Th rim 0.35; Th wall 0.3.

Fine, light yellowish-brown clay (10YR 6/4). Many fine micaceous inclusions. Short pointed rim, tilted outward, offset at join to bowl. Bowl convex, Horizontal loop handle at widest diameter. Int.: solid dark brown streaky paint (7.5YR 3/4). Two darker horizontal lines across inner rim and lower rim. Ext.: worn dark grayish-brown paint (10YR 4/2) on outer rim, upper body, and top of handle. Rest slipped very pale brown (10YR 7/3).

A78/95.50.57.L256.(19)

From pre-604 quarry fill.



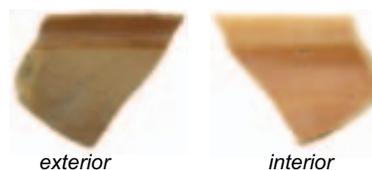
Scale 1:2

- 131** Type 4 “Ionian” cup. Rim sherd. ED rim 15; PH 3.5; H rim 1.0; Th rim 0.3; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions; small dark grits; medium voids. Short, rounded rim, tilted outward and offset where it joins the bowl. Convex bowl, handle stump at widest diameter. Finger marks around handle root. Int.: thin reserved horizontal line just inside rim, fading out to right. Rest is solid lustrous yellowish-red (5YR 5/6) paint. Ext.: yellowish red on top and ext. of rim and upper bowl. Rest of bowl reserved, or has a thin, washy, now worn slip.

A78/95.50.57.L256.(26)

From pre-604 quarry fill.



exterior

interior



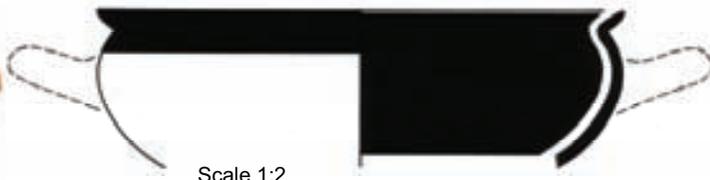
Scale 1:2

- 132** Type 4 “Ionian” cup. Rim sherd. ED rim 14; H rim 0.9; PH 4.4; Th rim 0.3; Th wall 0.4.

Fine, light yellowish-brown clay (10YR 6/4). Many fine micaceous inclusions; some small dark grits. Short convex rounded rim, tilted far outward. Bowl convex. Int.: reserved line inside lip. Rest of rim and bowl worn, flaking dark grayish brown (10YR 4/2). Ext.: rim and upper bowl solid dark grayish brown. Rest of bowl reserved.

A80/97.50.58.L396.(5)

From pre-604 quarry fill.



Scale 1:2

- 133** Type 4 "Ionian" cup. Rim sherd. ED rim 15; H rim 0.9; PH 4.3; Th rim 0.3; Th wall 0.5.

Fine, brown clay (10YR 5/3). Many fine micaceous inclusions, occasional small white grits and voids. Short, straight rim, tilted outward, offset at join with bowl. Shallow groove at join. Bowl convex. Int.: streaky very dark brown paint (10YR 2/2) over entire rim and bowl. No reserved lines. Ext.: dark brown on rim and upper bowl (7.5YR 4/2). Rest of bowl reserved.

A80/97.50.48.L462.B1.(21)

From pre-604 quarry fill.



Scale 1:2

*Body more conical:*

- 134** Type 4 "Ionian" cup. Rim, handle, and most of body. SJSh. ED 16.0; PH 7.0; Th rim 0.4; Th wall 0.5.

Fine, light reddish-brown (5YR 6/4) clay with occasional fine micaceous inclusions; some small white grits; voids and pitting. Short, rounded sharply carinated everted rim; deep, somewhat conical, convex bowl, horizontal loop handle just below carination. Int.: lip reserved; rest of rim and bowl solid, streaky lustrous dark reddish-brown (5YR 3/3) paint. Ext.: dark reddish brown on rim and ext. handle. Bowl reserved. Partly restored and infilled.

A73/93.50.48.L444.B16+46+40.(17)

From pre-604 quarry fill (under Plaza).



*exterior*



*interior*

Scale 1:2

- 135** Type 4 "Ionian" cup. Rim sherds. 2JSh. ED rim 13.5; H rim 0.9; PH 4.2; Th rim 0.3; Th wall 0.3.

Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, some small white grits, some erupting to surface. Short, triangular, pointed rim, tilted outward, offset at join with bowl. Upper bowl convex; apparently tapers downward. Int.: top of rim red; narrow reserved line below edge; rest of rim and bowl red (2.5YR 4/8). Ext.: rim and upper bowl red; rest of bowl reserved.

A78/95.50.48.L461.(16+17)

From pre-604 quarry fill.



Scale 1:2

- 136** Type 4 "Ionian" cup. Rim sherd. ED rim 13.0; H rim 1.05; Th rim 0.3; Th wall 0.35.

Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions; some small light and dark grits. Short, triangular pointed rim, tilted outward. Upper body convex and somewhat conical. Handle stump at widest diameter. Int.: solid reddish brown on top of rim, just inside, and on lower rim and bowl. Reserved line on lip under upper red. Ext.: reddish-brown rim, top of bowl, and top of handle stem. Rest of bowl reserved.

A89/96.50.49.L449.B14.(7)

From pre-604 quarry fill.



Scale 1:2

- 137** Type 4 "Ionian" cup. Rim sherd. ED rim 14; H rim 1.0; PH 4.5; W handle at root 3.9; Th handle at root 1.25; Th rim 0.3; Th wall 0.3.

Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional small white grits, some voids. Short, straight rounded rim, tilted outward, offset at join with bowl. Shallow groove at ext. join. Deep, somewhat conical bowl. Int.: dark brown on top of rim; reserved band just inside. Ext.: rim, upper bowl, and ext. handle streaky reddish-brown paint (5YR 4/4). Rest of bowl reserved.

A78/95.50.48.L452.(254)

From pre-604 quarry fill.



Scale 1:2

- 138** Type 4 "Ionian" cup. Rim sherds. 2NJSh. ED rim 18; PH 7.2; H rim 1.5; W handle at root 4.5; Th rim 0.3; Th wall 0.35.

Medium, brown clay (7.5YR 5/4) with yellowish-red core (5YR 5/6). Many fine micaceous inclusions; small to large white grits, some erupting to surface. Large rim sherd with one complete horizontal loop handle and a second nonjoining sherd. Rounded rim tilted outward with shallow groove at join to bowl. Somewhat conical, convex bowl, handle at widest diameter. Int.: upper edge of lip reserved. Rest solid, streaky dark reddish brown (5YR 3/2). Ext.: rim, upper bowl, and handle dark brown (7.5YR 4/4-3/4). Second sherd does not join but clay, paint, and measurements are identical and must be from same vessel.

A78/95.50.57.L256.(17+34)

From pre-604 quarry fill.

138



Scale 1:2



139 Type 4 "Ionian" cup. Rim sherd. ED rim 14; H rim 1.0; PH 2.5; Th rim 0.3; Th wall 0.3.

Fine, strong brown clay (7.5YR 4/6). Many fine micaceous inclusions; occasional small white grits, some erupting to surface. Short, straight, rounded rim, tilted outward, offset at join with bowl. Upper bowl convex and somewhat conical with shallow groove at join of rim and bowl. Int.: top of rim and just inside reserved; lower rim and bowl yellowish red (5YR 5/6). Ext.: rim and top of bowl worn yellowish red; lower bowl reserved.

A78/95.50.48.L452.(225?)

From pre-604 quarry fill. (No drawing.)



Scale 1:1

*Short, rounded bowl with groove at join of rim and bowl:*

140 Type 4 "Ionian" cup. Rim sherd. ED rim 12; PH 2.5; H rim 1.0; Th rim 0.3; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Fine micaceous inclusions and some small to medium white and dark grits. Short triangular rim, tilted outward. Shallow groove at ext. join. Bowl convex; handle stump with finger marks around it. Int.: reserved line inside lip; rest is streaky worn dark brown paint. Ext.: rim, upper part of bowl and ext. of handle stump solid black. Very worn on top of rim.

A73/93.50.48.L444.B16.(24)

From pre-604 quarry fill (under Plaza).



Scale 1:2

141 Type 4 "Ionian" cup. Rim sherd. ED rim 13.5; PH 3.65; H rim 0.9; Th rim 0.3; Th wall 0.3.

Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, some small to large white grits, some erupting to surface. Short rounded rim, tilted outward and offset at join to bowl. Groove at ext. join. Upper bowl convex, starting to taper downward. Stump of handle at widest diameter. Int.: reserved horizontal line about halfway down rim. Rest solid, lustrous, yellowish-red paint (5YR 5/6). Ext.: red over top of rim, entire ext. rim and upper bowl, and top of handle. Rest of bowl reserved where preserved.

A78/95.50.47.L285.(9)

From pre-604 quarry fill.



*interior*



*exterior*



Scale 1:2

- 142 Type 4 "Ionian" cup. Rim sherds. 2JSh. ED rim 15; H rim 0.8; PH 2.2; Th rim 0.4; Th wall 0.35.

Fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small white grits. Short pointed rim, tilted far outward, offset at join with bowl. Shallow groove at ext. join. Upper wall has shallow convex curve. Int.: reserve band inside lip. Top of rim, lower rim and bowl yellowish red (5YR 4/6). Ext.: rim and upper bowl yellowish red; rest reserved.

A78/95.50.48.L452.(130+193)

From pre-604 quarry fill.



Scale 1:2

- 143 Type 4 "Ionian" cup. Rim sherd. ED rim 12; H rim 1.2; PH 3.3; Th rim 0.35; Th wall 0.35.

Fine, strong brown clay (7.5YR 5/8). Many fine micaceous inclusions, occasional small white grits. Straight rounded rim tilted outward and offset where it joins with bowl. Shallow groove at ext. join. Bowl convex. Int.: reserved band inside lip; top of rim, lower rim and bowl yellowish red (5YR 4/6). Ext.: rim and upper bowl yellowish red; lower bowl reserved.

A78/95.50.48.L452.(148)

From pre-604 quarry fill.



Scale 1:2

- 144 Type 4 "Ionian" cup. Rim sherd. ED rim 15; H rim 1.0; PH 3.7; W handle at root 3.6; Th handle at root 1.35; Th rim 0.4; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small white grits, some erupting to surface, some voids. Short, triangular, pointed rim, tilted outward, offset at join with bowl. Shallow groove at ext. join. Upper bowl convex and somewhat conical. Horizontal loop handle at widest diameter. Int.: top of rim red; uneven reserve band below; lower rim and bowl solid but worn yellowish red (5YR 5/6). Ext.: rim, top of bowl, and ext. handle yellowish red. Rest reserved.

A78/95.50.48.L452.(174)

From pre-604 quarry fill.



Scale 1:2

- 145 Type 4 "Ionian" cup. Rim sherd. ED rim 14; H rim 0.8; PH 3.45; Th rim 0.3; Th wall 0.3; Th handle at root 1.2.

Fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, occasional small light and dark grits. Short rim tilted outward, offset and with groove at join with bowl. Bowl convex and somewhat conical. Handle stump at widest diameter. Int.: reserve band inside rim; rest of rim solid glossy black (some flaking). Ext.: rim, upper bowl, and outer handle black. Rest of bowl reserved.

A78/95.50.48.L452.(176)

From pre-604 quarry fill.



Scale 1:2

- 146** Type 4 "Ionian" cup. Rim sherd. ED rim 16; PW rim 1.9; Th rim 0.3; H rim 0.9; PH 2.9; W handle at root 3.9; Th handle at root 1.2; Th rim 0.3; Th wall 0.3.

Fine, brown clay (10YR 5/3). Many fine micaceous inclusions, occasional small white grits, small voids. Short, rounded rim, tilted outward, offset at join with bowl. Shallow groove at ext. join. Upper wall convex and somewhat conical; horizontal loop handle at widest diameter. Int.: narrow reserved line inside edge of lip; rest of rim and bowl reddish brown to yellowish red (5YR 4/4–6). Ext.: top of rim, ext. rim, upper bowl and ext. handle reddish brown to reddish yellow. Rest of bowl reserved.

A78/95.50.48.L452.(191)

From pre-604  
quarry fill.



Scale 1:2

- 147** Type 4 "Ionian" cup. Rim sherd. ED rim 15; H rim 1.1; PH 3.0; Th rim 0.3; Th wall 0.3.

Fine, brown clay (7.5YR 5/4) with pink core (7.5YR 7/4). Many fine micaceous inclusions, occasional small white grits, some erupting to surface. Short rounded rim, tilted outward, offset at join with bowl; shallow groove at ext. of join. Upper bowl convex. Int.: red on top of rim; reserve band below that, yellowish red on lower rim and bowl (5YR 5/6). Ext.: rim and upper bowl yellowish red; lower bowl reserved.

A78/95.50.48.L452.(192)

From pre-604  
quarry fill.



Scale 1:2

- 148** Type 4 "Ionian" cup. Rim sherd. ED rim 14; H rim 1.2; PH 2.6; Th rim 0.3; Th wall 0.3; W handle root 4.3; Th handle 1.3.

Fine light brown clay (7.5YR 6/4). Fine micaceous inclusions. Short, rounded convex rim, tilted outward, with shallow groove at join to bowl. Convex bowl. Horizontal loop handle at widest diameter. Int.: reserved lines inside rim. Rest is solid reddish brown (5YR 5/3). Ext.: top and ext. rim, upper bowl, and top ext. of handle mottled streaky reddish brown (5YR 4/3). Rest of bowl reserved.

A89/96.50.49.L451.B26.(1)

From pre-604  
quarry fill.



Scale 1:2

- 149** Type 4 "Ionian" cup. Rim sherd. ED rim 13.0; H rim 1.1; PH 3.75; Th rim 0.35; Th wall 0.4.

Medium fine, reddish-brown clay (5YR 5/4) with many fine micaceous inclusions; small to large white grits, some erupting to surface. Short triangular rim, tilted outward. Upper bowl convex. Handle stump at widest diameter. Slight groove at join of rim and bowl. Int.: streaky reddish brown just inside rim, lower rim and bowl. One reserved band on lip below upper brown line. Ext.: streaky dark reddish brown on rim, upper bowl, and outer handle stump.

A89/96.50.49.L451.B21.(6)

From pre-604 quarry fill.



Scale 1:2

- 150** Type 4 "Ionian" cup. Rim sherd. ED rim 14.5; H rim 1.1; Th rim 0.35; Th wall 0.4.

Medium fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, some small to medium white grits, some erupting to surface. Curved, rounded rim, tilted outward. Groove where it meets bowl. Upper bowl convex. Int.: reserved line inside lip. Rest of int. solid streaky reddish brown (5YR 4/3). Ext.: top of rim, outer rim, upper bowl mottled yellowish red (5YR 5/6). Rest reserved.

A89/96.50.49.L451.B142.(14) (Same reg. no. as **238** and [4768] but not the same vessel.)

From pre-604 quarry fill.



Scale 1:2

- 151** Type 4 "Ionian" cup. Rim sherd. ED rim 17; H rim 1.6; PH 2.3; Th rim 0.3; Th wall 0.35.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions. Tall rim, slightly convex on ext., rounded at top. Shallow groove at ext. join. Wall curves out. Int.: reserved line inside lip. Lower rim, int. wall, and top of rim solid red (2.5YR 5/6). Ext.: rim and upper bowl red; rest of bowl reserved.

A89/96.50.49.L451.(29)

From pre-604 quarry fill.



Scale 1:2

- 152** Type 4 "Ionian" cup. Rim sherd. ED rim 14.5; H rim 1.1; PH 2.7; Th rim 0.35; Th wall 0.45.

Fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions. Straight rounded rim, tilted outward. Upper bowl convex. Int.: reserve line across middle of rim. Rest streaky dark brown. Ext.: rim, upper bowl, and outer handle stump streaky dark brown. Rest slipped very pale brown (10YR 7/3).

A89/96.50.49.L453.B134.(16)

From pre-604 quarry fill.



Scale 1:2

- 153** Type 4 "Ionian" cup. Rim sherd. ED rim 14; H rim 0.8; PH 5.05; W handle at root 4.0; Th rim 0.3; Th wall 0.3; Th handle at root 1.2.

Medium fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, some small to medium white grits. Short, rounded rim, tilted far outward; shallow groove at join with bowl. Bowl globular to convex. Horizontal loop handle at widest diameter. Int.: reserved band inside lip. Rest of int. rim and bowl streaky dark brown (7.5YR 3/2). Ext.: top and ext. of rim, top of bowl, and outer handle streaky dark brown. Rest reserved.

A78/95.50.58.LF318.(23)

From pre-604 quarry fill.



Scale 1:2

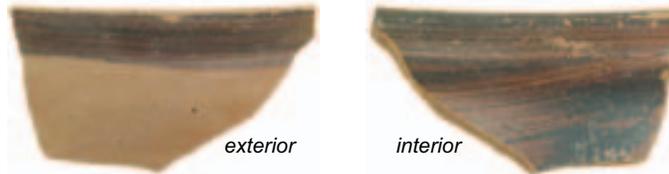
*As before but larger:*

- 154** Type 4 “Ionian” cup. Rim sherd. ED rim 18; PH 4.25; Th rim 0.4; H rim 1.4; Th wall 0.4.

Medium, reddish-yellow (7.5YR 6/6) clay. Many fine micaceous inclusions with occasional small white and brown grits, some medium voids. Rounded convex rim, tilted outward and offset at join to bowl. Slight ridge at ext. join. Convex upper bowl, broken near handle root at right where there are signs of finger marks. Top of rim and int. under lip reserved. Int.: very streaky dark paint shading from black to dark reddish brown (2.5YR 3/4) to reddish brown (2.5YR 4/4). Ext. of rim streaky reddish gray (5YR 5/2), slopping over to upper bowl in part. Preserved part of bowl reserved.

A78/95.50.46.L100.(1)

From pre-604 quarry fill.



Scale 1:2

- 155** Type 4 “Ionian” cup. Rim sherd. ED rim 18; H rim 1.5; PH 3.0; Th rim 0.4; Th wall 0.35.

Medium fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional medium voids. Straight rounded rim, tilted outward and offset at join with bowl. Low ridge at ext. join. Int.: reserved band inside rim; top of rim, lower rim, and bowl streaky red (2.5YR 4/6). Ext.: rim and upper bowl reddish brown (2.5YR 4/4). Lower bowl rather pink (7.5YR 7/4) to light brown (7.5YR 6/4).

A78/95.50.48.L452.(6)

From pre-604 quarry fill.



Scale 1:2

- 156** Type 4 “Ionian” cup. Rim sherd. ED rim 17; H rim 1.6; PH 3.6; Th rim 0.5; Th wall 0.5.

Medium fine, strong to dark brown clay (7.5YR 4/6–4). Many fine micaceous inclusions; occasional small white grits, some erupting to surface. Straight to somewhat concave, rounded rim, tilted outward and offset at join with bowl. Shallow groove at join with bowl. Upper bowl convex. Int.: top of rim red; below edge of lip a wide reserved band, solid red on lower rim and bowl (red to reddish brown 2.5YR 4/6–4). Ext.: rim, upper bowl and lower (broken) edge red.

A78/95.50.48.L452.B63.(251)

From pre-604 quarry fill.



Scale 1:2

- 157** Type 4 “Ionian” cup. Rim sherd. ED rim 18; H rim 1.6; PH 4.4; Th rim 0.5; Th wall 0.4.

Medium fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, some small to medium white grits, some erupting to surface. Rounded convex rim, tilted outward, offset at join with rim. Shallow groove at ext. join. Upper bowl convex. Int.: top of rim red; wide reserved band just under lip; solid red (2.5YR 4/6) on rest of rim and bowl. Ext.: solid red on rim and upper bowl; lower bowl reserved.

A78/95.50.48.L452.B63.(252)

From pre-604 quarry fill.

157



**158** Type 4 “Ionian” cup. Rim sherd. ED rim 13; H 1.0; PH 3.2; Th rim 0.3; Th wall 0.3.

Fine, pale brown clay (10YR 6/3); smooth texture, many fine micaceous inclusions. Short, straight, rounded rim, tilted outward, offset at join with bowl. Bowl convex. Int.: reserved line inside lip; rest of rim and bowl worn, flaking black. Ext.: rim and upper bowl worn black. Rest of bowl reserved.

A78/95.50.48.L452 not registered

From pre-604 quarry fill.

(No photograph.)

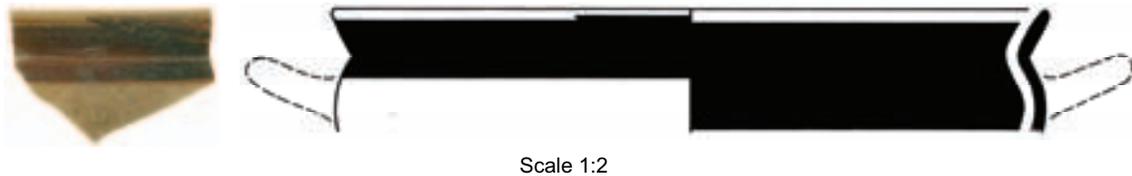


**159** Type 4 “Ionian” cup. Rim sherd. ED rim 19.0; H rim 1.6; PH 3.4; Th rim 0.4; Th wall 0.3.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, some small white grits, some erupting to surface. Straight rounded rim, tilted outward. Convex upper bowl. Int.: wide reserved band inside and over top of lip. Inner rim and bowl solid streaky reddish brown to dark reddish brown (5YR 4/4–3/4). Ext.: rim and upper bowl yellowish-red to reddish-brown paint (5YR 4/6–4/4). Rest slipped very pale brown (10YR 7/3).

A89/96.50.49.L451.B120.(9)

From pre-604 quarry fill.



**160** Type 4 “Ionian” cup. Rim sherd. ED rim 19; PH 2.7; H rim 1.25; Th rim 0.35; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, small to medium white grits, some erupting to surface. Rounded rim, tilted outward, and offset where it joins bowl. Convex bowl. Int.: inner edge of lip reserved, rest solid black, now much worn. Ext.: top of rim, ext. rim and upper bowl very dark grayish brown (10YR 3/2). Streaky.

A78/95.50.57.L256.(35a)

From pre-604 quarry fill.



- 161** Type 4 "Ionian" cup. Rim sherd. ED rim 19; PH 1.45; PW 1.55; H rim 0.9; Th rim 0.3; Th wall 0.3.

Fine, yellowish-red clay (5YR 5/6). Many fine micaceous inclusions. Short, pointed rim, tilted outward; shallow groove at join with bowl. Upper part of bowl sloping (angled). Int.: narrow reserved band just inside lip. Rest of int., top of rim, ext. rim, and upper bowl solid red paint (2.5YR 4/6).

A78/95.50.57.L256.(35b)

From pre-604 quarry fill.

(No photograph.)



Scale 1:2

- 162** Type 4 "Ionian" cup. Rim sherds. 2JSh. ED rim 19; H rim 1.65; PH 9.3; W handle at root 4.6; Th rim 0.3; Th wall 0.45; Th handle at root 1.2.

Medium, strong brown clay (7.5YR 5/6). Some small to large white inclusions, some erupting to surface, some voids. Straight, rounded rim, tilted outward; shallow groove at join with bowl. Bowl convex, tapering downward. Horizontal loop handle at widest diameter. Int.: reserved top and just inside lip. Rest of rim and bowl streaky yellowish red (5YR 5/6) to dark brown to black. Ext.: rim, upper bowl, ext. handle, and lowest part of bowl streaky dark reddish brown. Thin, washy, pale brown slip (10YR 6/3) over rest of bowl.

A78/95.50.58.LF318.(21)

From pre-604 quarry fill.



Scale 1:2



- 163** Type 4 "Ionian" cup. Rim sherd. ED rim 18; H rim 1.8; PH 4.2; Th rim 0.5; Th wall 0.4.

Medium, yellowish-red clay (5YR 5/8). Many fine micaceous inclusions, occasional small to large white grits, some erupting to surface. Straight rounded rim, tilted outward and offset at join with bowl. Bowl convex. Edge of handle root at right edge. Int.: slipped, pale yellow (2.5Y 7/4) band inside rim; rest of rim and bowl dark brown (7.5YR 3/2). Ext.: rim and upper bowl dark brownish black. Rest of bowl slipped very pale brown (10YR 7/3).

A78/95.50.48.L452.B63.(104)

From pre-604 quarry fill.



Scale 1:2

- 164** Type 4 "Ionian" cup. Rim sherd. ED rim 19; H rim 1.4; PH 2.5; Th rim 0.45; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small white grits and voids. Convex rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: black over top and just inside lip; reserved band below. Rest of rim and bowl solid black (discolored and with greenish accretion). Ext.: rim and upper bowl dark brown; rest of bowl reserved.

A78/95.50.48.L453.(30)

From pre-604 quarry fill.



Scale 1:2

*Bases:* A total of 26 Ashkelon Type 4 "Ionian" cup bases (3 uncatalogued), showing a variety of forms, were found. (All are from the pre-604 quarry fill in Grid 50.)

- 165** Type 4 "Ionian" cup. Base sherd. ED foot 6.5; H foot 0.4; W resting surface 0.45; PH 0.8; Th wall 0.2.

Fine, yellowish-red clay (7.5YR 6/6). Fine micaceous inclusions, occasional small white grits. Low ring foot with beveled edge. Flat resting surface. Lower wall slightly ridged. Underside and resting surface reserved. Int. and ext. wall and outer surface of foot red (2.5YR 4/8).

A78/95.50.48.L452.(152)

From pre-604 quarry fill.

Scale 1:2



- 166** Type 4 "Ionian" cup. Base sherd. ED foot 7.5; H foot 0.4; W resting surface 0.5; PH 1.0; Th wall 0.3.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, some small voids. Low ring foot with beveled outer edge and flat resting surface. Low ridge at ext. join with wall. Underside and resting surface reserved. Int., ext., and ext. surface of foot solid red (10R 4/8).

A78/95.50.48.L452.(44)

From pre-604 quarry fill.

Scale 1:2



- 167** Type 4 "Ionian" cup. Base sherd. ED foot 6; H foot 0.4; W resting surface 0.5; PH 1.3; Th wall 0.3.

Medium fine, yellowish-red clay (5YR 5/8). Fine micaceous inclusions, occasional small white grits. Ring foot with flat resting surface, shallow groove in outer edge, lower bowl sloped. Underside and resting surface reserved, int. and ext. solid red (2.5YR 4/8).

A78/95.50.48.L452.(131)

From pre-604 quarry fill.

Scale 1:2



- 168** Type 4 "Ionian" cup. Base sherd. ED foot 6; H foot 0.5; W resting surface 0.5; PH 1.8; Th wall 0.4.

Medium fine, brown clay (7.5YR 6/4). Many fine micaceous inclusions. Low ring foot with flat resting surface. Groove in lowest part of wall above join with foot. Another groove at join and a third in outer surface of foot. Outer edge of foot beveled. Underside and resting surface reserved. Int. and ext. wall, outer surface of foot red (2.5YR 4/6).

A89/96.50.48.L462.B10.(13)

From pre-604 quarry fill.

Scale 1:2



- 169** Type 4 "Ionian" cup. Base sherd. ED foot 6+; H foot 0.8; PH 0.9; Th wall 0.3; Th floor 0.2; W foot 0.55.

Fine, light brown clay (7.5YR 6/4). Fine micaceous inclusions, some small to medium voids. Low ring foot with flat resting surface; groove between two ridges in outer edge, beveled below; lower wall convex. Int.: streaky dark reddish gray to reddish brown (5YR 4/2-3/2). Ext.: underside and resting surface reserved; lower wall and ext. foot same as int.

A89/96.50.49.L451.B20.(4)

From pre-604 quarry fill.

Scale 1:2



- 170** Type 4 "Ionian" cup. Base sherd. ED foot 7.0; H foot 0.4; PH 1.9; W foot 0.5; Th wall 0.35; Th floor 0.3.

Medium, dark brown clay (10YR 4/3). Fine sparse micaceous inclusions; small to large white grits, some erupting to surface. Low ring foot with flat resting surface, flattened outer edge; groove at join to bowl. Int. and ext.: streaky reddish-brown paint (5YR 5/4) except for reserved underside. Paint goes over resting surface.

A89/96.50.49.L451.B110.(17)

From pre-604 quarry fill.



- 171** Type 4 "Ionian" cup. Base sherd. ED foot 7.7; H foot 0.8; W resting surface 0.65; PH 1.8; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small to large white grits, some voids. Low, flaring ring foot with flat resting surface, groove in outer and inner edge. Wall slopes upward. Underside and resting surface reserved. Ext.: solid yellowish red (5YR 4/6). Int.: worn dark reddish brown (5YR 3/4).

A89/96.50.49.L451.(30)

From pre-604 quarry fill.



- 172** Type 4 "Ionian" cup. Base sherd. ED foot 8.6; H foot 0.6; PH 1.7; W resting surface 0.7; Th wall 0.35; Th floor 0.4.

Medium, light brown clay (7.5YR 6/4). Many fine micaceous inclusions; some small to large white grits, some erupting to surface. Low ring foot with flat resting surface. Foot slightly beveled at outer edge. Low ridge where it joins lower wall. Wall slopes outward. Possible indentation in center of underside. Underside and resting surface reserved. Rest solid lustrous black int. and ext. Very worn on int.

A78/95.50.57.L256.(40)

From pre-604 quarry fill.

Scale 1:2

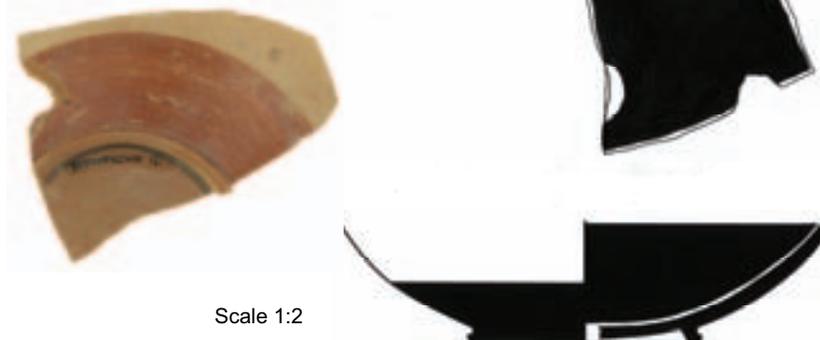


- 173** Type 4 "Ionian" cup. Base sherd. ED foot 6; H foot 0.5; PH 3.25; W resting surface 0.4; Th wall 0.4; Th floor 0.25.

Medium, yellowish-red clay (5YR 5/6). Many fine micaceous inclusions, small to large white grits, some erupting to surface; some pitting. Low ring foot with flat resting surface, groove at top of foot. Lower wall convex, thinning to floor. Int.: reserved circle in center of floor, rest solid red (2.5YR 4/6). Ext.: resting surface and underside reserved; lower wall, top and ext. edge of foot red; upper wall slipped pink (7.5YR 7/4).

A80/97.50.57.L274.B1.(1)

From pre-604 quarry fill.



Scale 1:2

- 174** Type 4 "Ionian" cup. Base sherd. D foot 7.05; W foot 0.7; H foot 0.9; PH 3.6; Th wall 0.5.

Medium fine, brown clay (7.5YR 5/4) with gray core. Many fine micaceous inclusions, small to medium white and dark grits, some medium voids. Low, flaring ring foot, flat resting surface. Groove and ridge in outer edge of foot. Lower wall convex. Floor and underside sag toward center. Int.: solid streaky red (2.5YR 4/6) to dark reddish brown (2.5YR 2.5/4). Reserved circle in center of floor. Ext.: underside, resting surface, and upper wall reserved. Lower wall: wide band of streaky dark reddish brown (5YR 3/3).

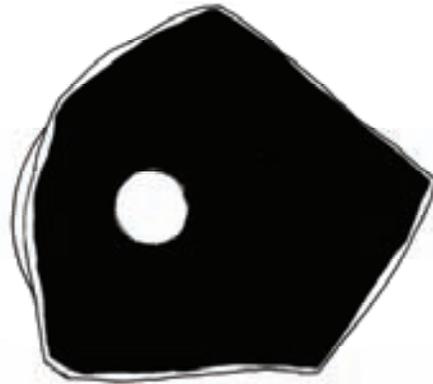
A78/95.50.58.LF318.(17)

From pre-604 quarry fill.

*interior*



*exterior*



Scale 1:2

- 175** Type 4 "Ionian" cup. Base sherd. ED foot 5.5; W resting surface 0.4; H foot 3.0; PH 1.1; Th wall 0.5; Th floor 0.25.

Medium fine, brown clay (7.5YR 5/4). Many fine micaceous inclusions, some small white grits. Low ring foot with partial groove at join with wall. Underside fairly flat. Int.: solid yellowish-red (5YR 4/6) paint. Reserved circle in center of floor. Ext.: underside and resting surface reserved. Lower wall and ext. foot yellowish red.

A78/95.50.58.LF318.(19)

From pre-604 quarry fill.



Scale 1:2

- 176** Type 4 "Ionian" cup. Base sherd. ED foot 7; H foot 0.6; W resting surface 0.4; PH 1.0; Th wall 0.2; Th floor 0.2.

Fine, light yellowish-brown clay (10YR 6/4). Many fine micaceous inclusions, some small voids. Low ring foot, flat resting surface and floor. Slight thickening in center of floor. Underside and resting surface reserved. Int. and ext. bowl and outer surface of foot solid red paint (2.5YR 5/8).

A89/96.50.48.L452.B7.(140) (Same reg. no. as **96** but not the same vessel.)

From pre-604 quarry fill.



Scale 1:2

- 177** Type 4 “Ionian” cup. Base sherd. D foot 7.7; H foot 0.9; W resting surface 0.95; PH 2.9; Th wall 0.5; Th floor 0.35.

Medium, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional small white and dark grits. Foot half missing. Flaring ring foot from large cup. Beveled outer edge, flat resting surface, most of floor missing. Lower wall convex. Light surfaces slipped, slip peeling and surface discolored. Underside, resting surface, upper bowl, and outer edge of foot once slipped; now mostly peeled and discolored. Int.: dark reddish brown; ext.: lower bowl and ext. foot streaky dark reddish gray (5YR 4/2).

A78/95.50.48.L452.(149?) (Reg. no. is worn and hard to read; possibly same reg. no. as [4337].)

From pre-604 quarry fill.



Scale 1:2

- 178** Type 4 “Ionian” cup. Base sherd. ED foot 8; H foot 0.8; W resting surface 0.5; PH 3.1; Th wall 0.4.

Medium fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, occasional small dark grits, at least one large void. High, flaring ring foot, beveled outer edge, flat, narrow resting surface. Most of floor missing. Outer wall slopes up. Underside, resting surface, and upper wall reserved. Lower wall, outer foot streaky dark reddish brown. Int.: very dark brown to black.

A78/95.50.48.L453(or 452?).(16)

From pre-604 quarry fill.



Scale 1:2

- 179** Type 4 “Ionian” cup. Base sherd. ED foot 7; H foot 0.6; W resting surface 0.7; PH 1.3; Th wall 0.4.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions. Low, spreading ring foot with groove at join with bowl. Flat resting surface. Underside and resting surface reserved; very worn red paint int. and ext. May be from same vessel as no. **180**. Does not join but has same dimensions and features.

A89/96.50.48.L453.(98)

From pre-604 quarry fill.



Scale 1:2

- 180** Type 4 “Ionian” cup. Base sherd. ED foot 6–7; H foot 0.6; W resting surface 0.7; PH 0.8.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, some small voids. Low, flaring ring foot with flat resting surface; shallow groove at join with bowl. Bowl not preserved. Underside and resting surface reserved; worn red paint on int. and ext. May be from same vessel as no. **179**. Does not join but has same dimensions and features.

A89/96.50.48.L453.(100)

From pre-604 quarry fill.



Scale 1:2

- 181** Type 4 "Ionian" cup. Base sherd. ED foot 7; H foot 0.4; W resting surface 0.6; PH 3.4; Th wall 0.3; Th floor 0.15.

Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional small to medium white grits, some erupting to surface; some voids. Low ring foot with flat resting surface; shallow groove in outer edge, another in top surface. Lower bowl convex. Flat underside. Underside, resting surface, and upper bowl reserved. Int. and lower bowl solid yellowish red (5YR 5/8). Some burnishing on lower bowl, some paint slopped over onto resting surface.

A78/95.50.48.L452.(101? or 130?)

From pre-604 quarry fill.

(No drawing.)



Scale 1:2

- 182** Type 4 "Ionian" cup. Base sherd. ED foot 8; W resting surface 0.85; PH 1.5; Th wall 0.4; Th floor 0.3.

Medium fine, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, some small to medium white grits. Low ring foot with flat resting surface; groove where foot meets wall. Underside and resting surface slipped pinkish gray (7.5YR 7/2). Int.: solid reddish brown (2.5YR 4/4). Ext.: streakier reddish brown.

A78/95.50.57.L256.(43)

From pre-604 quarry fill.

(No drawing.)



Scale 1:2

- 183** Type 4 "Ionian" cup. Base sherd. ED foot 6.3; H foot 0.5; W resting surface 0.5; PH 1.2; Th wall 0.2; Th floor at center 0.3.

Medium fine, yellowish-brown clay (10YR 5/6). Many fine micaceous inclusions, occasional white and dark grits; sandy texture. Low ring foot with beveled outer edge, flat, narrow resting surface. Underside flat; floor thickens somewhat in center. Underside and resting surface reserved; reserved circle in center of floor. Rest of int. and ext. wall and outer foot black to very dark brown.

A80/97.50.48.L462.B1.(25)

From pre-604 quarry fill.



Scale 1:2

- 184** Type 4 "Ionian" cup. Base sherd. ED foot 7; H foot 0.85; W resting surface 0.7; PH 2.1; Th wall 0.45.

Medium fine, light reddish-brown clay (5YR 6/4). Fine sparse micaceous inclusions; occasional small to medium white and black grits; at least one large void in floor. Low flaring ring foot, spreading at resting surface. Flat resting surface. Lower wall curves upward. Underside and resting surface reserved. Int.: solid red (2.5YR 4/6). Ext.: streaky dark reddish brown (5YR 3/4).

A89/96.50.49.L453.(35) (Same reg. no. as [3657], a shoulder sherd.)

From pre-604 quarry fill.



Scale 1:2

- 185** Type 4 “Ionian” cup. Base sherd. ED foot 7–8; H foot 0.6; PH 4.5; W foot 0.55; Th wall 0.35; Th floor 0.2.

Fine, yellowish-red clay (5YR 5/6). Many fine micaceous inclusions, some small white grits. Low ring foot with flat resting surface, sloping upper surface, beveled lower down. Wall convex (globular bowl). Int.: streaky reddish brown (5YR 5/4). Ext.: slipped wall; underside and resting surface very pale brown (10YR 7/3). Lower wall and outer surface of foot dark brown paint (7.5YR 3/2).

A89/96.50.49.L451.B60.(16)

From pre-604 quarry fill.



Scale 1:2

- 186** Type 4 “Ionian” cup. Base sherd. ED foot 6.8; PH 2.6; W resting surface 0.45; Th wall 0.4; Th floor 0.3.

Medium, light brown clay (7.5YR 6/4). Many fine micaceous inclusions; some small to medium white grits, some erupting to surface. Low ring foot with slightly rounded resting surface. Lower wall convex. Underside, resting surface, and wall reserved. Int. and lower ext. wall solid, streaky dark brown paint.

A78/95.50.57.L256.(44)

From pre-604 quarry fill.



Scale 1:2

- 187** Type 4 “Ionian” cup. Base sherd. ED foot 9.5; H foot 0.8; W resting surface 0.8; PH 1.8; Th wall 0.55.

Medium fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, occasional small dark grits. Low flaring ring foot (outer edge badly chipped) with flat resting surface. Lower wall thick and sloped. Underside and resting surface reserved. Int., ext. and outer edge of foot solid red paint (10R 5/6).

A72/92.50.58.L262.FG23.B156.(6)

From pre-604 quarry fill.



Scale 1:2

**Uncatalogued Type 4 “Ionian” cup rim sherds from pre-604 quarry fill (qty. 11):**

[4239] A73/93.50.48.L405.FG46.B36.(22)

[4384] A78/95.50.48.L452 not registered

[4247] A73/93.50.48.L444.B46.(26)

[4393] A78/95.50.48.L453.(28)

[4310] A78/95.50.48.L452.(8?)

[4421] A78/95.50.48.L461.(18?)

[4348] A78/95.50.48.L452.(168)

[4870] A78/95.50.57.L256.(22+29)

[4353] A78/95.50.48.L452.(175)

[4973] A80/97.50.58.L396.(4)

[4366] A78/95.50.48.L452 (215)

**Uncatalogued Type 4 “Ionian” cup bases from pre-604 quarry fill (qty. 3):**

[4335] A78/95.50.48.L452.(147)

[4324] A78/95.50.48.L452.(132)

[4428] A80/97.50.48.L462.B1.(23)

Two Ashkelon Type 4 “Ionian” cup rims were found in post-604 contexts in Grid 50—one (no. **188**) in sandy silt that had washed over the destruction debris in the Plaza; the other (no. **189**) in a Persian-period fill.

**188** Type 4 “Ionian” cup. Rim sherds. 2JSh. ED rim 12.0; H rim 0.8; PH 6.3; PW rim 0.9; Th rim 0.25; Th wall 0.35.

Fine, strong brown clay (7.5YR 4/6). Many fine micaceous inclusions; occasional small white and black grits and some voids and drag marks. Short rounded rim tilted outward, offset at join with bowl. Bowl convex and globular. Int.: top of rim and just inside reserved. Lower rim and int. of bowl streaky reddish brown to yellowish-red paint (5YR 4/4–5/6). Ext.: rim, upper bowl, and lowest part of bowl streaky reddish brown (5YR 5/4) to yellowish-red (5YR 5/6) paint. Rest of bowl reserved.

A72/92.50.48.L384.B322+320.(1)

From post-604 silty deposit.

*Previous publication:*

Waldbaum in press: pl. 14.32.9



Scale 1:2



**189** Type 4 “Ionian” cup. Rim sherds. 2JSh. ED rim 15.0; PH 3.4; Th rim 0.4; Th wall 0.3.

Fine, sparsely micaceous, light reddish-brown (2.5YR 6/4) clay. Straight rim, slightly offset, with groove just below it on ext. Bowl strongly convex. Int.: thin black band on top of lip; rest of rim reserved. Solid, dull black paint on int. bowl. Ext.: solid dull black paint on rim; upper bowl reserved, traces of black paint along lower preserved edge. Black on the rim does not descend to the upper part of the bowl.

A40/90.50.49.L271.B87.(11)

Persian-period fill.

(No drawing.)



exterior



interior

Scale 1:2

### Ashkelon Type 5 “Ionian” cups (nos. 190–94).

These are a variant of Type 4 with a horizontal stripe across the middle of the bowl. Five examples were found, all with rims. No. **190** preserves a complete

profile; it came from the 604 B.C. destruction debris in Grid 38. The other examples are from the pre-604 quarry fill in Grid 50. No. **194** has the remains of a wavy line in the handle zone instead of a straight line.

*Complete profile:*

**190** Type 5 “Ionian” cup. SJSh+SNJSh. ED rim 20; PH 4.0; H. rim 1.5; Th rim 0.35. ED foot 7.5; W resting surface 0.9; PH 9.6; Th wall 0.45.

Medium, brown clay (7.5YR 5/4) with many fine to medium micaceous inclusions, many small to medium black grits, and small to large white grits, some erupting to surface. Some voids and drag marks. Short, rounded rim, tilted outward and offset from bowl. Deep bowl curving inward to low ring foot with flat resting surface and beveled outer edge. Horizontal loop handle tilted slightly upward at widest diameter of bowl. Int.: rim reserved just inside lip; rest solid streaky lustrous red paint (2.5YR 4/6–4/8). Ext.: rim, upper body and outer edge of handle red; thin red horizontal stripe around lower body; ext. foot and lowest part of bowl red. Resting surface and underside reserved.

A72/92.38.64.LF785.FG87+88.B2+9+11+12+29.(11)

From 604 destruction debris on floor of Building 776 Room 801.

*Previous publication:* Waldbaum in press: pl. 14.3.2.8.

(Additional photos and drawing on facing page.)





Scale 1:2



*Rims:*

**191** Type 5 “Ionian” cup. Rim sherd. ED rim 21; H rim 1.5; Th rim 0.4; PH 7.35; W handle at root 4.6; Th handle at root 1.75.

Medium fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional small to large white grits, some erupting to surface. Wall somewhat lumpy and uneven. Straight, rounded rim, tilted outward; offset at join with bowl. Shallow groove at ext. of join. Bowl convex; horizontal loop handle at widest diameter. Int.: top of rim and just inside lip reserve band; lower rim and bowl streaky, dark reddish brown (5YR 3/3) to yellowish red (5YR 5/6). Ext.: streaky dark brown on ext. rim, upper bowl, and outer handle. Thin brown line under handle root.

A78/95.50.48.L452.(172)

From pre-604 quarry fill.



Scale 1:2

- 192** Type 5 "Ionian" cup. Rim, upper body, and one handle stump. SJS. ED rim 19.5; PH 8.75; H rim 1.8; Th rim 0.4; Th wall 0.5; Th handle root 1.8.

Mended with some infilling. Friable, light brown to pink clay (7.5YR 6/4-7/4). Fine micaceous inclusions; many small to medium black, brown, and white grits, some erupting to surface; some large voids. Paint crackling and worn. Short, rounded rim, tilted outward and offset at join with bowl. Deep convex bowl. Lower bowl and foot missing. One horizontal handle root below carination. Int.: solid streaky dark reddish-brown paint, now crackled, dulled, and flaked. Ext.: most of bowl reserved. Rim: solid, streaky lustrous, dark reddish-brown paint (5YR 3/2-5/2) continuing over lip and into int. as well as on upper bowl. Horizontal stripe of same color around bowl below handle zone; wider band on lower bowl where it turns under to meet stem.

A80/97.50.58.L396.B104.(1)

From pre-604 quarry fill.



Scale 1:2

- 193** Type 5 "Ionian" cup. Rim sherd. ED rim 19; H rim 1.6; PH 6.2; Th rim 0.4; Th wall 0.45.

Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions; some small white grits. Straight rounded rim, tilted outward and offset at join with bowl. Bowl convex. Int.: uneven reserved band inside lip; rest of rim and bowl solid red (2.5YR 4/8). Ext.: rim, upper bowl solid red. Lower bowl reserved. Red stripe across reserved part.

A80/97.50.58.L396.(3)

From pre-604 quarry fill.



Scale 1:2

**194** Type 5 “Ionian” cup. Rim sherd. ED rim 14; H rim 0.9; PH 3.6; Th rim 0.3; Th bowl 0.3.

Fine, light brown clay. Many fine micaceous inclusions. Short triangular pointed rim, tilted outward. Bowl convex. Int.: worn line on top of lip; reserved line inside lip. Rest is streaky dark brown (10YR 3/3). Ext.: rim and upper bowl streaky reddish brown. Lower bowl reserved with remains of curved reddish-brown line (wavy line?).

A78/95.50.49.L454.(7)

From pre-604 quarry fill.



Scale 1:2

**Ashkelon Type 6 “Ionian” cups (nos. 195–226).**

Hayes identifies a series of “Samian” cups, defined as having a high, vertical rim; deep bowl; small, hollow foot; and a rather thick and heavy fabric with large inclusions. Several Ashkelon cups conform to Hayes’s “Samian” Type ii (Villard and Vallet 1955: 18–19, Type A2), characterized by a completely painted interior except for a reserved line or band just inside the lip and a reserved exterior rim with painted horizontal lines or stripes and reserved handle zone (Hayes 1966:115). This type is, indeed, found on Samos, corresponding to Isler’s Type “a,” which is extant from Late Geometric to the mid-sixth century (Isler 1978b:77–78, pls. 32–33, figs. 4–9).

Schlotzhauer and Villing (2006:61, esp. fig. 27 from Naukratis) identify these types generally as part of the South Ionian production, most likely coming from Miletos and Samos (see also Schlotzhauer 2000: figs. 297, 298). Similar cups appear at Ephesos (Kerschner 1997:138 pl. 8.57, 139 no. 57, 163, 166 pl. 15.112–14, 194 fig. 40 no. 57, 195 fig. 41.114) and Miletos (Schlotzhauer 1999). On Cyprus they are found at Salamis (Calvet and Yon 1977:16, pl. 7.67–72, pl. 8.70–73). In the Levant they are found in Tomb 25 at Ras el-Bassit (Courbin 1993:68, fig. 17.5, pl. 20.2), at Tel Kabri (Niemeier and Niemeier

2002:227 no. 8, figs. 5.92.9 5.93.6—it is not clear from either the photograph in fig. 5.93.6 or the description whether the striations on the rim were formed by painting or burnishing; if the latter, this could be more like Ashkelon Type 7 below), and at Meşad Ḥashavyahu (Type IC 5; Fantalkin 2001:78, 77 fig. 28.12–14, with references).

At Ashkelon, the cups vary in size, with rim diameters ranging from 10 to 18 cm and rim thicknesses from 0.2 to 0.6 cm. Clay fabric ranges from fine to medium, usually with fine micaceous inclusions and some other inclusions. Paint colors vary from yellowish red (5YR 4/6, 5/6) to reddish yellow (5YR 6/6) to red (2.5YR 4/6) to dark reddish gray (5YR 4/2), reddish brown and dark reddish brown (2.5YR 3/4, 4/4; 5YR 2.5/2, 3/2, 4/4) through brown, dark brown, very dark brown (7.5YR 5/4, 3/4) to black. There seem to be two variants of these cups at Ashkelon: (a) with horizontal stripes confined only to the rim and a solid-color bowl except for a reserve band in the handle zone and (b) with horizontal banding on the bowl as well as the rim. Since most of the rim fragments are broken at or above the handle zone it is difficult to identify and separate examples of the two variants and no attempt has been made to do so here. Where it is clear it is noted in the description.

Nine rims (3 uncatalogued), one body section, and 8 uncatalogued striped body sherds were found in 604 B.C. use or destruction contexts. Ten pieces came from Grid 38; the rest from Grid 50:

*Rims:*

**195** Type 6 “Ionian” cup. Rim sherd. ED rim 17; PH 3.8; PW 3.9; Th rim 0.4; Th wall 0.35.

Fine, brown clay (7.5YR 5/4) with fine micaceous and black grits, some small to medium white grits. Rounded convex rim tilted outward and offset from convex body. Int.: solid lustrous black paint except for narrow reserved band just inside lip. Ext.: rim and bowl reserved with black and brown horizontal stripes: two black, three brown on rim; two streaky black on upper bowl.

A5/86.38.64.L61.B130.(20)

From 604 destruction debris on floor Feature 67 in Building 776.

195



Scale 1:2

**196** Type 6 "Ionian" cup. Rim sherds. SJSh. ED rim 17; PH 4.3; H rim 1.65; Th rim 0.4; Th wall 0.45.

Medium fine, grayish-brown clay (2.5YR 5/2). Fine to small micaceous inclusions, some small brown and black grits. Short rounded rim, tilted outward and offset where it meets bowl. Bowl convex and globular. Decoration: mostly faded; possibly burnt or charred on ext., judging from discoloration. Int.: flaked streaky black paint on inner body, once solid. "Ghost" stripe across middle of rim. Ext.: remains of striations on rim, stripe from lower rim to upper body. Slip discolored.

A73/93.38.84.L299.FG44.B135.(3)

From 604 destruction debris on floor of Building 776 Room 312.

(No drawing.)



exterior



interior

Scale 1:2

**197** Type 6 "Ionian" cup. Rim sherd. ED rim 16; H rim 2.35; PH 3.3; Th rim 0.5; Th wall 0.45.

Medium fine, light brown clay (7.5YR 6/4) with fine micaceous inclusions, occasional small white grits, some erupting to surface. Convex rounded rim, tilted outward. Upper bowl convex. Int.: top of rim black; wide reserve band below, rest is worn black. Ext.: faded worn black stripes on rim, bands on bowl. Surface reserved.

A72/92.50.48.L393.B349.(10)

From 604 use phase (Plaza).



Scale 1:2

**198** Type 6 "Ionian" cup. Rim sherds. 2JSh. ED rim 15; H rim 1.6; PH 4.3; Th rim 0.4; Th wall 0.35.

Fine, strong brown clay (7.5YR 5/6) with many fine micaceous inclusions and some small white grits. Rim convex on both sides, beveled on outer edge, tilted outward. Upper bowl convex. Both int. and ext. surfaces lightly burnished. Int.: wide reserve band under edge of rim; rest of int. red (2.5YR 4/6). Ext.: reserved: thin red stripes on rim, wider ones on bowl.

A72/92.50.48.L393.B351.(11)

From 604 use phase (Plaza).



Scale 1:2

- 199** Type 6 “Ionian” cup. Rim sherds. 2JSh. ED rim 18; H rim 2.4; PH 3.0; Th rim 0.5.

Fine, light brown clay (7.5YR 6/4). Fine sparse micaceous inclusions, some small white grits. Tall, convex rounded rim, tilted outward. Most of bowl missing. Int.: reserved band inside rim; rest is solid streaky dark reddish gray (5YR 4/2) to dark reddish brown (5YR 3/2). Ext.: top of rim dark brown. Rim and upper bowl reserved. Fine horizontal reddish-yellow to brown lines or stripes on rim; at least one on upper bowl.

A73/93.50.49.LF423.B84.(1) + unregistered sherd from Grid 50 Square 49 Layer 453 Bucket 146 (excavated in 1996). From 604 use phase (Building 406 Room 423) and pre-604 quarry fill (second joining sherd).



Scale 1:2

- 200** Type 6 “Ionian” cup. Rim sherds. 2NJSh. ED rim 10; PW (a) 2.6, (b) 1.6; PH (a) 1.6, (b) 1.8; Th rim 0.3.

Fine brown clay (7.5YR 5/2). Fine sparse micaceous inclusions. Some small voids. Convex rim, rounded top; no wall preserved. Int.: reserved band inside rim; black below. Ext.: brown horizontal stripes.

A72/92.50.58.LF252.(2)

From 604 destruction debris in Building 260 Room 252.

(No drawing.)



Scale 1:1

(a)

(b)

*Body with handle:*

- 201** Type 6 “Ionian” cup. Body sherds with loop handle. 2NJSh. PH 6.05; Th wall 0.25.

Two nonjoining body sherds with handle zone; horizontal loop handle. Fine brown clay (7.5YR 5/4) with fine sparse micaceous inclusions, many small white grits, some erupting to surface. Globular bowl preserved from join to rim to lower body. One horizontal loop handle and stump of other preserved. Finger marks around handle roots. Int.: solid lustrous black paint streaking to reddish brown. Ext.: reserved band at top of bowl and in handle zone; solid black band above handle zone and over lower bowl and top of handles. Black streaks to reddish brown in places.

A72/92.38.64.LF785.FG87.B12.(7+8+9)

From 604 destruction debris on floor of Building 776 Room 801.

(No photograph.)



Scale 1:2

**Uncatalogued Type 6 “Ionian” cup rim sherds from pre-604 remodeling or 604 use phase/destruction debris (qty. 3):**

[4159] A72/92.38.64.L764.B43.(1); from pre-604 remodeling phase in Building 776 Room 801.

[4167] A73/93.38.64.LF801.FG78.B43 not registered; from 604 use phase in Building 776 Room 801.

[4717] A72/92.50.49.LF388.B228.(2); from 604 use phase (East Street drain).

**Uncatalogued Type 6 “Ionian” cup striped body sherds from pre-604 remodeling or 604 use phase/destruction (qty. 8):**

[4166] A72/92.38.64.L764.B43 not registered; from pre-604 remodeling (silt fill in plaster vat F767, Bldg. 776 Rm. 801).

[4177] A73/93.38.64.LF802.FG89.B48 not registered; from 604 use phase (floor in Bldg. 776 Rm. 801 under LF 801).

[4179] A5/86.38.64.L61.B149 not registered; from 604 destruction debris on floor F67 in Building 776.

- [4180] A5/86.38.64.L61.B136 not registered; from 604 destruction debris on floor F67 in Building 776.  
 [4196] A73/93.38.84.LF312.FG64 not registered; from 604 use phase (beaten earth floor in Building 776 Room 312).  
 [4294] A72/92.50.48.L393.B351 not registered; from 604 use phase (Plaza).  
 [4846] A3/88.50.57.L134 not registered; from 604 use phase (debris in Building 234 Room 234).  
 [4223] A72/92.50.58.LF252 not registered

A total of 34 rims (13 uncatalogued), 4 bases, and 8 uncatalogued body sherds of Type 6 “Ionian” cups came from the pre-604 B.C. quarry fill in Grid 50:

*Rims:*

- 202** Type 6 “Ionian” cup. Section with rim and loop handle. 3JSh. ED rim 18.5; H rim 1.8; PH 11.2; W handle at root 5.2; Th handle at root 1.8; Th rim 0.5; Th wall 0.5.

Medium, yellowish-red clay (5YR 5–4/6). Many fine micaceous inclusions; many small to large white grits, some erupting to surface. Rounded, convex rim, tilted outward, offset at join with bowl. Bowl convex above, tapering downward toward foot. Horizontal loop handle at widest diameter. Int.: top of rim and just inside lip reserved. Rest of rim and bowl solid but flaking yellowish-red paint (5YR 5/6). Ext.: rim and upper bowl reserved. Two yellowish-red stripes on rim and at join of rim and bowl. Wide yellowish-red band above handle zone; ext. of handle and lower bowl yellowish red.

A78/95.50.48.L461.B197.(15)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.12.



Scale 1:2

- 203** Type 6 "Ionian" cup. Rim sherd. ED rim 15; H rim 2.6; PH 4.9; Th rim 0.4; Th wall 0.45.

Fine, reddish-brown clay (5YR 4/4). Many fine micaceous inclusions; occasional small to medium white grits, some erupting to surface. Tall, rounded, convex rim, tilted outward and offset at join to bowl. Upper bowl convex. Int.: reserved band inside rim. Rest of rim and int. of bowl solid black. Ext.: reserved. Surface now discolored to light brownish gray (10YR 6/2). Pattern of black stripes on rim, bands on bowl.



A73/93.50.48.L444.B16.(25)

From pre-604 quarry fill (under Plaza).

Scale 1:2



- 204** Type 6 "Ionian" cup. Rim sherd. ED rim 13; H rim 1.9; PH 3.35; Th rim 0.5; Th wall 0.4.

Medium, brown clay (7.5YR 5/4). Many fine micaceous inclusions, some small red and black grits. Straight, rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: top of rim dark brown; reserved band just inside rim; rest of rim and bowl worn, flaked black. Ext.: rim and bowl pinkish-gray slip (7.5YR 7/2). Black stripes across rim; wider band on bowl.



A89/96.50.48.L453.B4.(54)

From pre-604 quarry fill.

Scale 1:2



- 205** Type 6 "Ionian" cup. Rim sherd. ED rim 16; H rim 2.3; PH 4.6; Th rim 0.5; Th wall 0.55.

Medium, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, occasional small white grits, some erupting to surface. Tall, convex pointed rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: top of rim black, uneven reserve line just inside; lower rim and bowl streaky dark brown (7.5YR 3/4). Ext.: rim and bowl slipped, originally very pale brown, now discolored. Streaky dark brown to black stripes on rim and upper bowl.



A78/95.50.48.L452.(170?)

From pre-604 quarry fill.

Scale 1:2



- 206** Type 6 "Ionian" cup. Rim sherd. ED rim 18; H rim 2.3; PH 3.95; Th rim 0.6; Th wall 0.4.

Medium, brown clay (7.5YR 5/4), grayer near inner surface. Many fine micaceous inclusions, occasional small white grits, some grog. Convex, rounded rim, tilted outward and offset at join with bowl. Upper bowl convex. Remains of handle root to left edge. Int.: black line on top of rim; reserved band inside. Rest of rim and bowl solid black. Ext.: dark brown stripes on rim; band on bowl.



A78/95.50.48.L452.(173)

From pre-604 quarry fill.

Scale 1:2



- 207** Type 6 "Ionian" cup. Rim sherd. ED rim 17.5; H rim 2.4; PH 4.0; Th rim 0.5; Th wall 0.4.

Medium, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions; small to medium white grits, some erupting to surface. Tall, convex, rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: reserved band inside rim. Rest of rim and bowl solid dark brown, peeling and flaking off. Ext.: pink slip (7.5YR 7/4); brown stripe on rim, dark brown bands on bowl.

A78/95.50.48.L453.(26)

From pre-604 quarry fill.



Scale 1:2

- 208** Type 6 "Ionian" cup. Rim sherd. ED rim 16; PW rim 1.4; H rim 2.2; PH 3.1; Th rim 0.5; Th wall 0.45.

Medium, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small white grits. Convex, rounded rim, tilted outward; offset at join with bowl. Upper bowl convex. Int.: reserved band inside rim; solid dullish black on lower rim and bowl. Ext.: reserved. Dark brown to black stripes on rim; band on bowl.

A78/95.50.48.L452.(196)

From pre-604 quarry fill.



Scale 1:2

- 209** Type 6 "Ionian" cup. Rim sherd. ED rim 15; H rim 1.7; PH 5.35; Th rim 0.4; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Fine micaceous inclusions, small dark and white grits. Rounded convex rim, tilted outward and offset at join with bowl. Bowl convex; handle stump at widest diameter. Int.: reserved band inside lip filled with light gray slip (10YR 7/2). Rest of int. rim and bowl worn, flaked, once solid black. Ext.: light gray to white slip (10YR 7/2-8/2). Lines and bands of black along whole surface, now mostly worn off.

A78/95.50.58.LF318.(22)

From pre-604 quarry fill.



Scale 1:2

- 210** Type 6 "Ionian" cup. Rim sherd. ED rim 12; PH 3.2; PW 2.7; H rim 1.87; Th rim 0.35; Th wall 0.3.

Fine, grayish-brown clay (10YR 5/2). Fine sparse micaceous inclusions. Convex, rounded rim tilted outward, offset at join with bowl. Int.: narrow reserved line just inside lip; rest is very dark grayish-brown glossy paint (10YR 3/2). Ext.: reserved surface (discolored?). Pattern of brown stripes on rim; band on bowl burnished in.

A55/94.50.48.L439.B71.(16)

From pre-604 quarry fill (under Plaza).



Scale 1:2

- 211** Type 6 "Ionian" cup. Rim sherd. ED rim 12; H rim 1.9; PH 3.1; Th rim 0.4; Th wall 0.25.

Fine, reddish-brown clay (5YR 5/4). Fine sparse micaceous inclusions, some small white grits. Rounded, convex rim, tilted outward. Upper bowl convex. Int.: thin reserved line inside rim, rest of int. solid streaky reddish brown to dark reddish brown (2.5YR 4/4–3/4). Ext.: three yellowish-red (5YR 4/6) stripes on ext. rim; another at join of rim and bowl; streakier stripe on upper bowl and another at lower broken edge.

A89/96.50.49.L451.B138.(13)

From pre-604 quarry fill.



Scale 1:2

- 212** Type 6 "Ionian" cup. Rim sherd. ED rim 12; H rim 1.65; PH 2.85; Th rim 0.4; Th wall 0.4.

Medium fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, at least one large mica flake; occasional small white grits. Straight, rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: top of rim dark reddish brown, reserved band below. Lower rim and upper bowl yellowish red to reddish brown (5YR 5/6–4/4). Ext.: pink slip (7.5YR 7/4); yellowish-brown stripes on rim; band on upper body.

A78/95.50.48.L452.(255)

From pre-604 quarry fill.



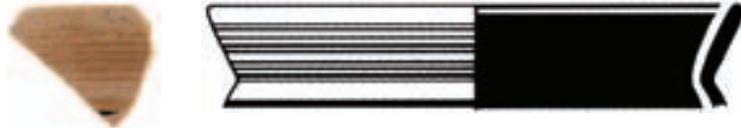
Scale 1:2

- 213** Type 6 "Ionian" cup. Rim sherd. ED rim 14; H rim 2.3; PH 3.0; Th rim 0.45; Th wall 0.4.

Medium fine, strong brown clay (7.5YR 5/6). No visible mica. Straight rounded rim, tilted outward, offset at join with rim. Very little of upper bowl preserved. Bowl apparently convex. Int.: reserved band inside rim, rest of rim and bowl solid black. Ext.: thin brown (7.5YR 5/4) burnished stripes on rim, remains of dark band on bowl.

A78/95.50.48.L452.(194)

From pre-604 quarry fill.



Scale 1:2

- 214** Type 6 "Ionian" cup. Rim sherd. ED rim 16.5; H rim 2.2; PH 3.75; Th rim 0.3; Th wall 0.3.

Fine, brown clay (7.5YR 5/2). Fine sparse micaceous inclusions. Tall, slightly convex rounded rim, tilted outward; upper bowl convex. Int.: reserved line inside lip; rest of rim and bowl solid glossy black. Ext.: dark brown line on top of rim. Fine horizontal stripes across reserved rim (color faded). Two black lines on upper bowl; rest reserved.

A89/96.50.49.L449.B28.(6)

From pre-604 quarry fill.

(No drawing.)



Scale 1:2

- 215** Type 6 "Ionian" cup. Rim sherd. ED rim 13; PW rim 0.7; H rim 1.8; PH 3.2; Th rim 0.2; Th wall 0.2.

Fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small black and white grits, small voids. Thin, straight, rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: narrow reserved line at lip; top of rim, lower rim, and bowl solid glossy black. Ext.: narrow brown stripes on rim; black glossy band on bowl.

A78/95.50.48.L452.(209)

From pre-604 quarry fill.



Scale 1:2

- 216** Type 6 "Ionian" cup. Rim sherd. ED rim 13; H rim 1.85; PH 3.35; Th rim 0.2; Th wall 0.3.

Fine, light brown clay (7.5YR 6/4). Fine sparse micaceous inclusions; some small white grits. Tall, thin, slightly convex pointed rim; tilted outward. Upper bowl convex. Slight, shallow groove at join of rim and bowl. Int.: reserved line inside rim; rest solid glossy black. Ext.: black line on top of lip. Rim and upper bowl reserved. Fine pinkish-gray horizontal stripes on rim. Black band on upper bowl.

A89/96.50.49.L453.B35.(1)

From pre-604 quarry fill.



Scale 1:2

- 217** Type 6 "Ionian" cup. Rim sherd. ED rim 10; H rim 1.4; PH 3.2; Th rim 0.3; Th wall 0.3.

Fine, light brown clay (7.5YR 6/4). Fine sparse micaceous inclusions. Slightly convex rounded rim, tilted outward. Upper bowl convex. Int.: reserved line inside rim. Rest is solid dark reddish brown, somewhat streaky. Ext.: top of rim very dark brown (worn). Reddish-brown horizontal stripes on rim, darker stripes on top of bowl. Rest reserved.

A89/96.50.49.L451.(8)

From pre-604 quarry fill.



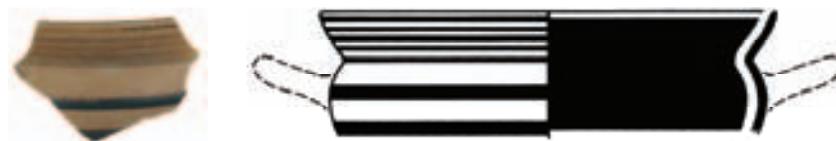
Scale 1:2

- 218** Type 6 "Ionian" cup. Rim sherds. 2NJSh. ED rim 12; PH 3.4; H rim 1.5; Th rim 0.3; Th wall 0.25.

Fine, light brown clay (7.5YR 6/4). Fine micaceous inclusions; some small brown and black grits; small voids. Tall convex, rounded rim, tilted outward and offset where it joins bowl. Globular convex bowl. Int.: narrow reserved band just inside rim. Rest is solid glossy black. Ext.: thin black line on top of rim; outer rim has thin horizontal stripes caused by burnishing. Bowl reserved with two black horizontal bands preserved.

A78/95.50.57.L256.(21+32)

From pre-604 quarry fill.



Scale 1:2

- 219** Type 6 "Ionian" cup. Rim sherd. ED rim 12.5; H rim 0.8; PH 5.1; W handle at root 4.3; Th rim 0.35; Th wall 0.3; Th handle at root 1.3.

Medium fine, strong brown clay (7.5YR 4/6). Fine micaceous inclusions; small to medium white grits, some erupting to surface. Straight pointed rim, tilted outward. Slight ridge on outer edge. Upper bowl convex to globular; handle at widest diameter. Int.: reserve band just inside rim; int. bowl reddish brown to dark reddish brown (2.5YR 4/4-3/4) shading to darker dark reddish brown on int. rim (5YR 2.5/2). Ext.: yellowish-red stripes across rim (5YR 5/6). Darker streaky reddish brown on lower bowl and outer handle.

A55/94.50.48.L439.B61.(15)

From pre-604 quarry fill (under Plaza).

(No drawing.)



Scale 1:2

- 220** Type 6 "Ionian" cup. Rim sherds. 2JSh. ED rim 11; H rim 1.7; PH 4.7; W handle at root 4.1; Th rim 0.4; Th wall 0.4; Th handle at root 1.5.

Medium, brown clay (7.5YR 5/4) with gray core. Fine micaceous inclusions, many small to large white grits, some erupting to surface. Convex, rounded rim, tilted outward. Upper bowl convex; handle at widest diameter. Int.: top of rim black; int. rim reserved just under lip; rest of int. rim and bowl black to dark reddish brown. Ext.: dark reddish-brown stripes on rim; wide sloppy band on upper bowl across top of handle root. Uneven black band below level of handle.

A55/94.50.48.L439.B61.(14a,b)

From pre-604 quarry fill (under Plaza).



Scale 1:2

- 221** Type 6 "Ionian" cup. Rim sherd. ED rim 13; H rim 1.7; PH 5.0; Th rim 0.35; Th wall 0.4.

Medium fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, occasional small white and dark grits. Convex rounded rim, tilted outward, offset at join with bowl. Upper bowl convex. Int.: uneven reserved band from top of lip to inside rim. Lower rim and bowl solid black. Ext.: reserved with black to dark brown stripes on rim; bands on bowl.

A78/95.50.48.L453.(25)

From pre-604 quarry fill.



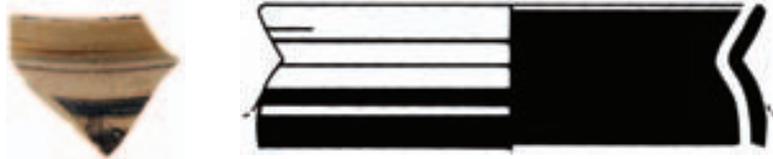
Scale 1:2

- 222** Type 6 "Ionian" cup. Rim sherd. ED rim 13; H rim 1.8; PH 3.9; Th rim 0.4; Th wall 0.4.

Medium, light brown clay (7.5YR 6/4). Many fine micaceous inclusions, occasional small white and dark grits, some voids. Rounded convex rim, tilted outward, offset at join with bowl. Upper bowl convex; remains of handle root along left edge at widest diameter. Int.: worn black along top of rim; narrow reserved band below. Rest of rim and bowl solid but peeling very dark brown to black. Ext.: light brown slip (7.5YR 6/4). Dark brown stripes on rim; bands on bowl.

A78/95.50.48.L454.(4)

From pre-604 quarry fill.



Scale 1:2

*Bases:*

- 223** Type 6 "Ionian" cup. Base sherd. ED foot 7; H foot 0.8; W resting surface 0.9; PH 2.0; Th wall 0.5; Th floor 0.25.

Medium, brown clay (10YR 5/3). Many fine micaceous inclusions, occasional small white grits. About one third of a high flaring ring foot with flat resting surface, beveled outer edge. Floor thinner than wall and uneven. Lower bowl slopes outward. Underside and resting surface once slipped, now peeling. Most of black paint gone from int.; ext. wall and foot dull black.

A78/95.50.48.L453.(49)

From pre-604 quarry fill.

(No photograph.)



Scale 1:2

- 224** Type 6 "Ionian" cup. Base sherd. ED foot 4.3; H foot 1.0; W resting surface 0.3; PH 1.6; Th wall 0.5.

Medium fine, pale brown clay (10YR 6/4). Many fine micaceous inclusions, occasional small black grits, small voids and cracks. High, reverse-conical foot with narrow rounded resting surface. Shallow, broad groove in ext. surface. Underside and resting surface reserved. Worn dark reddish-brown paint int. and ext. (5YR 3/3).

A89/96.50.48.L453.(99)

From pre-604 quarry fill.



Scale 1:2

- 225** Type 6 "Ionian" cup. Base sherd. D foot 5.75; H foot 0.65; W resting surface 0.7; PH 1.9; Th lower wall 0.4.

Medium, grayish-brown clay (10YR 5/2). Fine micaceous inclusions, occasional small to medium white and black grits, some erupting to surface; some small voids. Complete high flaring ring foot, beveled outer edge, flat resting surface. Slight nipple in center of underside. Underside and resting surface reserved; int. floor and ext. wall and foot black (now peeling off foot).

A78/95.50.48.L452.(130)

From pre-604 quarry fill.



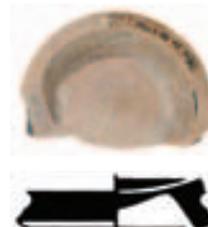
Scale 1:2

- 226** Type 6 "Ionian" cup. Base sherd. D foot 5.2; H foot 0.9; W resting surface 0.5; Th floor at center 0.4.

Medium fine, brown clay (7.5YR 5/4). Fine sparse micaceous inclusions, many small white grits, some erupting to surface. Tall flaring ring foot with broad flat resting surface. Groove between ridges in outer surface of foot. Nipple in center of underside. Floor concave. Bowl not preserved. Underside and resting surface reserved. Rest solid black.

A78/95.50.48.L452.(129)

From pre-604 quarry fill.



Scale 1:2

**Uncatalogued Type 6 “Ionian” cup striped rim sherds from pre-604 quarry fill (qty. 13):**

[4241] A73/93.50.48.L405.FG28.B78 not registered	[4448] A78/95.50.48.L453.(48)
[4245] A73/93.50.48.L444.B8.(23)	[4445] A78/95.50.48.L461.(7)
[4368] A78/95.50.48.L452.(217)	[4452] A78/95.50.48.L461.(3)
[4446] A78/95.50.48.L452.(195)	[4451] A78/95.50.48.L462.(7)
[4447] A78/95.50.48.L452.(206b)	[4751] A89/96.50.49.L449.B14.(8)
[4449] A78/95.50.48.L452.(169)	[4964] A78/95.50.58.LF318.(26)
[4450] A78/95.50.48.L452.(123)	

**Uncatalogued Type 6 “Ionian” cup striped body sherds from pre-604 quarry fill (qty. 8):**

[4287] A73/93.50.48.L444.B16 not registered	[4693] A78/95.50.48.L452 not registered
[4622] A78/95.50.48.L452 not registered	[4912] A78/95.50.57.L256 not registered
[4673] A78/95.50.48.L452 not registered	[4913] A78/95.50.57.L256 not registered
[4674] A78/95.50.48.L452 not registered	[4915] A78/95.50.57.L256 not registered

**Uncatalogued Type 6 “Ionian” cup sherds from post-604 contexts (qty. 3):**

[4253] A72/92.50.48.L347.B355.(1); found in or just above foundation trench for Persian-period warehouse wall.
[4224] A72/92.50.48.LF383.FG28.B292.(1); found in sandy silt washed over 604 destruction debris in Plaza.
[4286] A72/92.50.48.L384.B302 not registered; found in sandy silt washed over 604 destruction debris in Plaza.

**Ashkelon Type 7 “Ionian” cups (nos. 227–41).**

These are similar in shape to Type 6 but have reserved rims without painted stripes. This type corresponds to Hayes’s Type “Rhodian” IX or Villard and Vallet Type A2 (1955:18–19, 29). The feet, where preserved, are low and spreading, with a flat resting surface. This was the commonest type at Tocra (Hayes 1966:113) but it appears only occasionally at Ashkelon. Similar examples in the Levant appear at Tall Sūkās (Group 5, the most common type or “stan-

dard cup”; Ploug 1973:29–30, pl. 5:105, 107–9) and at Mešad Ḥashavyahu (Type IC 2; Fantalkin 2001:76, fig. 28.8). Clay fabric is fine to medium-fine and most pieces have fine micaceous inclusions and some other inclusions. Rim diameters range from 12 to 16 cm, rim thickness from 0.2 to 0.45 cm, and foot diameters from 4.5 to 7.5 cm. Paint color is mostly all black, ranging from glossy to iridescent to dull in finish. Instead of painted stripes on the rim, some pieces have horizontal striations formed by burnishing.

A total of 6 rims (one uncatalogued) and 9 bases (5 uncatalogued) of Ashkelon Type 7 “Ionian” cups came from 604 B.C. destruction contexts. All but three of these pieces were found in Grid 38.

*Rims:*

**227** Type 7 “Ionian” cup. Rim sherds. 2JSh. ED rim 13; PH 3.4; Th rim 0.3; Th wall 0.3; H rim 2.05.

Fine, brown clay (7.5YR 5/4) with fine micaceous inclusions, few small white grits, some voids. Tall, thin convex rim rounded at top, tilted slightly outward and offset from bowl. Only upper bowl preserved but it is very convex. Int.: reserved line just inside rim, rest is solid lustrous black paint. Ext.: top of rim solid black. Rest of rim reserved with very faint yellowish-red (5YR 5/6) horizontal striations formed by burnishing. Black band around upper bowl below carination. Rest is reserved.

A5/86.38.64.L61.B1+136.(26)

From 604 destruction debris on floor Feature 67 in Building 776.

(No drawing.)



exterior

interior

Scale 1:2

- 228** Type 7 “Ionian” cup. Rim sherds. 2NJS<sub>h</sub>. ED rim 14; PH (a) 3.0, (b) 2.9; Th rim 0.2.

Fine, brown clay (7.5YR 5/4). Fine micaceous inclusions, occasional small white grits. Two sections of rim and upper bowl, not joining but apparently from same vessel. Edge of handle root preserved on (b). Thin rounded convex rim, tilted outward and offset from convex body. Upper body very convex. Decoration: int.: solid lustrous black (somewhat dulled) paint. Narrow horizontal reserved line inside lip. Ext.: brown horizontal striations on rim caused by burnishing. Bowl reserved with broad streaky black band near top, remains of another at lower break.

A5/86.38.64.L61.(27+29)

From 604 destruction debris on floor Feature 67 in Building 776.

(No photograph.)



Scale 1:2

- 229** Type 7 “Ionian” cup. Rim sherds. 2JSh. ED rim 16; PH 2.1; PW 6.05; Th rim 0.25.

Fine, yellowish-red clay (5YR 5/4). Occasional fine micaceous inclusions. Rounded convex rim, broken just at join to bowl. Int.: solid lustrous black; narrow reserved band at top of rim going over the top. Ext.: very faint burnished horizontal striations.

A5/86.38.64.L61.B127.(87)

From 604 destruction debris on floor Feature 67 in Building 776.

(No drawing.)



Scale 1:1

interior

- 230** Type 7 “Ionian” cup. Rim sherd. ED rim 15.0; H 2.4; Th rim 0.2.

Very fine, reddish-brown (5YR 5/4) clay with small, white, rounded, sparsely distributed inclusions. High, slightly convex rim broken at join to bowl. Int.: reserved band inside lip; rest is solid dark reddish-brown paint (5YR 3/4). Ext.: rim reserved with fine, evenly spaced, yellowish-red (5YR 5/6) horizontal lines.

A5/86.38.65.L1.(22)

From 604 destruction debris in alley.

(No drawing.)



Scale 1:1

interior

- 231** Type 7 “Ionian” cup. Rim sherd. ED rim 17.0; H 2.4; Th 0.25.

Fine, light reddish-brown clay (5YR 6/4) with fine, sparse, micaceous inclusions. Thin, high, slightly convex rim, broken at join with bowl. Int.: reserved band inside lip; rest is solid black. Ext.: reserved with fine, light, reddish-brown striations; edge of lip black.

A5/86.38.64.L61.B136.(28)

From 604 destruction debris on floor Feature 67 in Building 776.

(No drawing.)



Scale 1:1

interior

*Ashkelon Type 7(?) “Ionian” cup bases.* A number of cup bases with low conical feet, flat reserved resting surfaces, thickened floors, and (where it could be determined) hemispherical bowls were found in 1986 in the Grid 38 Step Trench, in a context that was later determined to be part of the 604 B.C. destruction horizon (Grid 38 Square 64 Layer 61). In later seasons, similar bases were found elsewhere in destruction

debris and in pre-604 constructional fill. The interior and exterior of the bowls and the exterior of feet were covered with a black paint ranging from lustrous or iridescent to rather dull. These bases appear to belong to cups of Hayes “Rhodian” Type IX or Villard and Vallet A2 (see complete example in Schaus 1995:17–18, pl. 5.3–5, fig. 1.8). If so, they should be grouped together with the reserved, burnished rims of Type 7.

- 232** Type 7(?) "Ionian" cup. Base sherd. SJSh. D foot 6.0; H 4.2; Th wall 0.3.

Fine, reddish-yellow (5YR 6/6) clay with fine micaceous inclusions. Low conical foot with flat resting surface and part of lower wall of hemispherical bowl. Underside, resting surface, and outer edge of foot reserved. Int. and ext. of bowl covered with dull black paint.

A5/86.38.64.L61.B90?.(32)

From 604 destruction debris on floor Feature 67 in Building 776.

(No drawing.)



Scale 1:2

- 233** Type 7(?) "Ionian" cup. Base sherd. SJSh. PH 3.7; ext. D foot 7.7; int. D foot 4.8; Th wall 0.3; W resting surface 1.3.

Fine, reddish-brown clay (5YR 5/4) with fine micaceous inclusions, occasional small white grits. Lower part of bowl and about two-thirds of low spreading foot. Int. and ext. solid somewhat dull, lustrous black. Underside and resting surface reserved. Black around edge of foot and outer edge of underside.

A5/86.38.64.L61.B136.(24)

From 604 destruction debris on floor Feature 67 in Building 776; also from Grid 38 Square 64 Layer 764 Bucket 47 in Building 776 Room 801 (the remodeling phase excavated in 1992).



Scale 1:2

- 234** Type 7(?) "Ionian" cup. Base sherd. ED foot 6.55; W resting surface 1.25; PH 1.2.

Fine, yellowish-red clay (5YR 5/6). Fine micaceous inclusions, some small white grits and pits. Low conical base with broad flat resting surface. Int. floor and underside of bowl missing. Solid lustrous iridescent black paint on int. and ext. Resting surface and int. of foot reserved.

A5/86.38.64.L61.B107.(67)

From 604 destruction debris on floor Feature 67 in Building 776.

(No drawing.)



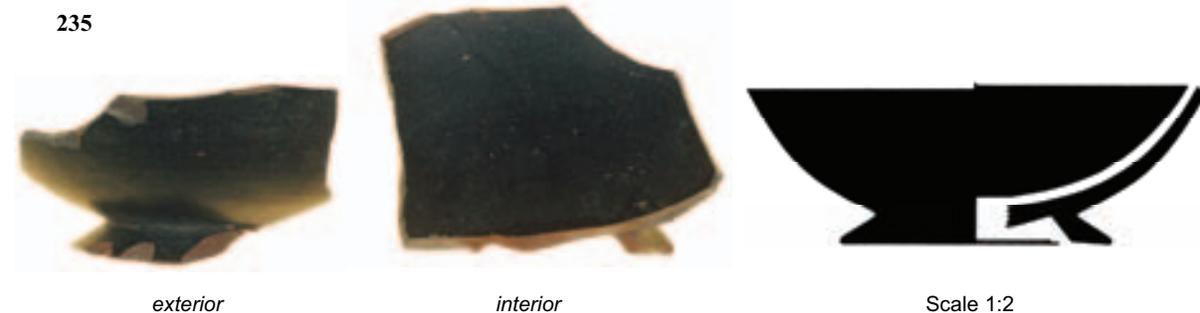
Scale 1:2

- 235** Type 7(?) "Ionian" cup. Base and SNJSh. ED foot 7.3; W resting surface 1.1; PH 5.2; Th wall 0.25; Th floor 0.5.

Medium fine, strong brown clay (7.5YR 5-4/6). Fine micaceous inclusions, some fine to small white grits, some small voids. Lower part and floor of convex globular bowl, part of low conical foot. Several nonjoining body sherds probably from same vessel included. Ext. and int. solid lustrous black paint. Underside and resting surface reserved.

A5/86.38.64.L61.B136.(1)

From 604 destruction debris on floor Feature 67 in Building 776.



**Uncatalogued Type 7 “Ionian” cup rim sherd from pre-604 construction phase (qty. 1):**

[4169] A72/92.38.74.L482.B154.(2); from pre-604 bricky fill under floor Feature 460 in Grid 38 Square 74.

**Uncatalogued Type 7 “Ionian” cup bases from pre-604 remodeling or 604 use phase/destruction debris (qty. 5):**

[4162] A72/92.38.64.L764.B24+27.(2+3); from pre-604 remodeling (silt fill in plaster vat F767 in Bldg. 776 Rm. 801).

[4163] A5/86.38.64.L61.B136+139 not registered; from 604 destruction debris on floor F67 in Building 776.

[4235] A72/92.50.48.L393.B351.(12); from 604 use phase (Plaza).

[4716] A73/93.50.49.L384.B8.(1); from 604 use phase (East Street build-up).

[4719] A73/93.50.49.LF423.FG39.B84 not registered; from 604 use phase (beaten earth floor in Bldg. 406 Rm. 423).

A total of 4 rims (3 uncatalogued) and 8 bases (3 uncatalogued) from Ashkelon Type 7 “Ionian” cups were found in the pre-604 B.C. quarry fill in Grid 50:

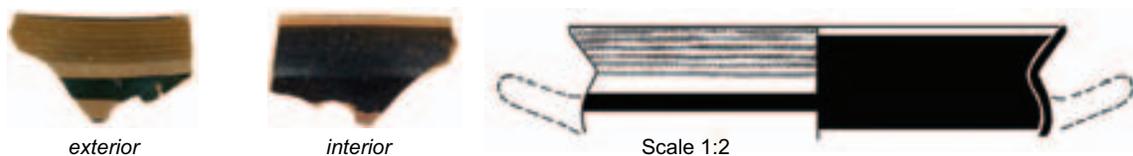
*Rim:*

**236** Type 7 “Ionian” cup. Rim sherd. ED rim 13; PH 2.5; H rim 1.6; Th rim 0.3; Th wall 0.25.

Fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions with small to medium white grits, some erupting to surface. Pointed convex rim tilted outward and offset at join to bowl. Upper bowl convex. Edge of handle root at right edge. Int.: reserved narrow band just inside rim; top of rim and lower rim to upper bowl solid lustrous black (somewhat mottled). Ext.: rim has horizontal reddish-yellow stripes (5YR 6/6), formed by burnishing. Top of bowl reserved. Black glossy band below over handle root; reserved band below that; bit of second black band at lower broken edge.

A78/95.50.47.L285.(8)

From pre-604 quarry fill.



*Bases:*

**237** Type 7 “Ionian” cup. Base sherd. 2JSh. ED foot 5.5; H foot 1.0; W resting surface 0.8; Th lower wall 0.3.

Medium fine, brown clay (7.5YR 5/2). Fine sparse micaceous inclusions, occasional small white grits. High, flaring ring foot with flat, smooth resting surface. Floor and wall not preserved. Underside and resting surface reserved; floor, wall, and outer surface of foot black.

A89/96.50.48.L462.B14.(4)

From pre-604 quarry fill.

Scale 1:2



- 238** Type 7 "Ionian" cup. Base sherd. ED foot 4.6; H foot 0.7; W resting surface 0.6; PH 1.5; Th wall 0.3; Th floor 0.2.

Fine brown clay (7.5YR 5/4), grayer in thinner part of wall. No visible mica; some small white grits. Low conical ring foot with flat resting surface. Lower wall convex. Floor sags; underside conical with nipple at center. Underside and resting surface reserved. Rest solid glossy black.

A89/96.50.49.L451.B122.(14)

(Same reg. no. as **150** and [4769] but not same vessel.)

From pre-604 quarry fill.

(No photograph.)



Scale 1:2

- 239** Type 7 "Ionian" cup. Base sherd. D foot 4.5; W resting surface 0.3; H foot 0.6; PH 1.9; Th wall 0.3.

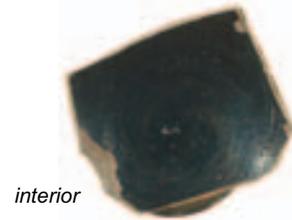
Fine, dark brown clay (7.5YR 4/2). Fine micaceous inclusions; some small white grits. Reverse conical foot with flat resting surface. Raised ridge around outer edge of foot. Lower wall concave. Slight nipple in center of underside. Resting surface and underside reserved. Rest is solid, glossy black. Some black paint slopped over side to resting surface.

A78/95.50.58.LF318.(18)

From pre-604 quarry fill.



exterior



interior



Scale 1:2

- 240** Type 7 "Ionian" cup. Base sherd. ED foot 8; W resting surface 0.7; PH 2.7; Th wall 0.45; Th floor 0.35.

Medium, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions, small pits. Conical ring foot with flat resting surface. Lower wall sloped. Resting surface and underside reserved. Int. and ext. solid black, streakier on ext.

A78/95.50.57.L256.(42)

From pre-604 quarry fill.



Scale 1:2

- 241** Type 7 "Ionian" cup. Base sherd. D foot 6.25; W resting surface 0.7; H foot 1.4; PH 2.9; Th wall 0.5.

Large cup. Medium, reddish-brown clay (5YR 5/4). Many fine micaceous inclusions, small to large white grits, some erupting to surface. High, truncated, conical ring foot with flat resting surface. Underside has nipple in center. Lower wall slopes outward. Int.: solid streaky dark reddish-brown paint (5YR 3/3), also on ext. bowl and foot. Underside and resting surface reserved.

A78/95.50.58.LF318.(16)

From pre-604 quarry fill.



exterior



interior



Scale 1:2

**Uncatalogued Type 7 “Ionian” cup rim sherds from pre-604 quarry fill (qty. 3):**

- [4411] A89/96.50.48.L453.(101a)  
 [4699] A89/96.50.48.L453.(101b)  
 [4770] A89/96.50.49.L451.B98.(15)

**Uncatalogued Type 7 “Ionian” cup bases from pre-604 quarry fill (qty. 3):**

- [4752] A89/96.50.49.L449.B32.(10)  
 [4757] A89/96.50.49.L451.B17.(2)  
 [4874] A78/95.50.57.L256.(41)

**Uncatalogued Type 7 “Ionian” cup base from a post-604 context (qty. 1):**

- [4227] A72/92.50.48.L384.B302.(2) + A72/92.50.48.L383.FG60.B290; from sandy silt over Plaza in Grid 50.

**Ashkelon Type 8 miscellaneous “Ionian” cups (nos. 242–53).** This category—by far the largest for “Ionian” cups found at Ashkelon—is a catch-all that includes miscellaneous rims, bases, handles, and body sherds that do not appear to belong to Types 1–7 above, either because the rims, in particular, differ from those of other types, or because not enough of the vessel is preserved to be sure of its designation. Some of these pieces, no doubt, belong to one of the other types, but they have been placed here for convenience until more is known about them.

*Type 8 miscellaneous “Ionian” cup rims.* The following 31 rim sherds do not belong to any of the preceding types and they resemble each other only in that all have solid-color exterior rims. Most are tiny fragments without enough preserved to classify them, so

they were not drawn. Nos. 242 and 243 were sufficiently preserved to draw but they differ from the established types and are placed here for convenience. No. 242 somewhat resembles Hayes’s “Rhodian” Types I and II or “Samian” Type i (1966:112, 115), all of which are all-black with only the handle zone reserved and without the reserve line or band at the inner lip. No. 242 and most of the others in this category do have a reserve line or band on the inner lip. The large, concave, all-black no. 243 is another anomaly, similar to Villard and Vallet Type B2 in shape, although B2 cups are generally thought to be wholly confined to the sixth century B.C. (Villard and Vallet 1955:27, 29).

All of the pieces listed below come from the pre-604 quarry fill in Grid 50, except no. 244, which was from a post-604 Persian-period context.

**242** Type 8 “Ionian” cup. Rim sherd. ED rim 11.5; W rim 1.9; PH 3.3; H rim 1.4; Th rim 0.4; Th wall 0.45.

Medium fine, light brown clay (7.5YR 6/4). Fine sparse micaceous inclusions, occasional small white grits, some small voids. Straight, rounded rim, tilted outward. Bowl convex. Int.: streaky dark brown on top, inside, lower rim and bowl. Reserve band across center of rim. Ext.: dark brown on rim, upper bowl, and lower, broken edge of bowl. Reserve band in handle zone.

A78/95.50.48.L452.(163)

From pre-604 quarry fill.



Scale 1:2

**243** Type 8 “Ionian” cup. Rim sherds. 2JSh. D rim 20.5; H rim 2.0; PH 3.0; Th rim 0.4; Th wall 0.5.

Fine, light brown clay (7.5YR 6/4). Fine sparse micaceous inclusions, some small white grits. Rounded, concave rim, tilted outward. Upper bowl slopes downward from join with rim. Handle root at lower preserved edge. Int.: solid glossy black. Ext.: very worn black.

A78/95.50.58.LF318.(27)

From pre-604 quarry fill.

(No photograph.)



Scale 1:2

**244** Type 8 “Ionian” cup. Rim sherd. ED rim 11.0; PH 2.4; Th 0.3.

Very fine, reddish-brown (5YR 5/4) clay with no visible inclusions. Offset, rounded lip. Int.: lip reserved; narrow black band at join of rim and bowl; reserved line at top of bowl; rest solid black. Ext.: rim solid glossy black; bowl reserved with narrow orange stripe near lower preserved edge.

A6/85.50.58.L44 not registered

From post-604 Persian-period destruction debris.

(No drawing.)

**Uncatalogued Type 8 miscellaneous “Ionian” cup rim sherds from pre-604 quarry fill (qty. 28):**

Most are solid on ext. with reserved line or band on int.

[4355] A78/95.50.48.L452.(177)

[4365] A78/95.50.48.L452.(212)

[4443] A78/95.50.48.L452.(203)

[4444] A78/95.50.48.L452.(190)

[4453] A78/95.50.48.L452.(223)

[4454] A78/95.50.48.L452.(200)

[4455] A78/95.50.48.L452.(222)

[4456] A78/95.50.48.L452.(205)

[4457] A78/95.50.48.L452.(204)

[4458] A78/95.50.48.L452 not registered

[4459] A78/95.50.48.L452.(218)

[4460] A78/95.50.48.L452 not registered

[4463] A78/95.50.48.L452.(208)

[4464] A78/95.50.48.L452.(43)

[4465] A78/95.50.48.L452.(210)

[4467] A78/95.50.48.L452.(214)

[4468] A78/95.50.48.L452.(107)

[4470] A78/95.50.48.L452.(213)

[4406] A80/97.50.48.L453.B6.(74)

[4461] A89/96.50.48.L453.B25.(30)

[4469] A78/95.50.48.L453.B3 not registered

[4466] A78/95.50.48.L461.(4)

[4721] A89/96.50.49.F435.B55.(1)

[4754] A89/96.50.49.L449.B6.(14)

[4765] A89/96.50.49.L451.B110.(12)

[4869] A78/95.50.57.L256.(31)

[4878] A78/95.50.57.L256.(75)

[4968] A78/95.50.58.LF318.(30)

*Type 8 miscellaneous “Ionian” cup bases.* As with the rims above, not enough of the following 14 bases and one stem are preserved to readily fit them into established types. Most, including nos. **245** and **246**, have low ring feet, but other variations, such as high ring foot (no. **247**), also appear. One stem was found,

probably from a trumpet foot but with no foot preserved (uncatalogued). All are from Grid 50.

Two uncatalogued bases are from the 604 use phase; 11 bases (9 uncatalogued) and the stem are from the pre-604 quarry fill, and one low ring foot (no. **246**) is from a post-604 context.

*Low ring foot (0.3–0.7 cm high):*

**245** Type 8 “Ionian” cup. Base sherd. ED foot 5; H foot 0.35; PH 1.7; Th wall 0.3.

Fine, reddish-brown clay (5YR 5/4). Fine, sparse micaceous inclusions; some small white grits and voids. Low ring foot with rounded resting surface; beveled outer edge. Lower wall convex. Slight groove at join of foot and wall. Int.: solid lustrous black. Ext.: wall, underside, and resting surface reserved. Traces of dark paint on outer edge of foot.

A89/96.50.49.L449.B8.(13)

From pre-604 quarry fill.

**246** Type 8 “Ionian” cup. Base sherd. ED foot 6; H foot 0.4; W resting surface 0.2; PH 1.4; Th wall 0.2; Th floor 0.3.

Fine, light brown clay (7.5YR 6/4) with fine sparse micaceous inclusions. Low, thin, flaring ring foot with narrow rounded resting surface. Thin wall curves upward. Underside, resting surface, and lower wall reserved. Int.: solid glossy black. Faint reddish-brown stripe on ext. of foot.

A72/92.50.48.L384.B308.(4)

From post-604 sandy silt washed over destruction debris in Plaza in Grid 50.



*High ring foot (0.8 cm and higher):*

**247** Type 8 “Ionian” cup. Base sherd. ED foot 5; H foot 1.2; W resting surface 0.5; PH 3.7; Th wall 0.5.

Medium, brown clay (7.5YR 5/4). Many fine micaceous inclusions, occasional white and dark grits. High narrow ring foot with groove between two ridges in outer surface. Flat narrow resting surface. Floor completely missing. Inner surface and resting surface of foot reserved. Inner and outer wall and ext. foot very dark brown.

A78/95.50.48.L452.(138)

From pre-604 quarry fill.



Scale 1:2

**Uncatalogued Type 8 miscellaneous “Ionian” cup stem, probably from a trumpet foot, from pre-604 quarry fill (qty. 1):**

[4385] A78/95.50.48.L452 not registered

**Uncatalogued Type 8 miscellaneous “Ionian” cup bases; all from pre-604 quarry fill except [4237] and [4938]:**

*Low ring feet (qty. 8):*

[4237] A72/92.50.48.L393.B424.(15);  
from 604 use phase (Plaza).

[4325] A78/95.50.48.L452.(134)

[4327] A78/95.50.48.L452.(137)

[4357] A78/95.50.48.L452.(185)

[4375] A78/95.50.48.L452.(231)

[4429] A80/97.50.48.L462.B1.(24)

[4764] A89/96.50.49.L451.B116.(11)

(Same reg. no. as [4763] but not same vessel.)

[4778] A89/96.50.49.L451.B120 not registered

*High ring feet (qty. 3):*

[4938] A72/92.50.58.L262.FG54.B103.(4c); from 604 use phase (debris on floor of Building 234 Room 227).  
(Same reg. no. as **114** and **115** but not same vessel.)

[4341] A78/95.50.48.L452.(153)

[4342] A78/95.50.48.L452.(155)

*Type 8 miscellaneous “Ionian” cup handles.* One handle (no. **248**) and 15 uncatalogued sherds came from 604 B.C. destruction debris, 9 from Grid 38 and 7 from Grid 50. A total of 73 uncatalogued handles came from the pre-604 quarry fill in Grid 50 and 3 came from post-604 contexts in Grid 50.

**248** Type 8 miscellaneous “Ionian” cup. Handle. SJSh. W handle 4.3; L handle 3.3; Th at root 1.2; Th wall 0.3.

Medium, pink (5YR 7/4) clay with fine, sparse, micaceous inclusions. Complete horizontal loop handle attached to part of wall; second body sherd with swelling for handle root. Possible break at join to offset rim. Irregularly reserved handle panel. Trace of light brown line at join of rim to wall. Covered with dull black int. and ext. Some burnishing marks.

A5/86.38.64.L61.B136.(30)

From 604 destruction debris on floor Feature 67 in Building 776.

(No drawing.)



**Uncatalogued Type 8 miscellaneous “Ionian” cup handles from 604 use phase or destruction debris (qty. 15):**

[4181] A5/86.38.64.L61.B130 not registered; from 604 destruction debris on floor Feature 67 in Building 776.

[4182] A5/86.38.64.L61.B136 not registered; from 604 destruction debris on floor Feature 67 in Building 776.

[4183] A5/86.38.64.L61.B149 not registered; from 604 destruction debris on floor Feature 67 in Building 776.

[4173] A73/93.38.64.LF799.B27 not registered; from 604 use phase (Building 776 Room 796).

[4184] A5/86.38.64; from 604 destruction debris?

- [4165] A73/93.38.73.LF380.FG8.B18 not registered; from 604 use phase (occ. debris LF394 in Bldg. 776 Rm. 796).  
 [4192] A72/92.38.74.L464.B74 not registered; from 604 mudbrick collapse on floor F460 in Building 776 Room 460.  
 [4172] A73/93.38.84.L299.B135.(4); from 604 destruction debris on floor in Building 776 Room 312.  
 [4256] A72/92.50.48.L393.B342+345 not registered; from 604 use phase (Plaza).  
 [4723] A72/92.50.49.L353.B95 not registered; from 604 use phase (Building 406 Room 375).  
 [4724] A72/92.50.49.LF388.FG32.B136.(1); from 604 use phase (East Street drain).  
 [4725] A73/93.50.49.LF423.FG39.B84 not registered; from 604 use phase (Building 406 Room 423 beaten earth floor).  
 [4845] A72/92.50.57.L206.FG39.B162 not registered; from 604 destruction debris on floor in Building 234 Room 206.  
 [4939] A72/92.50.58.L262.FG13.B200.(3); from 604 destruction debris on floor in Building 234 Room 227.  
 (Same reg. no. as **113** but not the same vessel.)  
 [4940] A72/92.50.58.L262.B17.(8); from 604 destruction debris on floor in Building 234 Room 227.

**Uncatalogued Type 8 miscellaneous “Ionian” cup handles from pre-604 quarry fill (qty. 73):**

- |  |  |
|--|--|
| [4216] A78/95.50.47.L285.(11)                  | [4501] A78/95.50.48.L453 not registered          |
| [4307] A55/94.50.48.L439.B67 not registered    | [4510] A89/96.50.48.L453.B135.(56)               |
| [4471] A78/95.50.48.L452.(234)                 | [4515] A89/96.50.48.L453.B55 not registered      |
| [4473] A78/95.50.48.L452.(239)                 | [4422] A78/95.50.48.L461.(11)                    |
| [4476] A78/95.50.48.L452.(244)                 | [4475] A78/95.50.48.L461.(10)                    |
| [4477] A78/95.50.48.L452.(31)                  | [4492] A78/95.50.48.L461.(12)                    |
| [4478] A78/95.50.48.L452.(245)                 | [4488] A89/96.50.48.L462.B14.(5)                 |
| [4481] A78/95.50.48.L452.(235)                 | [4512] A89/96.50.48.L462.B10 not registered      |
| [4484] A78/95.50.48.L452.(241)                 | [4794] A89/96.50.48.L462.B10 not registered      |
| [4485] A78/95.50.48.L452.(237)                 | [4516] A89/96.50.48.L465.B19 not registered      |
| [4486] A78/95.50.48.L452 not registered        | [4797] A89/96.50.49.L449.B8 not registered       |
| [4489] A78/95.50.48.L452 not registered        | [4799] A89/96.50.49.L449.B2 not registered       |
| [4490] A78/95.50.48.L452.(240)                 | [4790] A89/96.50.49.L451.B21.(7)                 |
| [4491] A78/95.50.48.L452 not registered        | [4791] A89/96.50.49.L451.B91 not registered      |
| [4494] A78/95.50.48.L452 not registered        | [4793] A89/96.50.49.L451 not registered          |
| [4495] A78/95.50.48.L452 not registered        | [4795] A89/96.50.49.L451.B103 not registered     |
| [4496] A78/95.50.48.L452 not registered        | [4796] A89/96.50.49.L451.B16 not registered      |
| [4497] A78/95.50.48.L452 not registered        | [4798] A89/96.50.49.L451.B102 not registered     |
| [4498] A78/95.50.48.L452 not registered        | [4830] A89/96.50.49.L451 not registered          |
| [4499] A78/95.50.48.L452.(243)                 | [4792] A89/96.50.49.L453.B63.(34)                |
| [4502] A78/95.50.48.L452 not registered        | [4833] A89/96.50.49.L453 not registered          |
| [4503] A78/95.50.48.L452 not registered        | [4842] A73/93.50.57.L248.B144.(2)                |
| [4504] A78/95.50.48.L452 not registered        | [4881] A78/95.50.57.L256 not registered          |
| [4505] A78/95.50.48.L452 not registered        | [4882] A78/95.50.57.L256 not registered          |
| [4506] A78/95.50.48.L452 not registered        | [4883] A78/95.50.57.L256.(23)                    |
| [4507] A78/95.50.48.L452 not registered        | [4884] A78/95.50.57.L256 not registered          |
| [4508] A78/95.50.48.L452.(238)                 | [4885] A78/95.50.57.L256 not registered          |
| [4509] A78/95.50.48.L452 not registered        | [4886] A78/95.50.57.L256 not registered          |
| [4511] A78/95.50.48.L452 not registered        | [4841] A55/94.50.57.L259.B131+111 not registered |
| [4513] A78/95.50.48.L452 not registered        | [4843] A55/94.50.57.L259.B81 not registered      |
| [4514] A78/95.50.48.L452 not registered        | [4844] A55/94.50.57.L259.B116 not registered     |
| [4517] A89/96.50.48.L452.B25+35 not registered | [4976] A78/95.50.58.LF318.(41)                   |
| [4472] A78/95.50.48.L453.(52)                  | [4977] A78/95.50.58.LF318.(54)                   |
| [4474] A80/97.50.48.L453.B6.(73)               | [4979] A78/95.50.58.LF318 not registered         |
| [4479] A80/97.50.48.L453.(64)                  | [4981] A78/95.50.58.LF318 not registered         |
| [4487] A78/95.50.48.L453.(32)                  | [4980] A80/97.50.58.L396.(10)                    |
| [4500] A78/95.50.48.L453 not registered        |  |

**Uncatalogued Type 8 miscellaneous “Ionian” cup handles from post-604 contexts (qty. 3):**

- [4255] A72/92.50.48.L383.FG28.B293 not registered  
 [4226] A72/92.50.48.L384.B300.(3)  
 [4254] A72/92.50.48.L384.B31.(7)

*Type 8 miscellaneous “Ionian” cup body sherds.* The final group of “Ionian” cup sherds are miscellaneous body sherds, of which five (nos. **249–53**; all from the pre-604 quarry fill in Grid 50) were catalogued and subjected to petrographic analysis. Of the remaining

uncatalogued body sherds, 72 came from 604 B.C. use or destruction contexts in Grid 38 and Grid 50, 254 came from the pre-604 quarry fill in Grid 50, and 4 came from post-604 contexts in Grid 50.

*Analyzed body sherds* (see figure 10.3 after cat. no. 253):

**249** Type 8 “Ionian” cup. Body sherd. Th 0.3.

Very micaceous, fine, yellowish-red clay (5YR 5/6) with some voids. Int.: solid red (2.5YR 4/8). Ext.: reserved above; streaky red below near floor (2.5YR 4/6). Petrographic analysis: Sample E1, Category 13, Samo-Milesian? (Master 2001:54, 138–41).

A78/95.50.48.L452 not registered; from pre-604 quarry fill.

**250** Type 8 “Ionian” cup. Body sherd. Th 0.4.

Fine micaceous inclusions, small white and black grits. Fine, brown clay (7.5YR 5/4). Streaky dark reddish-brown paint on int. and ext. (5YR 3/3). Surface somewhat bumpy. Petrographic analysis: Sample E5, Category 19, “petrographically unidentified” (Master 2001:73, 147).

A78/95.50.48.L461 not registered; from pre-604 quarry fill.

**251** Type 8 “Ionian” cup. Body sherd. Th 0.5.

Very micaceous dark reddish-yellow clay (7.5YR 6/6) with some voids, black and white grits. Faintly darker core. Int.: solid yellowish-red matte paint (5YR 5/6); ext.: reserved below, yellowish red above. Petrographic analysis: Sample E6, Category 13, Samo-Milesian? (Master 2001:82, 138–41).

A89/96.50.49.L451.B24 not registered; from pre-604 quarry fill.

**252** Type 8 “Ionian” cup. Body sherd. Th 0.4.

Micaceous yellowish-red clay (5YR 5/6) with small white grits, some voids and pitting. Paint crackling and streaky. Int.: solid red (2.5YR 4/6). Ext.: reserved above, red on lower body near floor. Petrographic analysis: Sample E7, Category 19, “petrographically unidentified” (Master 2001:90, 147).

A78/95.50.57.L256 not registered; from pre-604 quarry fill.

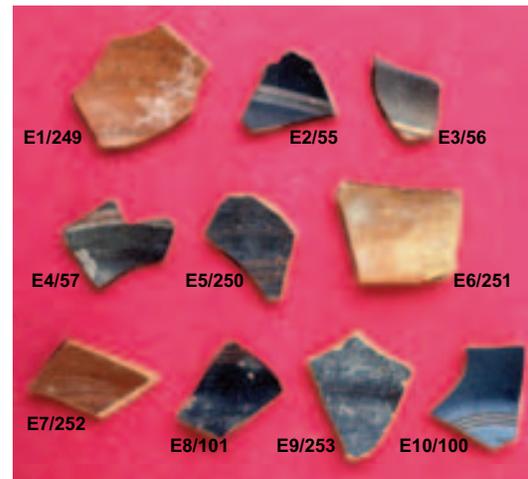
**253** Type 8 “Ionian” cup. Body sherd. Th 0.4.

Pink clay (7.5YR 7/4) with many fine micaceous inclusions. Int.: dull streaky solid black. Ext.: reserved above; streaky crackling black below. Petrographic analysis: Sample E9, Category 13, Samo-Milesian? (Master 2001:51, 138–41).

50.48.L444 not registered; from pre-604 quarry fill.



*exteriors*



*interiors*

*Figure 10.3:* “Ionian” cup body sherds subjected to petrographic analysis (Samples E1–E10)

The catalogue numbers of the sherds are given after the sample numbers.

**Uncatalogued Type 8 miscellaneous "Ionian" cup body sherds from 604 use phase or destruction debris (qty. 72):**

- [256] A5/86.38.64.L61.B136.(31); from 604 destruction debris on floor Feature 67 in Building 776.  
 [4168] A5/86.38.64.L61.B147+149 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4185] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4186] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4187] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4188] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4189] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4190] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4191] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.  
 [4174] A73/93.38.64.LF801.FG79.B38 not reg'd; from 604 use phase (Building 776 Room 801 beaten earth floor).  
 [4175] A73/93.38.64.LF801.FG79.B42 not reg'd; from 604 use phase (Building 776 Room 801 beaten earth floor).  
 [4176] A73/93.38.64.LF801.FG87.B46 not reg'd; from 604 use phase (Building 776 Room 801 beaten earth floor).  
 [4178] A73/93.38.64.LF802.FG89.B48 not reg'd; from 604 use phase (Building 776 Room 801 floor under LF801).  
 [4193] A61/91.38.74.LF429.FG83.B46 not reg'd; from 604 destruction debris on floor LF492 in Bldg. 776 Rm. 492.  
 [4200] A73/93.38.83.L320.FG60.B241 not reg'd; from 604 destruction debris on floor LF342 in Bldg. 776 Rm. 342.  
 [4198] A73/93.38.84.L299.FG54+62 not reg'd; from 604 destruction debris on floor LF312 in Bldg. 776 Rm. 312.  
 [4199] A73/93.38.84.L299.B154 not reg'd; from 604 destruction debris on floor LF312 in Building 776 Room 312.  
 [4197] A73/93.38.84.LF312.FG55+64 not reg'd; from 604 use phase (Building 776 Room 312 beaten earth floor).  
 [4201] A72/92.38.94.LF207.FG11.B126 not registered.  
 [4202] A72/92.38.94.LF210.FG1.B117 not reg'd; from 604 use phase (Building 776 Room 210 beaten earth floor).  
 [4203] A72/92.38.94.L206.F4.B110 not reg'd; from 604 destruction debris on floor LF209 in Building 776 Room 210.  
 [4205] A73/93.50.46.L61.FG40.B158+161 not reg'd; from 604 use phase (Bldg. 276 Rm. 78 brick collapse on floor).  
 [4206] A73/93.50.46.L61.FG40.B158+161 not reg'd; from 604 use phase (Bldg. 276 Rm. 78 brick collapse on floor).  
 [4277] A72/92.50.48.L392.FG51.B341 not reg'd; from 604 use phase (Bldg. 276 Rm. 421 occ. debris on floor LF421).  
 [4262] A72/92.50.48.L393.B424 not registered; from 604 use phase (Plaza).  
 [4276] A72/92.50.48.L393.B407 not registered; from 604 use phase (Plaza).  
 [4278] A72/92.50.48.L393.B150 not registered; from 604 use phase (Plaza).  
 [4280] A72/92.50.48.L393.B424 not registered; from 604 use phase (Plaza).  
 [4289] A72/92.50.48.L393.B350 not registered; from 604 use phase (Plaza).  
 [4291] A72/92.50.48.L393.B342 not registered; from 604 use phase (Plaza).  
 [4299] A72/92.50.48.L393.B344 not registered; from 604 use phase (Plaza).  
 [4301] A72/92.50.48.L393.B407 not registered; from 604 use phase (Plaza).  
 [4305] A72/92.50.48.L393.B342 not registered; from 604 use phase (Plaza).  
 [4288] A72/92.50.48.L398.B364 not registered; from 604 use phase (Plaza).  
 [4270] A73/93.50.48.L430.B107 not registered; from 604 use phase (Plaza).  
 [4275] A73/93.50.48.L430.B87 not registered; from 604 use phase (Plaza).  
 [4265] A73/93.50.48.LF431.B110 not reg'd; from 604 use phase (Bldg. 406 Rm. 431 beaten earth floor under LF429).  
 [4732] A72/92.50.49.L373.B22 not registered; from 604 use phase (Building 406 Room 373).  
 [4744] A72/92.50.49.L373.B185 not registered; from 604 use phase (Building 406 Room 373.)  
 [4741] A72/92.50.49.L375.FG13.B197 not registered; from 604 use phase (Building 406 Room 373).  
 [4747] A72/92.50.49.L384.FG82.B215 not registered; from 604 use phase (East Street).  
 [4731] A73/93.50.49.L389.B21 not registered; from 604 use phase (East Street).  
 [4733] A72/92.50.49.L389.B264 not registered; from 604 use phase (East Street).  
 [4735] A73/93.50.49.L389.B25 not registered; from 604 use phase (East Street).  
 [4737] A73/93.50.49.L389.B21 not registered; from 604 use phase (East Street).  
 [4738] A73/93.50.49.L389.B28 not registered; from 604 use phase (East Street).  
 [4742] A73/93.50.49.L389.B15 not registered; from 604 use phase (East Street).  
 [4748] A73/93.50.49.L389.B25 not registered; from 604 use phase (East Street).  
 [4740] A72/92.50.49.L392.FG7.B292 not registered; from 604 use phase (Bldg. 406 Rm. 406 debris on floor LF406).  
 [4746] A72/92.50.49.L392.FG6.B283 not registered; from 604 use phase (Bldg. 406 Rm. 406 debris on floor LF406).  
 [4726] A73/93.50.49.LF423.B95 not registered; from 604 use phase (Bldg. 406 Rm. 423 beaten earth floor of Shop 1).  
 [4727] A73/93.50.49.LF423.FG40.B77 not reg'd; from 604 use phase (Bldg. 406 Rm. 423 beaten earth floor of Shop 1).  
 [4734] A73/93.50.49.LF423.FG29.B85 not reg'd; from 604 use phase (Bldg. 406 Rm. 423 beaten earth floor of Shop 1).  
 [4736] A73/93.50.49.LF423.B95 not registered; from 604 use phase (Bldg. 406 Rm. 423 beaten earth floor of Shop 1).  
 [4743] A73/93.50.49.LF423.FG39.B89 not reg'd; from 604 use phase (Bldg. 406 Rm. 423 beaten earth floor of Shop 1).  
 [4847] A3/88.50.57.L134 not registered; from 604 use phase (Bldg. 234 Rm. 234 destruction debris and wall fall).

- [4848] A3/88.50.57.L134.B551 not registered; from 604 use phase (Bldg. 234 Rm. 234 destruction debris and wall fall).  
 [4849] A3/88.50.57.L134 not registered; from 604 use phase (Bldg. 234 Rm. 234 destruction debris and wall fall).  
 [4850] A72/92.50.57.L196.FG55.B82 not registered; from 604 destruction debris on floor in Building 234 Room 206.  
 [4851] A72/92.50.57.L206.FG50.B278 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4945] A72/92.50.57.LF221.FG52 not reg'd; from 604 use phase (Building 234 Room 206 plaster floor).  
 [4857] A73/93.50.57.L234.B19 not reg'd; from 604 use phase (Building 234 Room 234 *kurkar* floor makeup).  
 [4943] A72/92.50.58.L262.FG34.B126 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4944] A72/92.50.58.L262.FG34.B115 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4946] A72/92.50.58.L262.B1 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4948] A72/92.50.58.L262.FG23.B156.(3); from 604 destruction debris on floor in Building 234 Room 227.  
 [4949] A72/92.50.58.L262.FG23.B120 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4950] A72/92.50.58.L262.FG42.B27 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4951] A72/92.50.58.L262.FG43?.B158 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4952] A72/92.50.58.L262.FG33.B114 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4953] A72/92.50.58.L262.FG12.B154 not registered; from 604 destruction debris on floor in Building 234 Room 227.  
 [4947] A72/92.50.58.L290.FG60.B360 not registered; from 604 destruction debris on floor in Building 234 Room 227.

**Uncatalogued Type 8 miscellaneous "Ionian" cup body sherds from pre-604 quarry fill (qty. 254):**

- |   |   |
|---|---|
| [4217] A78/95.50.46.L100 not registered           | [4547] A78/95.50.48.L452 not registered     |
| [4211] A78/95.50.47.L285 not registered           | [4548] A78/95.50.48.L452 not registered     |
| [4212] A78/95.50.47.L285 not registered           | [4549] A78/95.50.48.L452 not registered     |
| [4213] A78/95.50.47.L285 not registered           | [4550] A78/95.50.48.L452 not registered     |
| [4214] A78/95.50.47.L285 not registered           | [4571] A78/95.50.48.L452 not registered     |
| [4218] A78/95.50.47.L285 not registered           | [4573] A78/95.50.48.L452 not registered     |
| [4689] A78/95.50.47.L285 not registered           | [4576] A78/95.50.48.L452 not registered     |
| [4285] A73/93.50.48.L405.B28 not registered       | [4577] A78/95.50.48.L452 not registered     |
| [4296] A73/93.50.48.L405.FG34.B329 not registered | [4578] A78/95.50.48.L452 not registered     |
| [4300] A73/93.50.48.L405.FG38.B42 not registered  | [4580] A78/95.50.48.L452 not registered     |
| [4303] A73/93.50.48.L405.FG18.B69 not registered  | [4581] A78/95.50.48.L452 not registered     |
| [4269] A55/94.50.48.L439.B53 not registered       | [4587] A78/95.50.48.L452 not registered     |
| [4271] A55/94.50.48.L439.B73 not registered       | [4588] A78/95.50.48.L452 not registered     |
| [4272] A55/94.50.48.L439.B62 not registered       | [4589] A89/96.50.48.L452.B18 not registered |
| [4274] A55/94.50.48.L439.B67 not registered       | [4590] A78/95.50.48.L452 not registered     |
| [4279] A55/94.50.48.L439.B45 not registered       | [4591] A78/95.50.48.L452 not registered     |
| [4281] A55/94.50.48.L439.B61 not registered       | [4592] A78/95.50.48.L452 not registered     |
| [4284] A55/94.50.48.L439.B61 not registered       | [4593] A78/95.50.48.L452 not registered     |
| [4290] A55/94.50.48.L439.B50 not registered       | [4594] A78/95.50.48.L452 not registered     |
| [4292] A55/94.50.48.L439.B37 not registered       | [4595] A78/95.50.48.L452 not registered     |
| [4293] A55/94.50.48.L439.B67 not registered       | [4596] A78/95.50.48.L452 not registered     |
| [4295] A55/94.50.48.L439.B71 not registered       | [4597] A78/95.50.48.L452 not registered     |
| [4298] A55/94.50.48.L439.B48 not registered       | [4598] A78/95.50.48.L452 not registered     |
| [4302] A55/94.50.48.L439.B68 not registered       | [4599] A78/95.50.48.L452 not registered     |
| [4304] A55/94.50.48.L439.B68 not registered       | [4601] A78/95.50.48.L452 not registered     |
| [4222] 50.48.L444.B96 not registered              | [4602] A78/95.50.48.L452 not registered     |
| [4266] 50.48.L444.B40 not registered              | [4603] A78/95.50.48.L452 not registered     |
| [4267] 50.48.L444.B40 not registered              | [4604] A78/95.50.48.L452 not registered     |
| [4268] 50.48.L444.B8 not registered               | [4605] A78/95.50.48.L452 not registered     |
| [4297] 50.48.L444.B151 not registered             | [4606] A78/95.50.48.L452 not registered     |
| [4540] A78/95.50.48.L452 not registered           | [4607] A78/95.50.48.L452 not registered     |
| [4541] A78/95.50.48.L452 not registered           | [4608] A78/95.50.48.L452 not registered     |
| [4542] A78/95.50.48.L452 not registered           | [4609] A78/95.50.48.L452 not registered     |
| [4543] A78/95.50.48.L452 not registered           | [4610] A78/95.50.48.L452 not registered     |
| [4544] A78/95.50.48.L452 not registered           | [4611] A78/95.50.48.L452 not registered     |
| [4545] A78/95.50.48.L452 not registered           | [4612] A78/95.50.48.L452 not registered     |
| [4546] A78/95.50.48.L452 not registered           | [4613] A78/95.50.48.L452 not registered     |

- [4615] A89/96.50.48.L452.B25 not registered  
 [4617] A78/95.50.48.L452 not registered  
 [4618] A78/95.50.48.L452.B88.(12)  
 [4620] A78/95.50.48.L452 not registered  
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 [4623] A78/95.50.48.L452 not registered  
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 [4690] A78/95.50.48.L452.B63 not registered  
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 [4574] A78/95.50.48.L453 not registered  
 [4575] A78/95.50.48.L453 not registered  
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 [4678] A78/95.50.48.L453 not registered  
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 [4685] A89/96.50.48.L453.B55 not registered  
 [4686] A89/96.50.48.L453.B57 not registered  
 [4687] A89/96.50.48.L453.B8 not registered  
 [4692] A78/95.50.48.L453 not registered  
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 [4702] A78/95.50.48.L454 not registered  
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 [4714] A78/95.50.48.L462 not registered  
 [4713] A78/95.50.48.L464 not registered  
 [4745] A72/92.50.49.L420.B50 not registered  
 [4728] A73/93.50.49.L421.B59 not registered  
 [4739] A55/94.50.49.L439.B25 not registered  
 [4219] A89/96.50.49.L449 not registered  
 [4220] A89/96.50.49.L449 not registered  
 [4809] A89/96.50.49.L449.B4.(4)  
 [4810] A89/96.50.49.L449.B6 not registered  
 [4811] A89/96.50.49.L449 not registered  
 [4817] A89/96.50.49.L449.B6 not registered  
 [4806] A89/96.50.49.L451.B59 not registered  
 [4807] A89/96.50.49.L451.B26 not registered  
 [4808] A89/96.50.49.L451.B56 not registered

- |  |  |
|--|--|
| [4813] A89/96.50.49.L451 not registered      | [4898] A78/95.50.57.L256 not registered      |
| [4814] A89/96.50.49.L451.B34 not registered  | [4899] A78/95.50.57.L256 not registered      |
| [4816] A89/96.50.49.L451.B16 not registered  | [4900] A78/95.50.57.L256 not registered      |
| [4818] A89/96.50.49.L451.B16 not registered  | [4901] A78/95.50.57.L256 not registered      |
| [4819] A89/96.50.49.L451.B120 not registered | [4902] A78/95.50.57.L256 not registered      |
| [4821] A89/96.50.49.L451.B91 not registered  | [4916] A78/95.50.57.L256 not registered      |
| [4822] A89/96.50.49.L451.B19 not registered  | [4917] A78/95.50.57.L256 not registered      |
| [4823] A89/96.50.49.L451 not registered      | [4918] A78/95.50.57.L256 not registered      |
| [4824] A89/96.50.49.L451 not registered      | [4919] A78/95.50.57.L256 not registered      |
| [4825] A89/96.50.49.L451 not registered      | [4920] A78/95.50.57.L256 not registered      |
| [4826] A89/96.50.49.L451 not registered      | [4921] A78/95.50.57.L256 not registered      |
| [4827] A89/96.50.49.L451 not registered      | [4922] A78/95.50.57.L256 not registered      |
| [4828] A89/96.50.49.L451 not registered      | [4923] A78/95.50.57.L256 not registered      |
| [4829] A89/96.50.49.L451 not registered      | [4924] A78/95.50.57.L256 not registered      |
| [4815] A89/96.50.49.L453.B52 not registered  | [4925] A78/95.50.57.L256 not registered      |
| [4820] A89/96.50.49.L453.B78 not registered  | [4926] A78/95.50.57.L256 not registered      |
| [4831] A89/96.50.49.L453 not registered      | [4927] A78/95.50.57.L256 not registered      |
| [4832] A89/96.50.49.L453 not registered      | [4930] A78/95.50.57.L256 not registered      |
| [4852] A73/93.50.57.L240.B68.(15)            | [4853] A55/94.50.57.L259.B117 not registered |
| [4854] A73/93.50.57.L240.B68 not registered  | [4856] A55/94.50.57.L259.B120 not registered |
| [4855] A73/93.50.57.L240.B75 not registered  | [4983] A78/95.50.58.LF318 not registered     |
| [4858] A73/93.50.57.L248.B146.(3)            | [4985] A78/95.50.58.LF318 not registered     |
| [4887] A78/95.50.57.L256 not registered      | [4986] A78/95.50.58.LF318 not registered     |
| [4888] A78/95.50.57.L256 not registered      | [4987] A78/95.50.58.LF318 not registered     |
| [4889] A78/95.50.57.L256 not registered      | [4988] A78/95.50.58.LF318 not registered     |
| [4890] A78/95.50.57.L256 not registered      | [4989] A78/95.50.58.LF318 not registered     |
| [4891] A78/95.50.57.L256 not registered      | [4990] A78/95.50.58.LF318 not registered     |
| [4892] A78/95.50.57.L256 not registered      | [4991] A78/95.50.58.LF318 not registered     |
| [4893] A78/95.50.57.L256 not registered      | [4992] A78/95.50.58.LF318 not registered     |
| [4894] A78/95.50.57.L256 not registered      | [4993] A78/95.50.58.LF318 not registered     |
| [4895] A78/95.50.57.L256 not registered      | [4994] A78/95.50.58.LF318 not registered     |
| [4896] A78/95.50.57.L256 not registered      | [4995] A78/95.50.58.LF318 not registered     |
| [4897] A78/95.50.57.L256 not registered      | [4984] A80/97.50.58.L396.(7)                 |

**Uncatalogued Type 8 miscellaneous “Ionian” cup body sherds from post-604 contexts (qty. 4):**

- |  |  |
|--|--|
| [4221] A72/92.50.48.LF383.FG27.B292 not registered | [4283] A72/92.50.48.L384.B304 not registered |
| [4282] A72/92.50.48.L384.B337 not registered       | [4306] A72/92.50.48.L384 not registered      |

**KANTHAROI (nos. 254–57)**

Four kantharos fragments were found, all from the pre-604 quarry fill in Grid 50. The pieces are related to the Type 1 w-r-w “Ionian” cups in fabric and decorative technique but they have very tall rims, reserved ext. surfaces, and, where preserved, vertical strap handles rising from the rim. The shape is not common, and there are few published parallels. Some similar pieces were found at Naukratis (Petrie 1886: pl. 10.1, 3 [restored? with horizontal instead of vertical handles]). At least one example came from a tomb at Ras el-Bassit dated to the early sixth century

(Courbin 1978:41, pl. 16 fig. 5; 1986:201, fig. 35; 1993:67, fig. 17.7, pl. 20.4), and fragments of a few others were found at the site as well (Courbin 1993:67). This tomb, containing mostly Greek pottery (two amphora fragments, three Ionian cups, the kantharos) and an Etruscan kantharos, as well as a sherd of a local amphora or krater, was dated to ca. 575–550 B.C. on the basis of the Etruscan kantharos and the Laconian amphora, although the Greek cups and kantharos are dated in the late seventh century B.C. (Courbin 1993:30–32).

*Rims:*

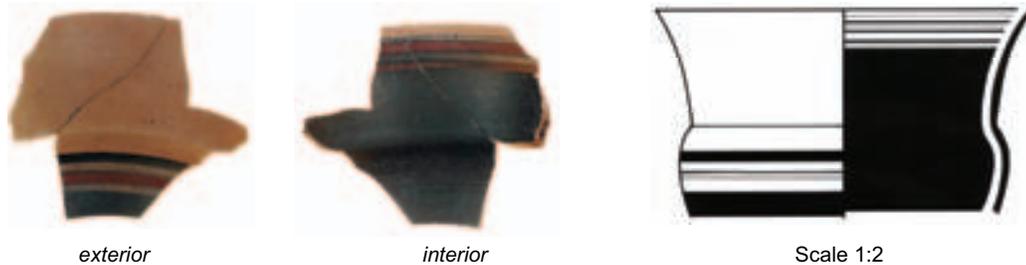
**254** Kantharos. Rim sherds. 2JSh. ED rim 10; H rim 3.35; PH 5.5; Th rim 0.2; Th wall 0.3.

Fine, yellowish-red clay (5YR 5/6) turning gray in bowl. Many fine micaceous inclusions. Tall, concave, pointed rim, flaring outward slightly at top. Bowl convex. Int.: top of rim and just inside rim reserved. Below is solid, somewhat dull black. Added w-r-w-r on upper rim below reserve. Red is 10R 4/6. Ext.: rim and upper bowl reserved. Lower bowl black with very straight precise band of w-r-w. Scheme is reverse of cups.

A78/95.50.48.L461.(5+8)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.2.15.



**255** Kantharos. Rim sherd. ED rim 9.0; PH 1.6; PW 4.0; Th 0.2.

Fine, reddish-yellow clay (7.5YR 6/6). Many fine micaceous inclusions. Part of rim, reserved on ext, decoration on int. Rim straight to slightly convex, and pointed. Full height not preserved. Int.: top of rim and just inside reserved. Rest is solid dull black with w-r-w band below reserve. Ext.: all reserved (as far as preserved). Similar to no. 254 but not from the same vessel.

A78/95.50.48.L452.(220)

From pre-604 quarry fill.

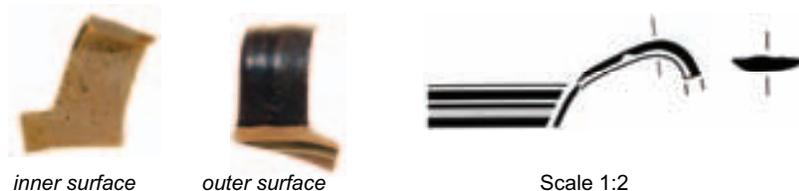


**256** Kantharos. Rim sherd with part of handle attached. PW at rim 3.0; PH 3.5; W handle 1.85; Th handle at center ridge 0.4; Th rim 0.2.

Fine, light brown clay (7.5Y 6/4). Fine micaceous inclusions, occasional small white grits. Straight, thin, pointed rim. Strap handle rises directly from top of rim, goes up, then curves down. Slightly flanged at edges; ridge in center of handle. Int.: join of rim and handle reserved. Int. rim glossy black with thin white, wider red, thin white lines. Red is weak red (10R 4/3). Ext.: outer surface of handle glossy black. Inner surface and ext. rim reserved.

A78/95.50.48.L461.(3?) [reg. no. is chipped off]

From pre-604 quarry fill.

*Body sherd:*

**257** Kantharos. Body sherd. PH 3.9; PW 3.1; Th 0.25.

Fine, strong brown clay (5YR 5/6). Many fine micaceous inclusions. At least one large white stony piece; some small grits. Part of a tall, thin, slightly concave rim, with none of edge preserved. Int.: solid lustrous black with w-r-w band near top. Narrow white, wide red, narrow white. Red is weak red (10R 4/4). Ext.: all reserved.

A78/95.50.48.L452 not registered

From pre-604 quarry fill.

(No drawing.)



## STEMMED OR FOOTED DISHES (nos. 258–83)

Pieces of 28 stemmed or footed dishes were found at Ashkelon, one (no. **258**) from the 604 use phase, 23 from the pre-604 quarry fill in Grid 50, and 4 from post-604 contexts. In most cases, it is difficult to be sure whether particular examples are from stemmed dishes—sometimes referred to as “fruitstands” (e.g., Schaus 1985:59–60; Hayes 1966: 46, 49–50; Paspalas 2006:95)—or dishes with low feet. All are fragmentary, with 20 rims, 2 bases, 1 stem, and 5 body sherds preserved. Rim profile may offer a clue because footed dishes generally have a broader, flatter rim than stemmed dishes, although this does not always hold true (Schaus 1985:59). Kalaitzoglou (2008:117–31, fig. 6) offers a typology of three forms (A–C) with two subtypes each, which is helpful in distinguishing between probable stemmed and probable footed specimens and also among their rim types. Many of the Ashkelon examples appear to be stemmed, although only a few (nos. **258**, **259**, and possibly also its companion **267**) have a thickening preserved in the center of the underside suggestive of a stem. No. **280** preserves a stem without the bowl and no. **279** may be the foot of a stemmed dish. In only one case (no. **266**) is the foot preserved to show that the example in question was not stemmed.

Most pastes are medium to fairly coarse in texture, though nos. **277** and **280** (the stem) are fairly fine. Most are very micaceous, though two pieces (nos. **278**, **280**) have little mica, and most have other inclusions, particularly small to large white and/or dark grits. Clay colors vary from light gray/light brownish gray (10YR 6/1–2) for the “Aiolian” examples (nos. **281**, **282**) to pinks, reddish yellows, and browns (7.5YR 7/2, 7/4, 7/6, 7.5YR 6/4, 5/4, 4/6, 5YR 3/2, 10YR 7/2, 6/4, 6/3, 5/4). In general, most conform to the description of “Wild Goat” oinochoai fabrics (see below). Only one example was analyzed petrographically (no. **258**, sample C10) and according to Master (2001:105, 138–41) it clusters with his Category 13, which also includes several amphorai and hydriai, “wild goat” and other oinochoai, and a few Ionian cups. Master refers to this category as “Samo-Milesian” but it should now probably be considered simply Milesian.

No. **267** from the surface of Grid 50 (post-604 destruction) is almost identical to no. **258**. The distinctive red slip and bands of meander patterns on these sherds make them somewhat different from the more typical “Wild Goat” (SiA Ic–d) style dishes assigned to Miletos or the South Ionian region. The unregistered and uncatalogued body sherd [3733] from the pre-604 quarry fill is also similar to no. **258**

and like it has a broad dark red band separated from two others by double narrow reserve bands. Unfortunately, no photograph or drawing exists. Fragments of a very similar dish were found at Miletos (Forbeck 2002:no. 5) and another at Ras el-Bassit, where it is identified *faute de mieux* as “Rhodian” (Courbin 1978:41, pl. 16 fig. 7).

Most of the other decorated dishes are also attributed, primarily on the basis of style, to SiA Ic–d/MileA Ic–d (e.g., nos. **259–64**). Chemical analysis has shown that Miletos was the major source for MileA Ic–d = Middle Wild Goat II (Dupont 1983:27–28, 34, 37; Jones 1986:665–66, 702; Cook and Dupont 1998:43–44). This has been confirmed by recent excavations at Miletos itself and at nearby sites like Assesos (see the useful summary with references in Schlotzhauer et al. 2006).

Several Ashkelon pieces with preserved decoration in linear or banded patterns only (nos. **271–80**) are similar to examples from Assesos (Kalaitzoglou 2008:pl. 40–50) and are probably also South Ionian and very possibly Milesian. (Many of the examples shown in Kalaitzoglou 2008, e.g., pls. 46.313, 47.316–17, have patterns in the center of the floor; this area is not preserved in the Ashkelon pieces.) The decorative motifs on three (nos. **265**, **266**, **270**) appear to be transitional to Fikellura patterns, particularly the silhouetted lotus bud and palmette petal designs. Fikellura has long been assigned to Miletos, and Schlotzhauer now identifies a transitional phase, also stemming from Miletos, between the end of Milesian “Wild Goat” (MileA Id) and the beginning of Fikellura (MileA II). He calls this phase MileA Iia (Kerschner and Schlotzhauer 2005:46; Schlotzhauer 2007 and cf. Cook 1998:77). Most, but not all, of the probable South Ionian examples have plain horizontal banding on the undersides. Four pieces with plain gray surfaces (nos. **281–83**, plus one uncatalogued and unregistered body sherd [3736]) are attributed to Aiolis.

Very similar stemmed dishes have been found in the East Greek world at Vroulia on Rhodes (for decorative patterns with dotted concentric circles, goat protomes between pendent rays, segmented triangles under rim: Kinch 1914:pl. 3.1, 4.1, 17.3a, 6; Kerschner and Schlotzhauer 2005:35–36, nos. 92, 98, 100, fig. 41, “SiA Id”); on Samos (Isler 1978a:90–91, 148–49, pls. 46, 67–69 nos. 113–20, 511–21, most dated to the first half of the sixth century); at Ephesos (Kerschner 1997:136, pl. 8.53; 143–44, pl. 9.66, 67); at Miletos (von Graeve 1973/74:106–7, nos. 110–16, pl. 29; Forbeck 2002:nos. 3, 6); and large quantities at

nearby Assesos (Kalaitzoglou 2008:117–45, pl. 26–71). A number of stemmed and footed dishes were also found at Old Smyrna, though most are North Ionian in origin and date to the early sixth century, though some belong to the late seventh (Paspalas 2006).

In Cilicia, they appear at Mersin (Barnett 1939–40:113.1–3, pl. 77.1–4). In North Africa and Egypt they occur at Tocra and Cyrene. Although most of these belong to the sixth century (Hayes 1966:50–53; Schaus 1985:59–69), a couple were found at Tocra in late seventh-century deposits (Hayes 1966:49, fig. 24, pl. 33 no. 614 [goat protomes]; Hayes 1973:17, fig. 7, pl. 10 no. 1978). Some were also found at Naukratis (Price 1924:196–200, pl. 7; Schlotzhauer and Villing 2006:59, fig. 20). In the Black Sea area they appear at Istros (Histria) (Lambrino 1938:279–93; Alexandrescu 1978:45–51, pls. 9–12). In Phoenicia there is an example at Tyre (Coldstream and Bikai 1988:42, pl. 13 no. 120). There are several at Al Mina (Robertson 1940 10, fig. 5) and several more at Tall Sūkās dated early sixth century (Ploug 1973:55–57, 66–69, pls. 14, 15 nos. 285–309). Courbin refers to “plates” from seventh-century Ras el-Bassit but only illustrates two fragments, of different types (Courbin 1990:508; 1978: 41, pl. 16 fig. 7). As far as I know,

none have been found in the southern Levant other than at Ashkelon.

**South Ionian Archaic, most likely from Miletos, SiA Ic-d/MileA Ic-d (Middle Wild Goat II) stemmed or footed dishes (nos. 258–64).** Eleven fragments of stemmed or footed dishes are related closely enough in decoration to be assigned to South Ionian Archaic Ic-d, probably MileA Ic-d, formerly called Middle Wild Goat II, though not all of these examples have “Wild Goat” decorations (see Cook and Dupont 1998:42, fig. 8.11 for a general description of the type; Kerschner and Schlotzhauer 2005:figs. 41, 42 [MileA Id]). Nos. **258**, **267**, and the uncatalogued, unregistered body sherd [3733] have thick red slip on a highly micaceous brown clay. The rest are painted with lustrous dark brown to black paint over a white to light gray to very pale brown or pink slip (10YR 8/2, 2.5YR 7/2, 10YR 7/2, 10YR 7/4, 5YR 7/3) in patterns more similar to those on MileA Ic-d oinochoai, to which they are related in style (see below). In some cases, the slip is either omitted or worn off from the underside. Most of the pieces came from Grid 50, including two from post-604 contexts. One came from a post-604 context in Grid 57.

*Rims:*

**258** South Ionian Archaic (SiA Ic-d/MileA Ic-d) stemmed or footed dish. Rim sherd. ED rim 27.0; H 11.4; W 9.4; Th 1.0.

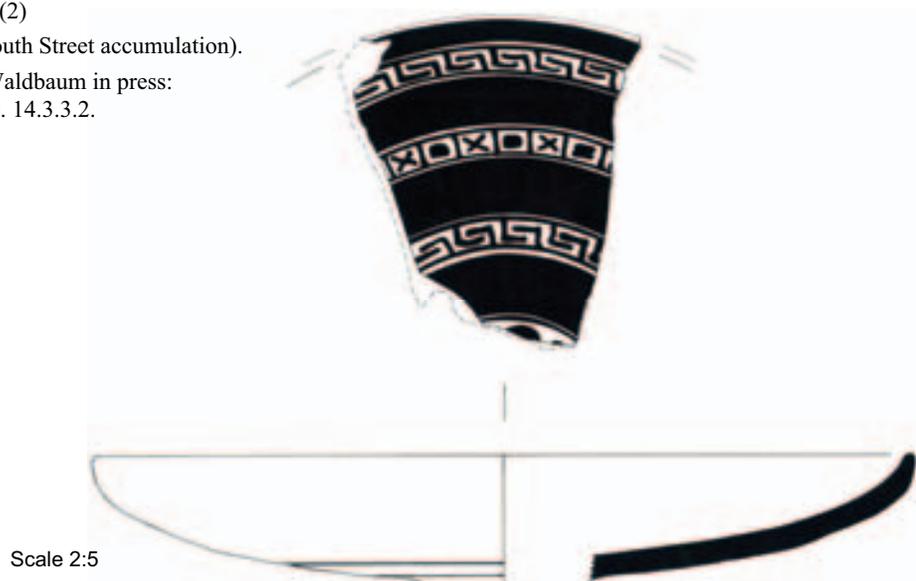
Highly micaceous, medium coarse, light brown clay (7.5YR 6/4) with quartz crystals and small black grits. Shallow bowl with slightly upturned rim. Slight thickening at center of underside suggestive of a stem. Underside: two concentric lines of reddish-brown to dark reddish-brown (2.5YR 4–3/4) paint on clay ground. Int.: solid dark reddish-brown slip (2.5YR 2.5/4) with three reserved bands: outer: simple meander between bands; center: X within square alternating with dot within square; inner: simple meander. Seems to be a circular frame with ornament at center of plate. Petrographic analysis: Sample C10, Category 13, Samo-Milesian? (Master 2001:105, 138–41). Similar to no. **267** and [3733]. Cf. Kalaitzoglou 2008:117, fig. 6 stemmed dish Form A Type 1; Forbeck 2002:no. 5.

A55/94.50.58.L302.B6.(2)

From 604 use phase (South Street accumulation).

*Previous publication:* Waldbaum in press:  
pl. 14.3.3.2.

(No photograph.)



- 259 South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish. Rim sherds. 3JSh+1NJS. ED rim 28.0; (a) H 12.4, W 15.7, Th wall 0.95; (b) H 8.5, W 14.

Medium, highly micaceous, light brown to reddish-yellow clay (7.5YR 6/4–7/6) with small to medium white grits; a few small voids. Very worn paint. Shallow bowl, thickening toward center; rim flattened and tilted outward; rounded on edge; shallow grooves on ext. White (10YR 8/2) to light gray (10YR 7/2) slip on int. and around edge of rim. Underside: outer edge of rim and lower band slipped light gray (10YR 7/2); rest either reserved or very worn. Remains of five concentric bands in lustrous black to dark brown paint. Int.: light gray slip with lustrous dark brown to black paint worn in places. Rim: vertical strokes and small rays between two pairs of concentric lines; black strokes worn, lines yellowish brown (10YR 5/6). Within bowl between concentric bands: goat protome to r., horn of another to l. divided by pattern of pendent divided rays, concentric squares with maeander alternating with X in center; filling ornament. Below, a band of simple maeander pattern; near center, another zone of decoration, now unintelligible. For shape cf. Kalaitzoglou 2008:117, fig. 6, stemmed dish Form A Type 2; for decorative pattern cf. Kerschner and Schlotzhauer 2005:fig. 41 “SiA Id.”

A89/96.50.48.L453.B7.(1) + B131 + A80/97.50.48.L462.B1.(130)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.3.1; 2002b:58, fig. 4.



- 260** South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish. Rim sherd. ED rim 30.0; H 4.8; W 10.5; Th rim 0.7.

Pinkish-gray, micaceous (7.5YR 7/2) clay with small to large white grits. Flat, outturned rim; shallow bowl. Ext.: two concentric bands of yellowish-red (5YR 5/6) on pink (5YR 7/3) slip. Int.: very pale brown slip (10YR 7/4); rim and outer bowl pattern very similar to no. **259** with two yellowish-red (5YR 5/6) lines on outer rim; group of seven vertical thin triangles, and upper parts of two lines to r. edge; another yellowish-red band inside bowl. Black and added r (dusky red 2.5YR 3/2) band inside join with rim. Within that, pairs of narrow divided triangles in dark brown-black. For shape cf. Kalaitzoglou 2008:117, fig. 6, stemmed dish Form A Type 2.

A89/96.50.48.L453.(57)

From pre-604 quarry fill.



Scale 2:5

- 261** South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish. Rim sherd. ED rim 32.0; H 5.15; W 6.0; Th 1.2.

Highly micaceous, pale brown (10YR 6/3) clay with light brownish-gray core (10YR 6/2). Small black and white grits. Shallow bowl with curved, rounded rim. Int.: very pale brown slip (10YR 7/4). In main field a large dot-rosette in dark reddish-brown paint (5YR 3/2) (two concentric circles around a central dot surrounded by large dots). Border: two wide horizontal bands of dark brown (10YR 3/3) separated by narrow reserved (slipped) lines. A line of added r (dark red 7.5YR 3/6) through each brown band. Remains of two pendant segmented triangles. Underside: three horizontal concentric narrow bands. For shape cf. Kalaitzoglou 2008:117 fig. 6, stemmed dish Form A Type 1; for decorative pattern cf. Kerschner and Schlotzhauer 2005:fig. 41, "SiA Id"; Schlotzhauer and Villing 2006:59, fig. 20 found in Naukratis, attributed to Miletos.

A89/96.50.49.L451.(10)

Pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.3.4.



exterior



interior



Scale 2:5

- 262** South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish. Rim sherd. ED rim 31.0; H rim 1.0.

Thick, flat rim with slight overhang; top of curved bowl. Ext. rim: broad painted band; underside: narrower band. Top of rim: zigzag with “Ts” in interstices in alternating directions. Cf. Kalaitzoglou 2008:117, fig. 6 Form A Type 2 (stemmed dish) for shape; pls. 58 no. 337, 60 no. 344, 68 no. 358 for rim decoration.

A89/96.50.49.L453.B134 not registered

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

*Body sherds:*

- 263** South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish. Body sherd. H 4.5; W 5.4; Th 1.1.

Micaceous, pink (7.5YR 7/4) clay with occasional white grits, light gray (10YR 7/2) slip, black paint. Underside: remains of one circular line on washy slip. Int.: two concentric sets of triple lines: black, weak red (2.5YR 4/2), black; three vertical lines above.

A78/95.50.48.L452.(69)

From pre-604 quarry fill.



Scale 2:5

- 264** South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish. Body sherd. H 3.9; W 6.3; Th 0.9.

Micaceous, light brown clay (7.5YR 6/4) with occasional small white and black grits. Underside: reserved with two concentric dark brown bands (7.5YR 3/2). Int.: remains of six narrow rays pointing inward, tips along two narrow concentric bands; one dark brown (10YR 3/3), one black paint on very light brown slip (10YR 7/4).

A78/95.50.49.L453.(21)

From pre-604 quarry fill.



Scale 2:5

**Uncatalogued South Ionian Archaic (SiA Ic–d/MileA Ic–d) stemmed or footed dish from pre-604 quarry fill (qty. 1):**

[3733] Body sherd. A89/96.50.48.L453 not registered

**Miletos “Proto-Fikellura” (SiA IIa/MileA IIa) stemmed or footed dishes (nos. 265–66).** Udo Schlotzhauer (pers. comm. May 2003) attributes the following two pieces to a “Proto-Fikellura” style (now to be designated SiA IIa/MileA IIa; see Ker-

schner and Schlotzhauer 2005:46–52, fig. 52; Schlotzhauer 2007), which is transitional between the end of Milesian MileA Id (Middle Wild Goat II late) and the beginning of true Fikellura, characteristic of the sixth century and also produced at Miletos. A

piece of a stemmed or footed dish from a post-destruction context (no. 270) may also belong to this phase. The silhouetted and somewhat attenuated shapes of the lotus buds and palmette petals are telling. The origins and date of the beginning of Fikellura have long been a matter of controversy. To summarize just some of the more recent literature: on the basis of clay analysis, Dupont (1983:37–38) attributes both Middle Wild Goat II and Fikellura to Miletos and suggests that the period of transition between the two was rather short, with MWG II perhaps continuing to be produced after ca. 600 B.C. Schaus (1986:284–92 with summary of earlier literature) proposes lowering Cook’s (1933) start date for Fikellura of ca. 560 to ca. 550/540 after a “gap” between it and the end of Middle Wild Goat style, although he notes (p. 288) that Fikellura descended from the tradition of Middle Wild Goat II style. He attributes the similarities between the styles to the fact that both originate in Miletos, though he remains puzzled by the ostensible chronological and stylistic gaps between the two. More recently, Cook (1992:262–63) rejects a transitional style between

Middle Wild Goat and Fikellura, though he allows “for the persistence of MWG till Fikellura established itself” and accepts a date of ca. 560 for the beginning of Fikellura, which he reaffirms in a later publication (Cook and Dupont 1998:44, 89). At Tocra, Hayes (1966:42) assigns an unusual amphora with elements of Fikellura (Tocra no. 586) to the 580s, calling it “contemporary with the earliest true Fikellura, if not indeed one of its immediate predecessors.” Schaus (1985:86, n. 2), however, would date this vessel at least a decade later. Kerschner and Schlotzhauer (2005:46 “SiA IIA”), Käufler (2006:128–42), and Niemeier and Niemeier (2002: 234–35) propose a transitional style between the end of Middle Wild Goat and true Fikellura (see Schlotzhauer 2007 for more complete summary and discussion of the problem and see also Käufler 2006:pls. 26–29 for examples of oinochoai of this phase from Miletos). The appearance of these examples in the Ashkelon 604 B.C. horizon, however, clearly raises the date of this type into the late seventh century. At least one oinochoe sherd (no. 410 from the pre-604 quarry fill) is also classified MileA IIA.

- 265** Miletos “Proto-Fikellura” (SiA IIA/MileA IIA) stemmed or footed dish. Rim sherds. 2JSh. ED rim ext. 31.0; W rim 1.6; Th rim 0.4; Th wall 0.7; PH 4.5.

Medium coarse, very micaceous, pale brown clay (10YR 6/3) with small to medium black and white grits. (Second sherd is darker and possibly burnt). Slip peeling, paint worn. Light gray (10YR 7/2) slip with worn black paint. Shallow bowl; rim flattened; rounded edge. Rim: diagonal strokes between thin lines. Int.: two wide bands below rim; on bowl: remains of lotus palmette. Underside: three black horizontal concentric lines. For shape cf. Kalaitzoglou 2008:117, fig. 6, stemmed dish Form A Type 2. For lotus-palmette decoration cf. Kerschner and Schlotzhauer 2005:51, fig. 52.

A89/96.50.49.L453.B76.(112+30)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.3.5.



Scale 2:5

**266** Miletos "Proto-Fikellura" (SiA IIA/MileA IIA) footed dish. Base sherd. D foot 10.0; H 2.0; W 6.8; Th wall 0.7.

Medium, micaceous, reddish-yellow clay (7.5YR 7/6) with occasional small white grits. Low ring foot with rounded outer edge; shallow bowl. Underside: two weak red (10R 4/2) concentric bands; another on lower wall. Int.: three concentric black bands with added dusky red (10R 3/4) lines in center of each. At inner center of bowl: five palmette petals between lotus buds; edge of a dot at very center, another palmette petal to l. edge. Cf. Kalaitzoglou 2008:117, fig. 6, footed dish Form B Type 2 or Form C Type 2; Hayes 1966:50, fig. 26.685, 713 for shape.

A89/96.50.49.L451.B99.(9)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.3.7.



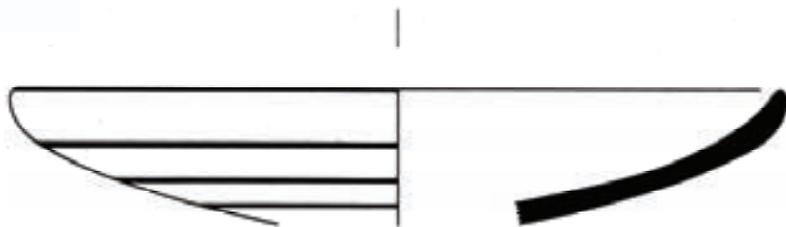
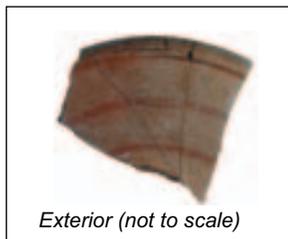
Scale 2:5

**South Ionian Archaic (SiA Ic-d-IIa/MileA Ic-d-IIa) stemmed or footed dishes from post-604 contexts (nos. 267-70):**

**267** South Ionian Archaic (SiA Ic-d/MileA Ic-d) stemmed or footed dish. Rim. SJSh. ED rim 28.0; L 9.9; Th 0.8.

Medium coarse, light brown (7.5YR 6/4) clay with many fine micaceous inclusions; some small to medium white and dark grits, some erupting to surface. Rim and part of bowl preserved. Underside reserved with remains of three red (2.5YR 5/6) painted concentric lines. Outer edge of rim slipped very pale brown (10YR 8/4). Inner surface covered with thick solid red (2.5YR 4/8) lustrous paint. Three concentric bands of very pale brown slip: from ext.: simple maeander; X alternating with solid rectangles; simple maeander. Similar to no. 258 and [3733].

Surface find in 1997, possibly from Grid 50 (bagged but not tagged; brought in by walker.)



Scale 2:5

- 268** Miletos MileA Id (Middle Wild Goat II). stemmed or footed dish. Rim sherd. ED rim 20.0; PH 6.9; PW 7.8; Th 1.0.

Medium coarse, very micaceous, light reddish-brown (5YR 6/4) clay with some medium to large white grits. Ext.: very pale brown slip (10YR 7/3) with remains of two narrow, horizontal, dark brown (10YR 3/3) stripes. Edge of rim black. Int.: pale yellow slip (2.5Y 7/4). Outer band dull black with wide, reserved maeander band and four narrow bands of added r over the black. Inner band: pendent triangle and the upper petals of a solid rosette preserved.

A40/90.57.68.L310.B72.(1)

From post-604 Persian-period fill.

(No drawing.)



Scale 2:5

- 269** Miletos MileA Id (Middle Wild Goat II) stemmed or footed dish. Body sherd. PH 3.7; PW 4.3; Th 0.9.

Medium, very micaceous, reddish-yellow (5YR 6/6) clay with some medium white grits. Ext.: very pale brown slip (10YR 7/4) with two narrow, horizontal, brown bands. Int.: light gray slip (10YR 7/2); top register: hatched pendent semicircle below two lines and to r. of two vertical lines. Below is a solid black area divided by a reserved maeander pattern. Bands of added r over black.

A40/90.50.58.L173.(2)

From post-604 Persian-period fill.

(No drawing.)



Scale 2:5

- 270** South Ionian Archaic SiA IIa stemmed or footed dish. Rim sherd. ED rim 30.0; Th rim 1.0; Th wall 1.0.

Medium, micaceous, reddish-brown (5YR 5/4) clay. Flat everted rim, red on edge. Int.: red linear pattern on white slip. Rim: zigzag line with T-shape in interstices between lines, similar to no. **262**. Plain red band under rim. Preserved in bowl: upper part of lotus-palmette pattern in red on white slip similar to SiA IIa ("Proto-Fikellura") examples (nos. **265**, **266**). Ext.: white slip with red horizontal bands. For lotus pattern cf. Kalaitzoglou 2008:pl. 64 no. 353.

A41/89.50.49.L240.B728.(1+2)

From post-604 Persian-period fill.

(No drawing.)



Scale 2:5

**Stemmed or footed dishes with linear decoration; probably South Ionian, possibly Milesian (nos. 271–80).** Several sherds with plain linear decoration were found in the pre-604 quarry fill in Grid 50. They were not analyzed and their origins are unknown to me. Since their shapes and decorative patterns differ, they are not necessarily related to each other. A number of

dishes with similar shapes and/or patterns were found at Assesos and illustrated in Kalaitzoglou (2008:117, fig. 6 for shape types; and pls. 40–51 for shapes and decoration), making a South Ionian/Milesian origin likely. They are possibly also related to the later "banded bowls" frequently found in Persian-period levels at Ashkelon and many other sites throughout the Levant.

*Rims:*

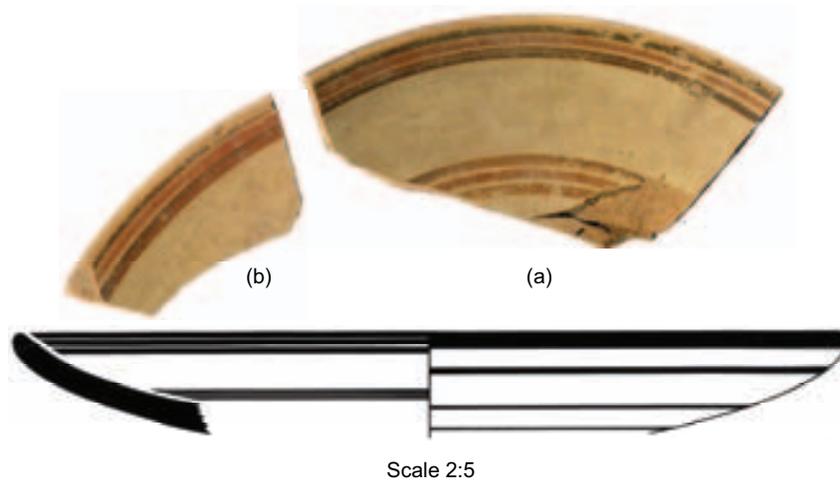
- 271** Stemmed or footed dish with linear decoration. Rim sherds. 2NJS. (a) ED rim 28.0; H 8.4; W 14.9. (b) ED rim 28.0; H 4.0; W 8.1; Th 0.8.

Very micaceous, reddish-yellow clay (7.5YR 7/7) with small to large white (lime) grits, some erupting to surface; some voids. Two sherds probably belong together but do not join. Straight rounded rim, turned in slightly; shallow bowl. Ext.: reserved with strong brown (7.5YR 5/6) to dark brown (7.5YR 4/4) concentric bands (3 preserved plus 1 along rim). Int.: very pale brown slip (10YR 7/3) with two groups of three concentric bands (reddish brown to dark reddish brown 5YR 4–3/4). Cf. Kalaitzoglou 2008:117, fig. 6, Form A Type 1 (if stemmed); Form C Type 2 (if footed) for shape; pls. 42–43 nos. 301–4 for decoration.

A75/95.50.48.L453.(20) + A89/96.50.49.L453.B25.(131)

From pre-604 quarry fill.

271



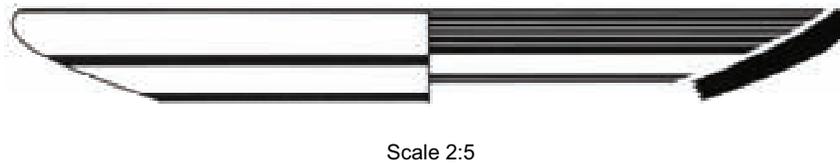
**272** Stemmed or footed dish with linear decoration. Rim sherd. ED rim 27.5; H 6.0; W 6.35; Th 0.9.

Micaceous, brown clay (7.5YR 5/4) with gray core; small to large white/lime and crystalline grits, some erupting to surface; some voids. Shallow bowl with rounded, slightly uptilted rim. Very pale brown slip (10YR 7/3) on int. and underside, worn on underside. Remains of two concentric painted narrow bands on underside—lustrous, very dark grayish brown (10YR 3/2). Int.: remains of three broad concentric bands in lustrous black or dark gray with narrow dark yellowish-brown bands within (10YR 4/4) and added p. Cf. Kalaitzoglou 2008:117, fig. 6 Form A Type 1 (if stemmed); Form C Type 2 (if footed) for shape; pl. 40 nos. 296–98; pls. 42–43 nos. 301–4 for decoration.

A78/95.50.48.L452.B33.(35)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.3.6.

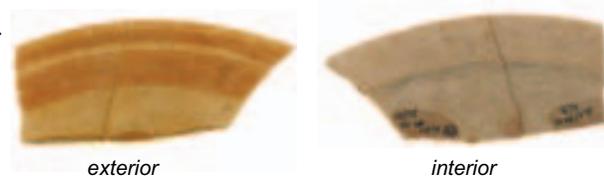


**273** Stemmed or footed dish with linear decoration. Rim sherds. 2JSh. ED rim (ext.) 25.0; Th rim 0.7; W rim 1.9; PH 2.0.

Medium, strong brown clay (7.5YR 4/6) with many fine micaceous inclusions and occasional small to large white grits and some small voids. Flat broad rim, tilted outward, thickened and flattened on ext. edge and offset from bowl. Bowl slightly concave on int. Int.: plain as far as preserved. Ext.: two red (2.5YR 4/6) bands, the narrower one just under rim and over outer edge, the broader one on wall. For shape cf. Kalaitzoglou 2008:117, fig. 6, Form A Type 2 (if stemmed); Form B type 2 (if footed).

A78/95.50.48.L454.(96)

From pre-604 quarry fill.



- 274** Stemmed or footed dish with linear decoration. Rim sherd. ED rim 24; Th rim 0.6; W rim 1.5; PH 3.2.

Very similar in shape and decorative pattern to no. 273.

A73/93.50.57.L248.B144 not registered

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

- 275** Stemmed or footed dish with linear decoration. Rim sherd. ED 17.0; H 4.5; W 5.4; Th rim 1.15.

Micaceous, light brown clay (7.5YR 6/4) with small white and dark grits. Very shallow plate with widened, thickened and beveled rim. Broken inner edge turns slightly outward (downward) Yellowish-red band (5YR 5/6) on outer and under edge of rim. Unslipped.

A73/93.50.57.L245.B123.(1)

Pre-604 quarry fill.



exterior

interior

Scale 2:5



- 276** Stemmed or footed dish with linear decoration. Rim sherd. ED rim 17.0; H 3.6; W 4.8; Th rim 1.3.

Micaceous, light brown (7.5YR 6/4) clay with small black grits. Very shallow bowl with widened, thickened, and beveled rim. On outer edge of rim, worn reddish-brown (5YR 5/4) paint. Unslipped.

A55/94.50.48.L439.B31.(13)

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

- 277** Stemmed or footed dish with linear decoration. Rim sherd. ED rim (too small to determine); H 4.3; W 2.3; Th rim 0.75; Th bowl 0.6.

Fairly fine, micaceous, light gray clay (10YR 7/2) with occasional small white grits. Broad rim with rounded edge offset from bowl. Int.: around rim and on underside of bowl a solid yellowish-red slip (5YR 5/6). Underside of rim reserved, though there are traces of possible narrow lines. Wheel ridges on int.

A78/95.50.48.L453.(23)

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

- 278** Stemmed or footed dish with linear decoration. Rim sherd. ED rim 31.5; H rim 2.65; W 8.2; W rotelle 5.3; Th rotelle 1.8; Th rim 1.3.

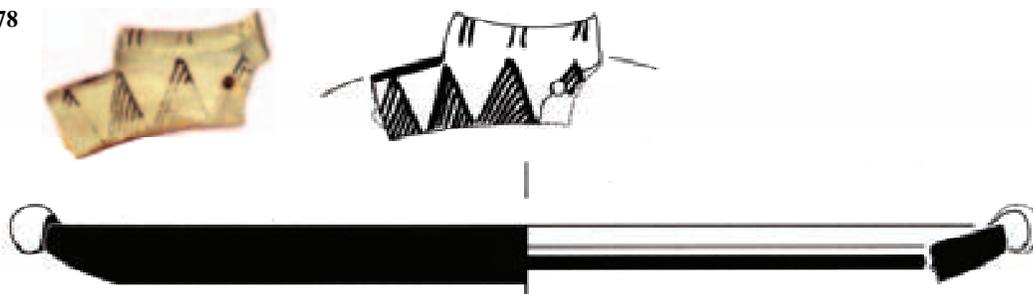
Pink to light brown (7.5YR 7/4–6/4) clay with small white and dark grits, little or no mica. Rim broken away from main part of bowl; crudely attached rotelle along edge. Hole through rim, possibly an ancient repair hole or perhaps for suspension. Underside: rough tool marks visible; black slip or paint. Int.: smeary, thin, very pale brown slip (10YR 7/3). Along rim: hatched triangles in worn black. On rotelle: pairs of lines. Inner edge of rim black fading to brown. Cf. Kalaitzoglou 2008:117, fig. 6 Form B Type 1 (footed); rotelle similar to pl. 69 no. 360 though rim shape and decoration are different.

A78/95.50.47.L285.(3)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press: pl. 14.3.3.3.

278



Scale 2:5

*Foot and stem:*

**279** Foot from stemmed dish? ED foot 13.0; H 3.85; W 4.75; Th rim 0.8; Th stem wall 0.85.

Micaceous, light brown clay (7.5YR 6/4) with small white, black, and brown grits. Edge of foot rounded; resting surface tilted downward and outward. Pale brown (10YR 6/3) slip on ext. and int. Worn black band on outer edge and resting surface of foot.

A89/96.50.48.L453.B68.(56)

From pre-604 quarry fill.



Scale 2:5

**280** Stemmed dish with linear decoration. Stem sherd. PH 3.5.

Medium fine, light brown (7.5YR 6/4) clay with occasional fine micaceous inclusions; some small to medium white grits. Upper part of hollow stem with trace of floor of bowl. Surface: very pale brown slip (10YR 7/3); streaky dark brown band around upper stem.

A78/95.50.48.L452.(101)

From pre-604 quarry fill.



Scale 2:5

**Aiolian(?) stemmed or footed dishes (nos. 281–83).**

Four fragments of undecorated dishes, three rims and one body, are tentatively assigned to Aiolis, and may represent examples of Aiolian gray ware or bucchero.<sup>57</sup> All are from pre-604 quarry fill. The three rims (nos. 281–83) are made of plain, gray micaceous clay, and at least two of them are burnished. None is painted.

The gray ware was first thoroughly described and its local distribution and chronology discussed by Lamb (1932) and also for Larisa by Boehlau and Schefold (1942:99–119, esp. for dishes and bowls) and for Thasos by Bernard (1964:109–14). According to Cook and Dupont (1998:135–36), Aiolian Gray Ware is found at various sites on Lesbos as well as on the Turkish mainland and was popular in the seventh and sixth centuries B.C. Whatever its home city or cities, it was apparently rarely exported, though ex-

<sup>57</sup> I have never handled known examples of this class of pottery so I am not certain of this attribution.

amples are known from Emporio on Chios (Boardman 1967:135–36 nos. 460–79); Miletos, where it is apparently fairly common (Forbeck 2002:no. 11); Kamiros on Rhodes (Lamb 1932:12, fig. 5, stemmed dish); Naukratis (Price 1924:184; Möller 2000:144, 201, 259–60); Tocra (Hayes 1966:65–66, esp. 69, pl. 48 dish no. 828); Cyrene (Schaus 1985:73–76 “Ionian Bucchero” esp. “fruitstand” no. 467 and dish no. 468); Tarsus (Hanfmann 1963:327 no. 1631, pl. 109) and Mersin (Barnett 1939–1940:126); and in North Syria at Ras el-Bassit (Courbin 1978:42, pl. 18 fig. 14 dinos; 1986:201) and Al Mina (mentioned by Cook and Dupont 1998:136; Lehmann 1996:469). On Samos, three plate rims of “Ionian bucchero” are noted (Isler 1978a:99, Beilage 4 nos. 165–67, mid-sixth century). Master’s petrographic analyses have identified at least four amphorai as “northeast Aegean” (nos. 522, 523/A13, 526, and 527/A4; Master 2001:144–45, 146–47). This would suggest that at least a few examples from this region circulated in the southern Levant.

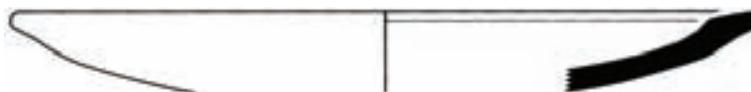
*Rims:*

- 281** Aiolian(?) stemmed or footed dish. Rim sherd. ED rim 25.0; H 6.9; W 4.7; Th rim 0.9.

Fine, hard, dark gray, very micaceous clay (10YR 6/1). Shallow bowl, rim flattened, outturned and rounded on edge. No pattern. Burnish marks on surface.

A78/95.50.48.L452.(87)

From pre-604 quarry fill.



Scale 2:5

- 282** Aiolian(?) stemmed or footed dish. SJSh. Rim sherds. ED rim 25.0; H 4.7; W 9.4; Th rim 1.4.

Hard, coarse, very micaceous, gray to light brownish-gray clay (10YR 6/1-2) with small white grits. Shallow bowl; rim flattened, tilted outward and downward and rounded. Underside of rim not flush with underside of bowl. Burnish marks on surface.

A89/96.50.49.L449.B1.(1)

From pre-604 quarry fill.



Scale 2:5

- 283** Aiolian(?) stemmed or footed dish. Rim sherd. ED rim 31.0; PW 7.3; PH 5.8; Th rim 0.6.

Medium coarse, dark gray to black, hard clay, very micaceous with many fine micaceous inclusions. Ridges on ext.; int. very smooth. No painted decoration.

A89/96.50.49.L453.B131 unregistered

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

**Uncatalogued Aiolian(?) stemmed or footed dish body sherd from pre-604 quarry fill (qty. 1):**

[3736] A78/95.50.58.LF318 unregistered

## C. EAST GREEK DECORATED WARE: CLOSED FORMS (nos. 284–436)

## OINOCHOAI AND PLAIN JUGS (nos. 284–429)

A total of 239 pieces of decorated oinochoai or plain jugs (not counting small, flat-based jugs) were found at Ashkelon. Thirty-seven pieces came from the 604 use phase or destruction debris (4 from Grid 38 and 33 from Grid 50); 192 came from the pre-604 fills; and 10 came from post-604 contexts. These comprise about fifteen percent of the total quantity of Greek pottery found at Ashkelon. At Meşad Ḥashavyahu, an estimated 48 oinochoai, derived from about 525 sherds, were found (see above, table 10.5).

The material is very fragmentary, containing no whole vessels or complete profiles, making it difficult always to ascertain the regional style or chronological phase of any individual piece. Nevertheless, the bulk of the decorated sherds appear to belong to the South Ionian “Wild Goat” style (SiA Ic–d), with some representation also from the North Ionian or Aiolian regions. (For more details, see the discussion of stylistic and chronological terminology at the beginning of this chapter.)

**“Wild Goat” (SiA Ic–d/MileA Ic–d?) oinochoai (nos. 284–409).** The most common South Ionian Archaic Ic–d (Middle Wild Goat II) oinochoe form is a jug with trefoil rim, cylindrical neck, broad sloping or angled shoulder, broad belly, flat ring base, and triple- or double-coiled handle. Proportions vary and may be chronologically telling (see, e.g., Cook in Cook and Dupont 1998:41; Kerschner and Schlotzhauer 2005:36), but without whole forms this is not always easy to perceive. Most of the Ashkelon pieces conform to this general description.

The pastes range from fine to coarse in texture though most are medium to medium-coarse and some have cores of different colors. Most contain micaeous inclusions, although they were not detected in a few sherds (e.g., no. 402), and most have other inclusions as well. Clay colors range from dark gray (2.5Y N4) to various shades of brown (10YR 5/3, 6/2, 6/3, 6/4, 7/3, 7/4; 7.5YR 4/6, 5/4, 5/6, 6/4), reddish brown (5YR 5/4, 6/3, 6/4), yellowish red (5YR 5/6, 5/8), reddish yellow (5YR 6/6, 7/6, 7.5YR 6/6, 7/6) to pink (5YR 7/3, 7.5YR 7/4, 8/4, 7/2). Painted decoration is remarkably uniform in color. Most have a very pale brown slip (10YR 7/3, 7/4, 8/3) ranging to pale brown (10YR 6/3) with the decoration added over the slip in lustrous paint ranging from black to dark brown (10YR 3/3, 7.5YR 3/4, 4/4) to dark reddish brown (5YR 3/2, 3/4, 4/3) to yellowish red (5YR 4/6). Added red or purple in a weak to dark red (10R

4/3, 4/4, 7.5R 4/4, 3/8) painted directly over the dark paint is used for accent.

Shoulders are often decorated with geese (nos. 285, 291, 303, 304, 403), lions, griffins, or sphinxes (nos. 305, 306 [heads missing]), or sirens (no. 307 head or protome only). The belly often contains one or more friezes of fauna, including the eponymous wild goats, shown grazing, walking, or running (e.g., nos. 286, 308, 323–35, 405–7), and spotted deer (nos. 338, 402, 404). Flora include lotus-bud and blossom frieze in the lowest body register (nos. 287, 288, 348–55, 360) and large palmettes in the center of the shoulders of some vessels (no. 301). All figurative friezes are embellished with abundant filling ornaments (e.g., pendent and upright segmented triangles, pendent half-roundels, quarter roundels, quatrefoils, dotted concentric circles, and hooks). Friezes are separated by dark horizontal lines or bands (cf. Cook and Dupont 1998:39 fig. 8.7 and see Käufler 2006: pl. 65–66 for a selection of common ornaments).

Despite the fragmentary nature of the oinochoe fragments, many of them contain telling features of shape or decoration that allow us tentatively to place them earlier or later in the sequence, with most falling rather later (i.e., SiA Id/MileA Id). A possible early (SiA Ic) feature is the guilloche pattern decorating the necks of some vessels (e.g., nos. 284, 295–97), though guilloche is also found in SiA Id (e.g., Kerschner and Schlotzhauer 2005:fig. 31). Late features, characteristic of SiA Id, include horizontal stripes around the neck in place of guilloche and, on the shoulder, downturned rays, sometimes with a bird, protome, or ornaments between them (e.g., striped necks: nos. 294, 300, 393; shoulder rays: nos. 291, 303, 304, 310–19; neck stripes and shoulder rays: nos. 293, 298, 299 and cf. Kerschner and Schlotzhauer 2005:figs. 36–39). Although triple-coil handles are more characteristic of SiA Ic shapes (e.g., Kerschner and Schlotzhauer 2005:figs. 20, 21, 23), the double-coil handle is more typical of the late MWG II squat oinochoe (Cook in Cook and Dupont 1998:41, fig. 8.10). Both triple- and double-coil versions are found in SiA Id, however (Kerschner and Schlotzhauer 2005:figs. 30, 31, 33, 35, [triple]; figs. 36, 37, 39 [double]). At Ashkelon both triple- and double-coil handle fragments are preserved, in most cases without the body. The rather perfunctory hatched decoration on the triple-coil examples suggests they are more likely SiA Id (triple-coil examples: nos. 304, 378–80; double-coil: nos. 290, 292, 381–86, 388–90).

Although not as much scholarship has been expended on connoisseurship and the identification of individual artists' "hands" or workshops in the study of "Wild Goat" pottery as it has for Attic or Corinthian, some work has been done (Käufler 2006:81–88, 97–100). Käufler (2006:103–4 notes 384, 385) attributes at least two pieces from Ashkelon, illustrated by Stager (1996a:fig. 10, second row left side and third row right side) to the "Boston Painter" (no. 301 from pre-604 quarry fill and no. 405 from a post-604 context). He places these fragments toward the end of his MilA Id or early in his MilA Ie, which roughly overlaps the early part of MileA Id for Kerschner and Schlotzhauer. Käufler (2006:104 n. 385) suggests that two other sherds in Stager's illustration (fig. 10, third row left, no. 331 pre-604 quarry fill, and fourth row left no. 287, 604 use/destruction) may be from the same vessel as no. 405. While this is certainly possible, and there are other examples at Ashkelon of joining or related sherds from very different contexts, it has not been tested in this instance.

South Ionian "Wild Goat" oinochoai and related forms are widely distributed in the Aegean, eastern Mediterranean, and Black Sea area, though not on mainland Greece (Boardman 1998:143). So many examples were found on Rhodes (e.g., Kinch 1914:127–30, fig. 43, pls. 16, 24.5, 24.7a, b; Walter 1968:pls. 119.599; 120.602, 603; 121.604–7) that earlier scholars attributed the ware to Rhodes, an opinion that is still occasionally found embedded in the literature (see Boardman 1998:142). Until recently, this ware was considered *the* Rhodian style (e.g., Hayes 1966:41–57; Boardman 1967:148–49; Käufler 2006:3–6), but recent clay analyses have located it more plausibly in Miletos (Cook 1992:257; Cook and Dupont 1998:43–44; Jones 1986:665–66). This is now confirmed by the current excavators of Miletos itself, who have found large quantities of the ware there, including kiln wasters (Schlotzhauer, pers. comm. May 2003; Käufler 2006:1, 19, 118). At Ashkelon, Master analyzed several samples petrographically (nos. 322/C1, 396/C2, 321/C7, 289/D1, 320/D2, 356/D3, 357/D4, 358/D5, 359/D6), identified on the basis of style as belonging to the later "South Ionian Middle Wild Goat II" (or SiA Id). Master showed that they cluster together into his Category 13.<sup>58</sup> This would reinforce, though not confirm, Dupont's identification of the provenance at Miletos, as well as that of the current Miletos excavators.

<sup>58</sup> See the introductory sections in the present chapter and also chapter 4 in this volume for discussion of the petrographic study.

South Ionian "Wild Goat" oinochoai are widely distributed. They are found of course, in late seventh-century contexts at Miletos itself (Käufler 2006); and in the 608 B.C. destruction level at Assesos (Kalaitzoglou 2008:170–74, 396–99, pls. 77–80). In the Black Sea region they appear at Istros (Histria) (Lambrino 1938:261–71, figs. 230–46; Alexandrescu 1978:38–40 nos. 18–37, pls. 2–4) and at the Milesian colony of Berezan (Posamentir and Solovyov 2006:111–13, figs. 9–11). In North Africa and Egypt, "Wild Goat" oinochoai appear sparsely in late seventh-century contexts at Tocra (Hayes 1966:41, 47 pl. 30 no. 590, late MWG II type), Defenneh (Petrie 1888:pl. 24.6, one sherd), and Naukratis (Price 1924:194, pl. 8.6, 7, 8; Venit 1988:5–6, pl. 3; Möller 2000:127–30, 241), but not at Migdol (Oren 1984). This is an interesting exception given the analogies sometimes made between the mercenary fortress at Migdol and Meşad Ḥashavyahu, where at least 48 oinochoai were found, of which many were Middle Wild Goat II (Fantalkin 2001:88–89, 103 table 16; Niemeier 2001:22). Master (2001:166) says that at Defenneh and Migdol "the pottery repertoire is no more or less diverse than the pottery repertoire at Meşad Ḥashavyahu." In fact, judging from Oren's 1984 publication, there was very little decorated East Greek pottery found at Migdol. Transport amphorai seem to have been the predominant form of Greek imports there, along with the few "Ionian" cups, and the shapes seem to belong to types of the sixth century B.C., though some could date to the late seventh century.

In Cilicia, a few pieces of Middle Wild Goat II are published from Mersin (Barnett 1939–1940:112–13, pl. 77.8, 9, 12, 14), but it does not appear to be present at Tarsus, though examples of "Wild Goat" from other traditions are found (Hanfmann 1963:299–300, pls. 99, 100). On Cyprus, it appears at Amathus (Thalman 1977:74, pls. 7, 8 "Rhodian"), and Salamis (Calvet and Yon 1977:14–15, pl. 6; 1978:45–46); in Syria and Phoenicia at Al Mina (Robertson 1940:10, pl. 2.h, 3.l, r, s; Lehmann 1996:467–69). At Tall Sūkās there were a number of "Wild Goat" fragments but they appear to be later than MWG II (Ploug 1973:43–57, pls. 7–10).

In Israel, Middle Wild Goat II appears at Tel Kabri (Niemeier 1994:\*31–\*32, pl. 19.2, 3; Niemeier and Niemeier 2002:233–35), Tell Keisan (Salles 1980:151, pl. 32.1–2 [niveau 4], pl. 131.32), and Meşad Ḥashavyahu (Naveh 1962a:97, fig. 8.5, 8, 9; fig. 9.1–7, fig. 10.4–8, pls. 10–11; Fantalkin 2001:88–91, 103 table 16). Wenning (1989:186, fig. 9) dates one of the Meşad Ḥashavyahu pieces (Naveh 1962a:fig. 9.1, pl. 10b) to North Ionian Late Wild Goat and claims an

early sixth-century date for the abandonment of the site; but Schlotzhauer believes the sherd in question belongs to North Ionian Archaic Ic–d (NiA Ic–d), parallel to South Ionian or Milesian Archaic Ic–d (MileA Ic–d), or Middle Wild Goat II in date and is not chronologically significant for Meşad Ḥashavyahu (Schlotzhauer, pers. comm. May 2003). Certainly, other pieces from Meşad Ḥashavyahu (Naveh 1962a:fig. 8.8, 9 and fig. 9.3) with downward pointing rays on the shoulders look like late examples of Milesian Archaic Id. Middle Wild Goat II also ap-

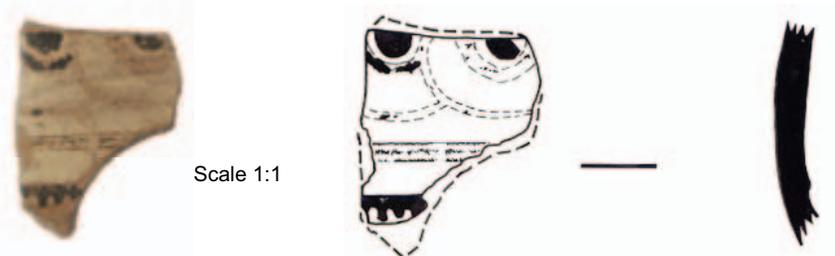
pears at Tel Miqne–Ekron (one sherd, Waldbaum 2007, there taken as SiA Ic, but now perhaps better as SiA Id—see Fantalkin forthcoming b for discussion); at Tel Batash–Timnah (Magness 2001:143–44); at Malḥata (Kochavi 1970:22–24, fig. p. 23, complete pot, late type); at Tel Erani (Brandl 1997:257 [photo unpublished]); and at Tell el-Ḥesi (Risser and Blakeley 1989:93, figs. 85.1, 86, one sherd, out of context). Curiously, given its presence at nearby Meşad Ḥashavyahu, there is as yet no “Wild Goat” style pottery at Yavneh-Yam (Fantalkin 2001:133).

**284** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Neck sherd. H 3.0; W 2.5; Th 0.4.

Micaceous, very pale brown (10YR 7/3) clay with small white inclusions and some voids. Very pale brown slip (10YR 7/3) with worn black paint. Lower part of neck: slight inset at join with shoulder. On neck: lower part of two “cables” of guilloche pattern; black line below. On top of shoulder: vertical strokes. For cable pattern on neck cf. Kerschner and Schlotzhauer 2005:27–29, figs. 20–24 (dated SiA Ic); 37, figs. 30–31 (early in SiA Id).

A72/92.50.58.L262.FG13.B158.(9)

From 604 destruction debris on floor in Building 234 Room 227.



*Shoulders:*

**285** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Shoulder sherds. SJSh. H 7.2; W 7.7; Th 0.5.

Medium coarse, micaceous pink clay (7.5YR 7/4) with grayer core; some white and dark grits and medium voids. Int.: ridges not pronounced. Ext.: very light brown slip (10YR 7/4), lustrous black paint with brown outline, added dark red (7.5R 3/8). Head, neck, and body of sitting goose. Head, neck, and chest in solid black with reserved beak and eye, black dot for pupil, added dark red patch on cheek and base of neck. Wing reserved with linear, stylized feathers. Black and added r horizontal ground line. Filling ornament: dotted concentric circle above back, part of another to r.; two other ornaments—one behind neck, one under beak.

A55/94.50.58.L275.B26.(1)

From 604 use phase (South Street).

*Previous publication:* Stager 1996a:67\*, fig. 10 upper r.; 1996b:60 top row center.



**Uncatalogued “Wild Goat” (MileA Id) oinochoe shoulder sherds with downward pointing rays (qty. 3):**

[4104] A73/93.50.48.LF431.B110 not registered; from 604 use phase (Building 406 Room 431 floor).

[4101] A72/92.50.58.L262.FG44.B117 not registered; from 604 destruction debris on floor in Building 234 Room 227.

[4102] A72/92.50.58.L264.FG71.B273 not registered; from 604 destruction debris (mudbrick collapse in South Street).

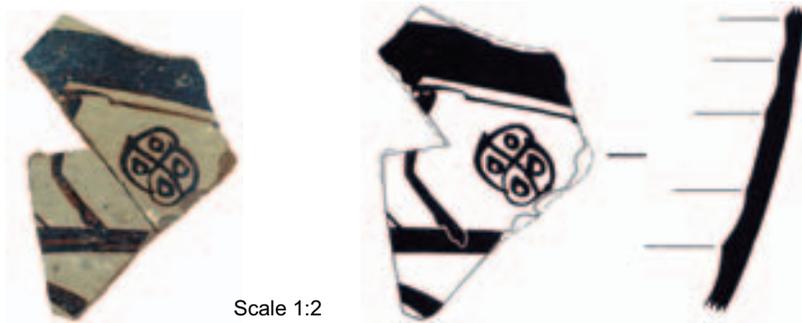
*Decorated body sherds:*

**286** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherds. 2JSh. H 8.3; W 6.5; Th 0.5.

Medium coarse, reddish-yellow (5YR 7/6) micaceous clay with small to medium white grits and some small voids. Int.: ridged. Ext.: very pale brown (10YR 7/4) slip with lustrous dark brown to black paint. Two registers: upper: part of elongated body of male goat walking r., possibly grazing. Body and back leg streaky dark paint; reserved band for underbelly. Quatrefoil filling ornament under body; horizontal ground line. Lower: one petal of lotus blossom curving to l.

A72/92.50.58.L262.FG11.B109+205(13)

From 604 destruction debris on floor in Building 234 Room 227.



Scale 1:2

**287** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Lower body sherd. H 8.0; W 6.3; Th 0.5.

Wheel ridges on int. Medium fine, micaceous reddish-brown clay (5YR 5/4) with some white and gray grits, some voids. Ext.: surface burnished with very pale brown slip (10YR 7/4) with lustrous, diluted, dark brown (7.5YR 3/4) to black paint. Remains of two registers separated by a horizontal band. Upper: two goat or deer hooves; lower: most of an upward pointing lotus bud; to r. one petal of lotus blossom spreading to l.

A72/92.50.48.L393.B346.(1)

From 604 destruction debris in courtyard.

*Previous publication:* Stager 1996a:67\*, fig. 10 lower 1.; 1996b:60 lower 1. Discussed in Käufler 2006:103–4.



Scale 1:2

**288** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Lower body sherd. PH 1.8; PW 5.5; Th 0.85.

Medium, strong brown clay (7.5YR 5/6) with many fine micaceous inclusions and occasional small to medium white grits; some voids. Fragment of lower register with lotus bud and blossom frieze. Very pale brown (10YR 7/3) slip; red (2.5YR 5/6) paint.

A72/92.50.58.L262.FG23.B156.(12)

From 604 destruction debris on floor in Building 234 Room 227.



Scale 1:2

*Analyzed body sherd* (see figure 10.4 after cat. no. 399):

**289** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Lower body sherd. Th 0.5.

Micaceous with small white grits. Clay fired differentially: outer surface: 7.5YR 5/4 (brown); inner surface: strong brown (7.5YR 5/6); slip very pale brown (10YR 7/3); black to dark brown paint. Part of a lotus. Petrographic analysis: Sample D1, Category 13, Samo-Milesian? (Master 2001:104, 138–41).

A72/92.50.58.L274.B406 not registered

From 604 destruction debris or deliberate fill.

(No drawing; for photograph, see figure 10.4, Sample D1.)

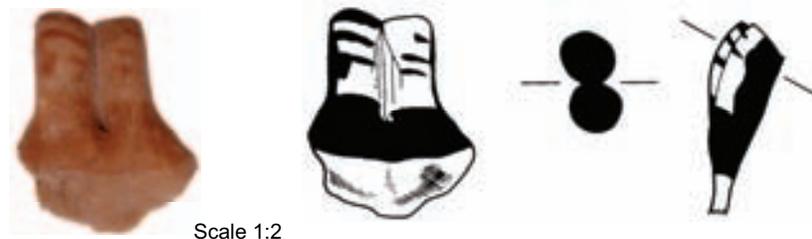
*Handle:*

**290** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Handle. H 5.3; W 4.4; Th 1; Th coil 1.4.

Part of double-coil handle with rim attachment. Micaceous, light brown (7.5YR 6/4) clay with small black grits; some voids. Yellowish-red paint on int. and ext. of rim attachment, at base of coils, in group of three horizontal lines across ext. of coils, and in vertical bands along ext. sides of coils.

A72/92.50.48.L393.B344.(5)

From 604 use phase (Plaza).



Scale 1:2

*Rim, shoulder, and upper-body sherds from pre-604 quarry fill:*

**291** “Wild Goat” (MileA Id) oinochoe. Lower part of trefoil rim, cylindrical neck, sloping shoulder, curve to belly of vessel. PH 11.78; ext. D neck 8.0; Th neck 0.5; Th shoulder 0.6; Th body 0.5.

Narrow ridge at join of neck to shoulder, and another at transition to rim. Medium, pink (7.5YR 7/4) clay with small to large white and brown grits, small to large voids. Int.: wheel ridges. Ext.: very pale brown slip (10YR 8/3–7/3) with lustrous dark reddish-brown to black paint. Preserved part of rim solid black. Three horizontal black lines on neck, black line on ridge above neck. Shoulder: probable center panel below spout: goose walking r. surrounded by filler. Wing and back in outline. Head missing. To l. remains of four rays pendent from neck; to r. remains of three more. Below: two broad horizontal bands.

A78/95.50.48.L452.B11+10+33(1a+1b+98+37) + A55/94.50.48.L439.B43.(10)

From pre-604 quarry fill.

*Previous publication:*

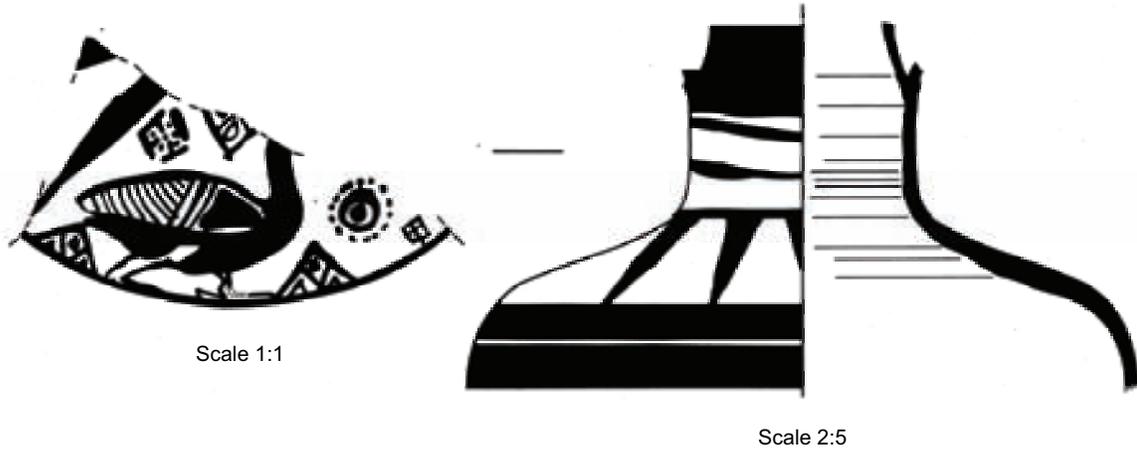
Waldbaum in press:pl. 14.3.5.3; 2002b:fig., 11;

Stager 1996a:67\*, fig. 10 upper l.;

Stager 1996b:60 upper r. (only one sherd shown).



Scale 2:5



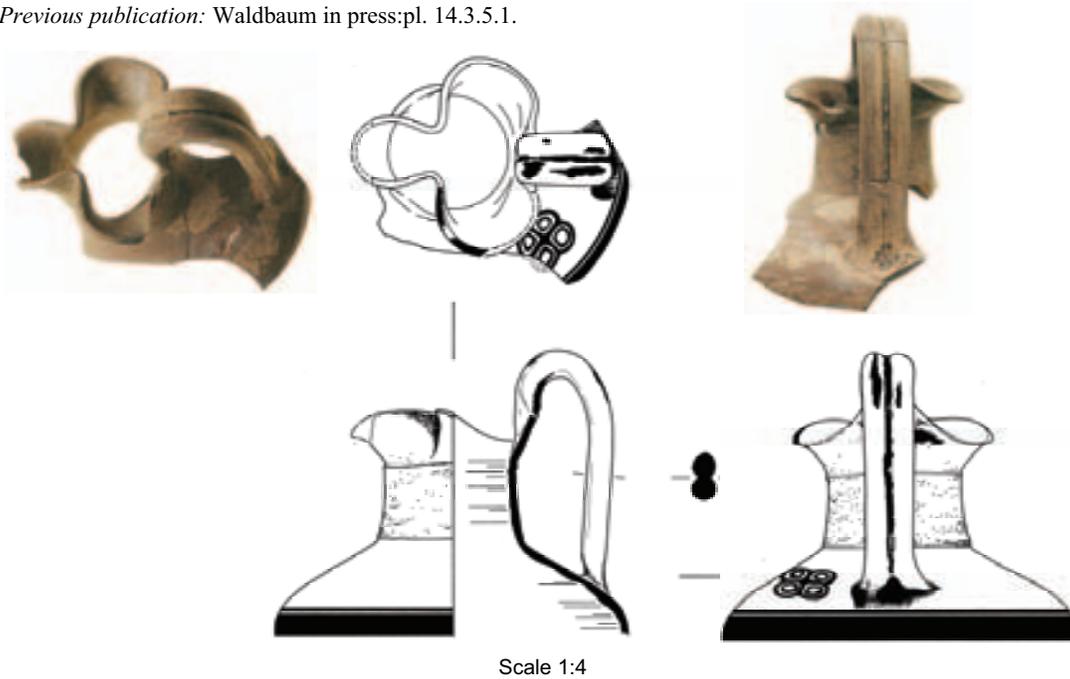
**292** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Trefoil rim, conical neck with ridge at join to rim and shoulder, vertical double-coil handle rises above rim, sloping shoulder. PH 11.8; EW rim 10.5; H handle 12.

On shoulder, part of a quaterfoil filling ornament. Dark horizontal band at transition to belly. (I did not see this piece so cannot describe the clay and color.)

A80/97.50.57.L274.B5.(2)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.5.1.



**293** “Wild Goat” (MileA Id) oinochoe. Part of trefoil rim, neck, and shoulder. PH 8.2; Th neck 0.4; Th shoulder 0.7.

Medium coarse, light reddish-brown (5YR 6/4) clay with many fine micaceous inclusions; some small to large white grits. Low ridge at join of rim to neck and neck to shoulder. Surface: very pale brown slip; lustrous black/brown paint. Rim and upper neck streaky black; two horizontal streaky dark brown lines on neck; another on join to shoulder. Remains of three black/brown downward pointing rays on shoulder.

A80/97.50.48.L462.B1.(15)

From pre-604 quarry fill.

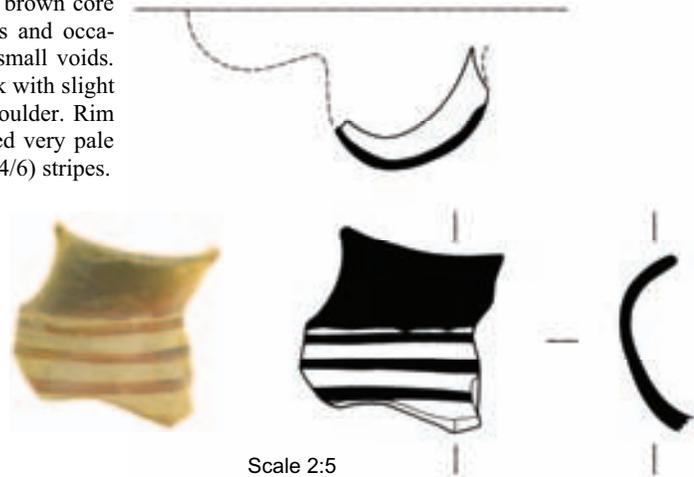


**294** “Wild Goat” (MileA Id) oinochoe. Part of trefoil rim, neck, and shoulder. PH 6.0; Th rim 0.4; Th neck 0.4.

Medium, brown clay (7.5YR 5/4) with strong brown core (7.5YR 5/6). Many fine micaceous inclusions and occasional small black and white grits and some small voids. One lobe of a trefoil rim; short cylindrical neck with slight ridge at join with rim. Start of flare out to shoulder. Rim dark reddish brown (5YR 3/2–4). Neck slipped very pale brown (10YR 7/3) with horizontal red (2.5YR 4/6) stripes.

A78/95.50.48.L454.(11)

From pre-604 quarry fill.



**Uncatalogued “Wild Goat” (SiA Ic–d) oinochoe trefoil rim fragments from pre-604 quarry fill (qty. 10):**

[4040] A55/94.50.48.L444.B13.(30)

[4066] A78/95.50.48.L452.(96)

[4067] A78/95.50.48.L452.(95)

[4100] A78/95.50.48.L452.B54.(10)

[4098] A78/95.50.48.L453 not registered

[4057] A78/95.50.48.L453 not registered

[4055] A78/95.50.48.L454 not registered

[4064] A89/96.50.49.L449.B8.(2)

[4099] A78/95.50.57.L256.(76)

[4056] A78/95.50.58.LF318 not registered

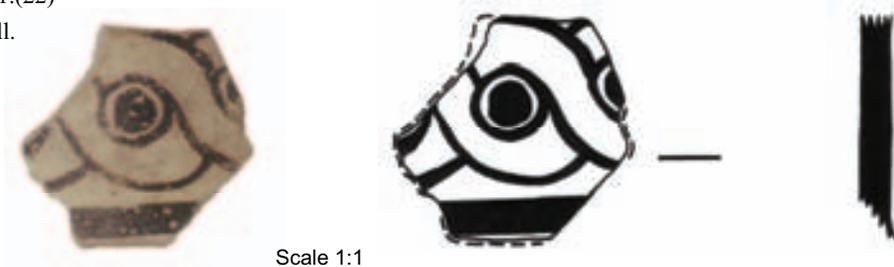
*Neck and shoulder sherds:*

**295** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. H 3.0; W 2.9; Th 0.5.

Medium fine, micaceous pale brown (10YR 6/3) clay with small white grits. Very pale brown slip (10YR 7/3) with black paint. Lower part of neck with guilloche pattern. Black horizontal line below. A slight turn-out to shoulder below line. For similar guilloche pattern on oinochoai at Assesos cf. Kalaitzoglou 2008:396–97, pls. 77–78 nos. 406–7; from Miletos cf. Käufler 2006:212–14, pl. 12 nos. 248–51, 255–56, 264.

A55/94.50.48.L444.B51.(22)

From pre-604 quarry fill.



**296** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. H 2.65; W 3.0; Th 0.6.

Micaceous, light brownish-gray (10YR 6/2) clay with light brown core (7.5YR 6/4), occasional small white and black grits. Ext.: worn paint. Slip light gray (2.5Y7/2) with worn black paint. Lower part of guilloche pattern on neck. Remains of black band at join to shoulder. Slight ridge at shoulder join.

A78/95.50.48.L452.B33.(43)

From pre-604 quarry fill.

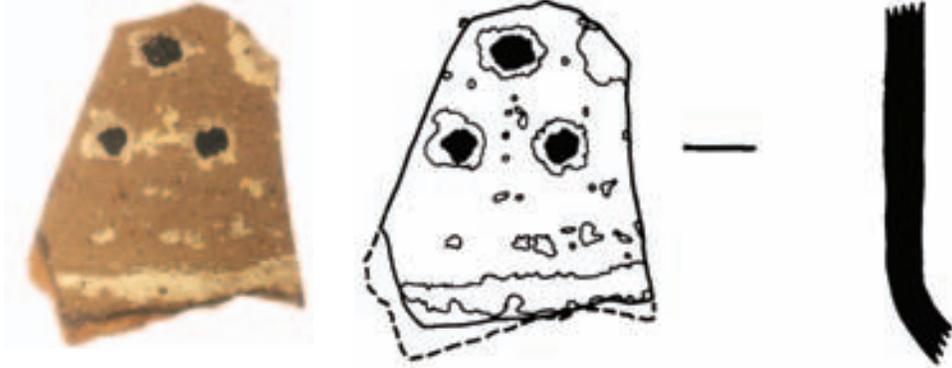


297 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. H 4.6; W 3.75; Th 0.5.

Medium, micaceous dark gray (2.5Y N4/) clay at outer surface (burned?); brown (7.5YR 5/4) below; small white and black grits. Ext.: paint very worn, slip flaking. Light gray (2.5Y 7/2) slip with lustrous black paint. Remains of two tiers of guilloche; black band at join of neck and shoulder. On top of shoulder are remains of black vertical lines.

A78/95.50.48.L452.B52.(24)

From pre-604 quarry fill.



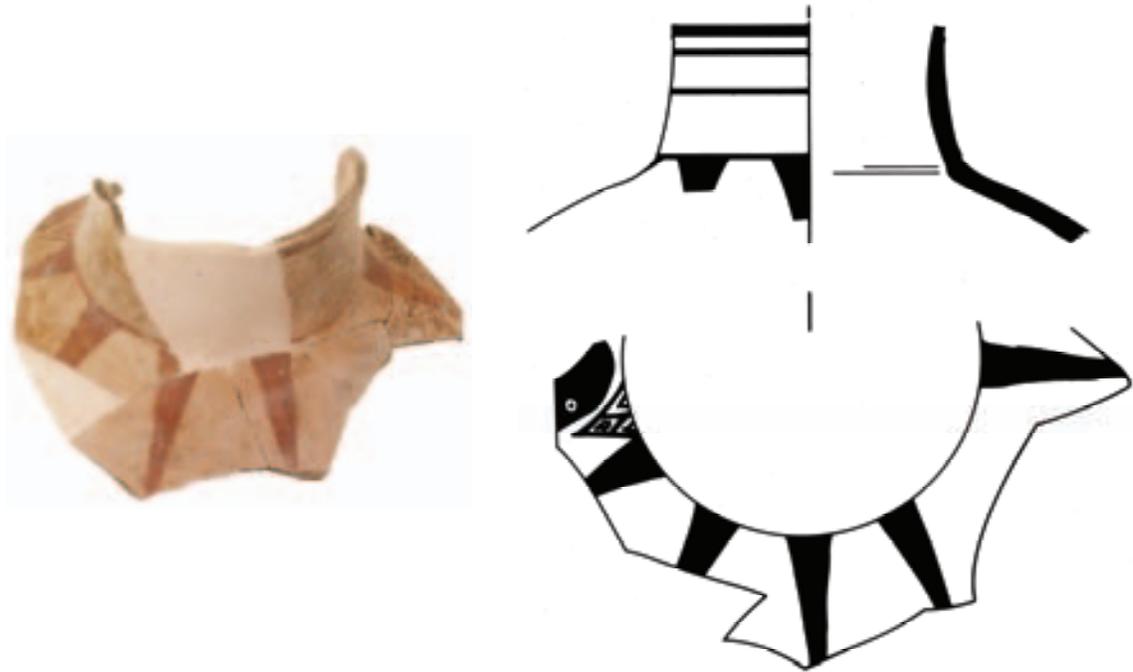
Scale 1:1

298 "Wild Goat" (MileA Id) oinochoe. Neck and shoulder of vessel. PH 7.3; Th neck 0.45; Th shoulder 0.6.

Medium, micaceous, brown clay (7.5YR 5/4) with small white inclusions. Conical neck with narrow ridge at join to shoulder around base of neck (but not all the way around). Another ridge at base of neck. Very pale brown slip (10YR 7/3) with red (10R 5/6) paint. On neck and ridge narrow horizontal red lines. On shoulder, remains of five downturned rays. Head of goose to l. of rays. Pendent segmented triangle between goose head and nearest ray.

A78/95.50.58.LF318.(8) + A78/95.50.58.LF318.B152.(13)

From pre-604 quarry fill.



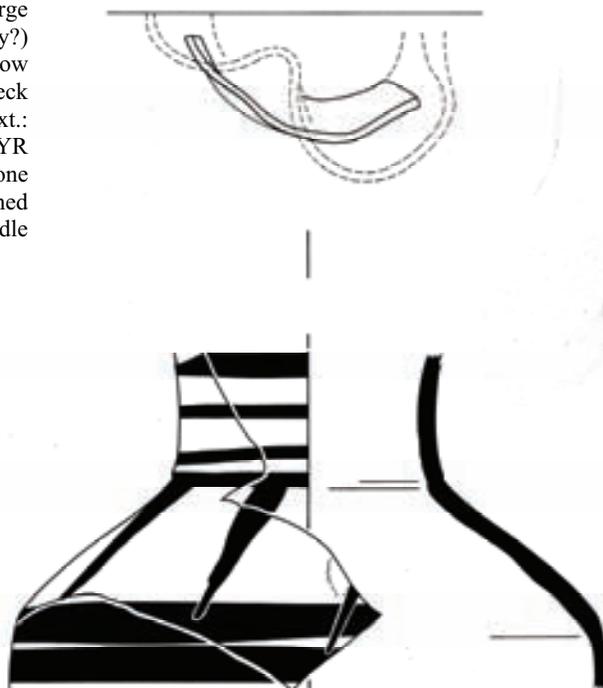
Scale 2:5

- 299** “Wild Goat” (MileA Id) oinochoe. Full profile of neck and shoulder. H 10.8; W 15.0; Th 0.6.

Very micaceous pink (7.5YR 7/4) clay with small to large white grits, some erupting to surface, some gray (clay?) bits. At top of neck, start of indentation for trefoil rim; low ridges at join of rim and neck and another at join of neck and shoulder; sloping shoulder. Wheel ridges on int. Ext.: very pale brown slip (10YR 8/4) with yellowish-red (5YR 5/6) paint. Paint: three horizontal lines around neck, one across join with shoulder; remains of four downturned rays on shoulder; two horizontal bands below rays, handle root at one edge, red line below.

A89/96.50.49.L451.(20)

From pre-604 quarry fill.



Scale 2:5

- 300** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Part of neck and shoulder. PH 3.7; PW 4.1; Th wall 0.5.

Medium, light brown clay (7.5YR 6/4) with fine to small micaceous inclusions, occasional small white and brown grits; some medium quartz. Lower part of neck and upper shoulder. Base of neck somewhat convex; rounded ridge where it joins sloping shoulder. Ext.: very pale brown slip (10YR 8-7/3). Lustrous black horizontal stripe across lower neck; solid black (now worn) from base of neck to shoulder.

A78/95.50.48.L452.(119)

From pre-604 quarry fill.



Scale 2:5

- 301** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Shoulder sherd. H 9.2; W 7.3; Th 0.9.

Medium coarse, micaceous, pink to light brown (7.5YR 7/4–6/4) clay. Flat shoulder with start of curve upward to neck and down to belly; thickest near transition to neck, thinner lower down. Lightly ridged int. Ext.: very pale brown (10YR 7/4) slip with lustrous dark brown, somewhat worn paint. At base of neck: vertical lines between horizontals. Pendant from that a large central ornament consisting of a palmette filling whole height of field to lower border. To r., two smaller filling ornaments and possible edge of another palmette. For palmette ornament on shoulder cf. Cook and Dupont 1998:41 fig. 8.9; Kalaitzoglou 2008:397–98, pl. 79, nos. 414–17.

A55/94.50.47.L281.B3.(10)

From pre-604 quarry fill.

*Previous publication:*  
Stager 1996a:67\*, fig. 10  
middle row, l. Discussed  
in Käufler 2006:103–4.



Scale 2:5

- 302 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Shoulder sherd. H 6.0; W 9.15; Th 0.5.

Medium, light reddish-brown (5YR 6/4) clay with many fine micaceous inclusions, some small to medium white grits, some erupting to surface. Wheel ridges on int. Ext.: white (10YR 8/2) slip, burnished, now worn and chipping. Dark brown to black lustrous paint. Remains of a large central shoulder ornament.

A80/97.50.48.L462.B1.(14a+b)

From pre-604 quarry fill.



Scale 2:5

- 303 “Wild Goat” (MileA Id) oinochoe. Shoulder sherds. 4JSh. H 8.7; W 11.8; Th 0.6.

Highly micaceous, medium coarse, light brown (7.5YR 6/4) clay with some small to medium crystalline, white and dark grits. Some fairly large voids in core. Int.: plain with a few very shallow ridges. Ext.: very pale brown (10YR 7/3–4) slip with lustrous reddish-brown to yellowish-red (5YR 4/4–6) paint with black outline. Head, beak, neck, claw, and chest of grazing goose done in solid reddish-brown paint outlined in black; eye and (broken) patch on body reserved. Line of added r (weak red 5R 4/4) across head. Broad, horizontal ground line; segmented triangle to l. of head; four lozenges—three with four solid segments, one reserved with dots in the field. To r. of goose head: downward pointing ray outlined in black with narrow ray of added r within.

A55/94.50.48.L448.B85.(2)

From pre-604 quarry fill.

*Previous publication:* Stager 1996a:67\*, fig. 10 top center.



Scale 2:5

- 304 “Wild Goat” (MileA Id) oinochoe. Neck and shoulder with handle root. PH 6.0; W 17.3; Th 0.6.

Strongly curved shoulder, thickened toward base of neck, with handle root and curve to upper body. Slight groove at base of neck. Fine wheel ridges on int. Hard, micaceous, pink (7.5YR 7/4) clay with grayish core; small to large black and white grits, some voids. Int. surface ridged. Ext. surface: very pale brown slip (10YR 7.3) with lustrous dark reddish-brown (5YR 4/3–4) to black paint. At base of neck/top of shoulder, vertical lines with horizontal lower border. Shoulder register: head and neck of goose in solid dark reddish-brown paint; eye and beak reserved. On body, a stylized wing with linear pattern is reserved with two areas of added r: on neck and chest, and to r. of wing (weak red 10R 4/4). On either side of head, two pendent segmented triangles with lozenge or triangle in each field. To l. of goose neck, open quatrefoil with outline circle/oval in each lobe. Line curves up to l. Remains of ray to l. edge. Pendent half-roundel in upper body register. To r. two thick black rays on either side of triple-handle root. Below root: three sets of diagonal lines; part of horizontal below.

A78/95.50.47.L285.B32.(8+4) + A78/95.50.48.L453.B130.(10)

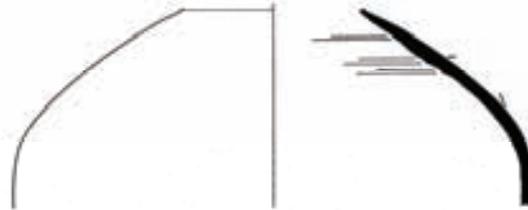
From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.5.2.



Scale 1:10

304



Scale 1:10

**305** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd. H 4.6; W 10.6; Th 0.65.

Medium, very micaceous, pink (7.5YR 7/4) clay with pinkish-gray core (7.5YR 6/2); small white and dark grits, some small voids. Int.: fine wheel ridges. Ext.: very pale brown slip (10YR 7/3) with lustrous dark brown (10YR 3/3) paint on lion's legs and filler; yellowish red (5YR 4/6) on underbelly and filler under it; added r (weak red 7.5R 4/4) on rump and flank. Belly and hind legs of lion or sphinx walking r. on horizontal ground line. Under belly: quatrefoil and segmented lozenge; between and to r. of legs: upright segmented triangle. Part of thin sinuous tail to r. with broken filler above it. Reserve lines marking separation of legs; feet reserved, rest of lion solid.

A78/95.50.48.L461.B193.(1)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.5.8.



Scale 2:5

**306** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd. H 4.75; W 4.6; Th 0.5.

Medium, micaceous pink clay (7.5YR 7/4) with pinkish-gray core (7.5YR 7/2), small to medium black and white grits, some voids. Int.: fine wheel ridges. Ext.: very pale brown (10YR 7/4) slip with yellowish-red (5YR 4/6) to dark brown paint. Parts of two registers separated by horizontal band. Lower: very little preserved; upper: one rear leg and part of tail of lion, griffin, or sphinx. Upright segmented triangle under tail.

A78/95.50.57.L256.(14)

From pre-604 quarry fill.



Scale 2:5

**307** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd. H 4.5; W 6.8; Th 0.75.

Medium-fine to medium, reddish-yellow (7.5YR 6/6) highly micaceous clay with small dark grits. Int.: strongly ridged. Ext.: very pale brown (10YR 8/3) matte slip with dull, dark brown to black paint. Large female head (of sphinx or siren?). Head faces l., low flat dome of skull largely missing; two long strands of hair down back, large elongated frontal eye done in outline with solid pupil in center. Inner part of eyebrow preserved; nose missing; strong chin, line of neck. For sphinx with female head in shoulder zone of oinochoe cf. Kerschner and Schlotzhauer 2005:38-39 figs. 33, 35 SiA Id; for female head protome in shoulder zone cf. Käufler 2006:119 fig. 32.

A78/95.50.48.L453.B131.(1)

From pre-604 quarry fill.



Scale 2:5

- 308** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd. H 6.2; W 7.0; Th 0.5.

Medium, light brown clay (7.5YR 6/4) with gray core (10YR 5/1); many fine micaceous inclusions with small to medium white (lime) grits. Strongly curved shoulder. Int.: strong wheel ridges. Ext.: light gray slip (2.5YR 7/2) with faded and crackling black paint. Parts of two registers separated by horizontal band: upper: remains of head with eye and beard, and one foreleg of grazing goat moving r. Part of an upright segmented triangle to r. of face. Lower: belly, flank, and male genitalia of walking or running goat facing r. Filling ornaments below register line and above goat's back.

A78/95.50.48.L452.B33.(31)

From pre-604 quarry fill.



Scale 2:5

- 309** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd. H 4.5; W 2.3; Th 0.85.

Medium, micaceous very pale brown clay (10YR 7/4) with small white and black grits. Fine wheel ridges on int. Ext.: very pale brown slip (10YR 7/3) with lustrous, dark yellowish-brown (10YR 4/4) to black paint. Sherd from curve of shoulder down to belly. Only filling ornament and bottom line of register preserved.

A78/95.50.48.L454.(8)

From pre-604 quarry fill.



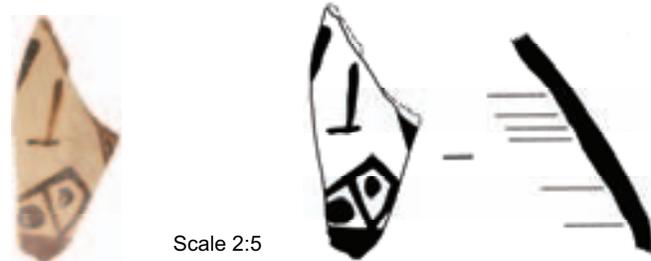
Scale 2:5

- 310** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd. H 8.5; W 3.45; Th 0.8.

Medium, micaceous reddish-yellow clay (5YR 7/6) with small to medium white grits. Wheel ridges on int. Ext.: very pale brown slip (10YR 8/3) with lustrous brown to dark brown paint. Remains of one ray at r. and l. edge; upright segmented triangle rising from ground line; reverse T in center as filler between rays and above triangle.

A78/95.50.58.LF318.B78.(1)

From pre-604 quarry fill.



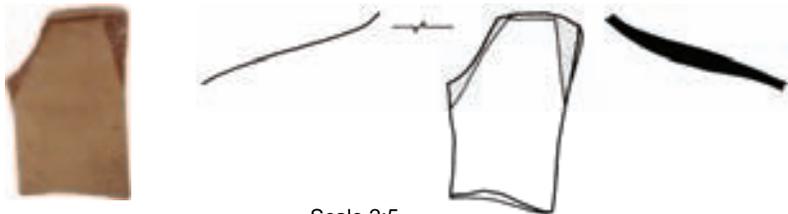
Scale 2:5

- 311** "Wild Goat" (MileA Id) oinochoe. Shoulder sherd. H 6.5; W 3.95; Th 0.6.

Medium, very micaceous pink to light brown clay (7.5YR 7-6/4) with some small black and white grits. Pink slip(?) (7.5YR 7/4) with remains of two red (2.5YR 4/6) downturned rays. Horizontal red line at base of neck.

A78/95.50.48.L452.(115)

From pre-604 quarry fill.



Scale 2:5

**312** "Wild Goat" (MileA Id) oinochoe. Shoulder sherd. PH 12.0; PW 10.8; Th 0.65.

Medium, micaceous, yellowish-red (5YR 5/6) clay with small to medium white and black grits, some erupting to surface. Wheel ridges on int. Slip: very pale brown (10YR 7/3); remains of three reddish-brown (5YR 4/3) downturned rays in panel. Rest of shoulder and turn to body apparently red also; rays outlined with thin black lines. Rightmost one has black patches or smudges. Thicker, vertical band to r. may be for edge of panel, may also enclose handle root. Possibly from same vessel as no. 313.

A78/95.50.48.L452.B63.(111)

From pre-604 quarry fill.



Scale 2:5

**313** "Wild Goat" (MileA Id) oinochoe. Shoulder sherd. H 7.6; W 7.7; Th 0.7.

Medium coarse, micaceous, reddish-yellow clay (7.5YR 7/6) with small to medium white (lime) and black grits; some voids and pitting on surface. Wheel ridges on int. Very pale brown (10YR 7/3) slip with red to dark red rays (2.5YR 4-3/6). Red line across tips of rays; wider band or field of red below. Rays outlined with thin dark brown/black lines. Possibly from same vessel as no. 312.

A78/95.50.48.L452.B107.(13)

From pre-604 quarry fill.



Scale 2:5

**314** "Wild Goat" (MileA Id) oinochoe. Shoulder sherd. H 3.85; W 8.4; Th 0.6.

Lower part of shoulder with curve to belly. Medium, micaceous, pink clay (7.5YR 8/4) with small to medium white (lime) grits, some erupting to surface, some voids. Strong wheel ridges on int. Ext.: very pale brown slip (10YR 7/3). Tips of two downturned rays in brown to dark brown (7.5YR 4/4) above wide band of red (2.5YR 4/6) streaking to dark gray (10YR 4/1).

A89/96.50.49.L449.B12.(10)

From pre-604 quarry fill.

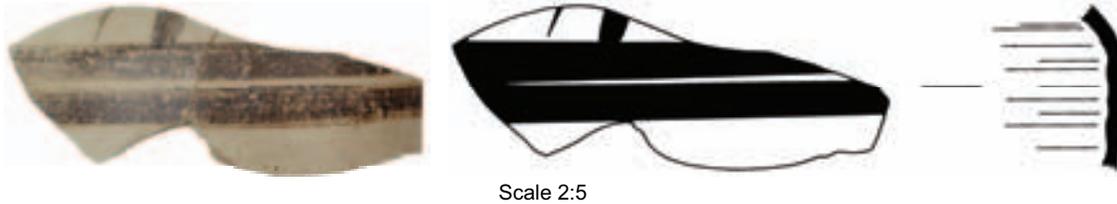


Scale 2:5

**315** "Wild Goat" (MileA Id) oinochoe. Shoulder sherds. 2JSh. H 4.9; W 7.7; Th 0.6.

Lower shoulder with curve to belly. Medium fine, micaceous, pink (7.5YR 7/3) clay with small to large white grits, some voids. Strong wheel ridges on int. Very pale brown slip (10YR 7/3) with lustrous black paint. Narrow tip of one downturned ray with thicker tip to r.; below: two worn black horizontal bands with streaky lines of dark yellowish brown above and below.

A78/96.50.48.L452.B11.(27+38) From pre-604 quarry fill.



Scale 2:5

**316** "Wild Goat" (MileA Id) oinochoe. Shoulder sherds. 4NJS. H largest piece 5.8; Th wall 0.7.

Medium, micaceous, reddish-yellow clay (7.5YR 7/6) with small to large white (lime) grits, some erupting to surface; some pitting and voids. Four shoulder sherds; two with slight ridge at join to neck and small part of lower neck. Narrow wheel ridges on int. Ext.: light gray (10YR 7/2) slip with dark brown (7.5YR 3/2) to black rays descending from neck join. Remains of six rays preserved.

A78/95.50.58.LF318.(10)

From pre-604 quarry fill.

(No drawing.)



Scale 2:5

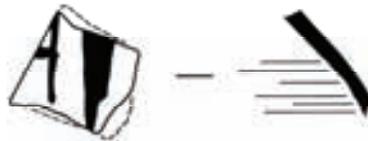
**317** "Wild Goat" (MileA Id) oinochoe. Shoulder sherd.

Micaceous. Remains of one ray and one other ornament. Black paint on very pale brown slip.

A78/95.50.57.L256.(45)

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

**318** "Wild Goat" (MileA Id) oinochoe. Shoulder sherds. 2JSh. H 6.1; W 13.7; Th 0.7.

Medium, reddish-yellow to light brown (5YR 6/6-4) clay with many fine micaceous inclusions; some small to large white and black grits; some erupting to surface, some voids. Strong wheel ridges on int. Surface: very pale brown (10YR 7/4) slip with lustrous dark reddish-brown (5YR 3/2) to red (2.5YR 4/6) paint. On shoulder: tips of two downward pointing rays; two horizontal bands.

A80/97.50.48.L462.B1.(18a+b)

From pre-604 quarry fill.



Scale 2:5

**319** “Wild Goat” (MileA Id) oinochoe. Shoulder sherd. PH 2.35; PW 5.65; Th 0.5.

Edge of shoulder. Micaceous. Remains of two rays and horizontal line below. Very pale brown slip; paint red to dark reddish brown.

A78/95.50.48.L452.(112)

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

*Analyzed shoulder sherds* (see figure 10.4 after cat. no. 399):

**320** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Upper shoulder to base of neck. Th 0.5.

Micaceous with small to medium white grits. Differential firing. Outer surface: brown (10YR 5/3); inner surface: yellowish red (5YR 5/6). Slip light gray (10YR 7/2); black paint (part of a palmette?). Petrographic analysis: Sample D2, Category 13 (Master 2001:46, 138–41).

A73/93.50.48.L405.FG14.B26 not registered

From pre-604 quarry fill.

**321** “Wild Goat” (MileA Id) oinochoe. Shoulder sherd. Th 0.45.

Fine, micaceous, yellowish-red clay (5YR 5/6) with small to medium white grits. White slip (2.5Y 8/2) with dark reddish-brown paint (5YR 3/2). Remains of two downturned rays on shoulder. Petrographic analysis: Sample C7, Category 13 (Master 2001:48, 138–41).

A55/94.50.48.L439.B48 not registered

From pre-604 quarry fill.

**322** “Wild Goat” (MileA Id) oinochoe. Shoulder sherd. Th 0.6.

Micaceous, yellowish-red clay (5YR 5/8) with small white grits. Very pale brown slip (10YR 7/3) with red paint (2.5YR 4/6). Downturned ray. Petrographic analysis: Sample C1, Category 13 (Master 2001:55, 138–41).

A78/95.50.48.L452 not registered

From pre-604 quarry fill.

**Uncatalogued “Wild Goat” (SiA Ic–d) oinochoe shoulder sherds with rays from pre-604 quarry fill** (qty. 16):

[4070] A78/95.50.48.L452 not registered

[4109] A78/95.50.48.L452 not registered

[4071] A78/95.50.48.L452.B33.(20)

[4112] A89/96.50.48.L453.B4 not registered

[4072] A78/95.50.48.L452 not registered

[4110] A89/96.50.49.L451 not registered

[4076] A78/95.50.48.L452 not registered

[4050] A89/96.50.49.L451 not registered

[4077] A78/95.50.48.L452 not registered

[4051] A89/96.50.49.L453 not registered

[4078] A78/95.50.48.L452 not registered

[4082] A78/95.50.58.LF318 not registered

[4080] A78/95.50.48.L452 not registered

[4083] A78/95.50.58.LF318 not registered

[4084] A78/95.50.48.L452 not registered

[4049] A78/95.50.58.LF318 not registered

**Uncatalogued “Wild Goat” (SiA Ic–d) oinochoe upper-body sherds with tips of rays descending from shoulder; from pre-604 quarry fill** (qty. 2):

[4048] A78/95.50.47.L285 not registered

[4093] A78/95.50.58.LF318 not registered

*Body sherds with animal frieze ornament:*

**323** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherds and base. SJSh of lower body plus SNJSh of lower body, plus base (not shown), probably from same vessel. (a—main section) H 11.0; Th 0.6. Dissociated sherds: (b) H 10.4, W 9.0, Th 0.5; (c) H 2.9, W 5.3, Th 0.5; (d) H 3.4, W 2.8, Th 0.5; (e—base) H 3.3, ED foot 9.0, W resting surface 1.5.

Reddish-yellow to light brown clay (7.5YR 6/6–6/4) with slightly grayer core; very micaceous with small to large white (lime) and black grits, some erupting to surface; small to medium voids. Two sherds from 50.48.L453 join five sherds from 50.47.L285 and one from 50.48.L452; some sherds that do not join but also belong are included. Ext.: very pale brown slip (10YR 7/3) with paint ranging from yellowish red (5YR 4/6) to dark reddish brown (5YR 3/2). Main section (a): parts of two registers preserved; below: upper parts of alternating lotus buds and blossoms; above: file of goats. To r. body, foreleg and rear legs of elongated goat walking r.; to l. head and feet of grazing goat; to l.

head and two legs of (third) walking goat. Filling ornament: two dotted concentric circles; two upright segmented triangles and a quatrefoil between head of second goat and rump of first. Dissociated sherds: (b) from lower register: part of ground line, open blossom and bud; (c) lower part of ground line and 2 tips of a blossom; (d) lower part of a bud, somewhat discolored; (e) foot beveled on outer edge; floor thins to 0.3 and is convex on underside; wheel grooves on underside. Dull black paint on lowest body and foot.

A78/95.50.47.L285.(13+14) + A78/95.50.48.L453.(18) + A78/95.50.48.L452.B241.(51)

From pre-604 quarry fill.

*Previous publication:* Waldbaum 2002b:58, fig. 3; Waldbaum and Magness 1997:30, fig. 6.

(No drawing. Nonjoining sherds and foot not shown in photograph.)



**324** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. H 5.1; W 7.0; Th 0.55.

Medium, micaceous pink clay (7.5YR 7/4) with slightly grayer core; small to medium white, black, and crystalline grits. Int.: low wheel ridges. Ext.: light gray (10YR 7/2) slip with lustrous dark brown to black paint. Added r (weak red 10R 4/3–4) on rump. Hind end and upper hind legs of a goat walking r. Belly reserved; back and legs solid. Tail raised.

A78/95.50.57.L256.B20.(12)

From pre-604 quarry fill.



Scale 2:5

**325** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. H 6.4; W 5.7; Th 0.5.

Micaceous, reddish-yellow (7.5YR 6/6) clay with some medium quartz crystals, white and black grits. Int.: ridged. Ext.: very pale brown slip (10YR 7/3–4) with dark brown (7.5YR 3/2) paint. Rump, tail, and upper leg of running goat. Patch of added p (weak red [10R 4/2]) on rump. Pendent segmented triangle behind/to l. of tail; part of another ornament below and touching point of triangle.

A78/95.50.48.L452.B54.(27)

From pre-604 quarry fill.



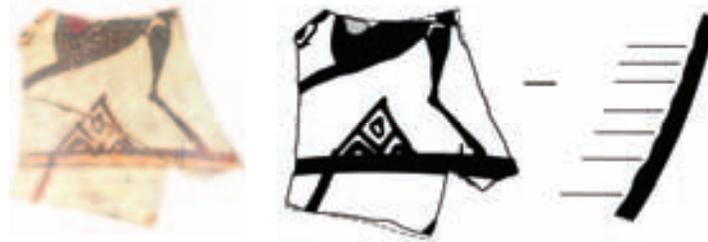
Scale 2:5

- 326 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherds. 2JSh. H 7.6; W 7.5; Th 0.6.

Medium, very micaceous, reddish-yellow (7.5YR 6/5) clay with occasional small white grits. Int.: strongly ridged. Ext.: very pale brown slip (10YR 7/3) with lustrous, very dark grayish-brown (10YR 3/2) solid paint on animal, streaking to yellowish red (5YR 5/6) on border. Spot of added r (dusky red 7.5YR 3/4) on rump of animal. Parts of two registers separated by streaky horizontal band. Lower: tips of lotus blossom crossing ground line. Upper: rear legs and rump of running goat, male genitalia reserved between legs. Upright segmented triangle between legs; part of another filler behind (or l. of) rump.

A78/95.50.48.L452.B107.(28)

From pre-604 quarry fill.



Scale 2:5

- 327 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherds. 2JSh. H 4.8; W 6.6; Th 0.4.

Medium, highly micaceous, reddish-yellow (7.5YR 7/6) clay with occasional white and crystalline grits. Int.: strongly ridged. Ext.: very pale brown slip (10YR 7/4) with very dark brown paint (10YR 2/2). Parts of rear legs and rump of goat walking or running r. Dotted concentric circles behind rump; part of triangle between legs, another filler behind rear leg.

A78/95.50.48.L452.B33.(15+34)

From pre-604 quarry fill.

(No drawing.)



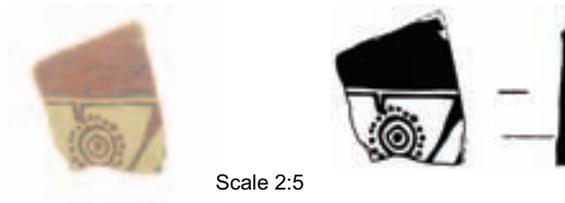
Scale 2:5

- 328 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 5.0; W 4.3; Th 0.6.

Very micaceous, reddish-yellow (7.5YR 6/6) clay with some small to large white grits. Int.: ridged. Ext.: very pale brown slip (10YR 7/3-4) with lustrous r paint (2.5YR 4/6) with some black streaks. Part of the wide body of a large male goat walking r. Body and leg in solid r paint with a dark fine outline. Underbelly and male genitalia reserved. Below belly dotted concentric circles.

A78/95.50.48.L452.B33.(2)

From pre-604 quarry fill.



Scale 2:5

- 329 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 4.3; W 6.8; Th 0.5.

Medium coarse, reddish-yellow clay (7.5YR 7/6) with fine micaceous inclusions and some small white and black grits. Fine ridges on int. Ext.: very pale brown (10YR 8/3-7/3) slip lustrous with very dark brown paint. Body of male goat walking r. Body solid dark brown with reserved belly line. Top of l. foreleg preserved; small male genitalia. Above back, lower line of a filling ornament?

A78/95.50.48.L452.B33.(17)

From pre-604 quarry fill.



Scale 2:5

- 330 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 4.0; W 4.25; Th 0.45.

Medium fine, light reddish-brown (5YR 6/3) clay with reddish-gray (5YR 5/2) core. Micaceous inclusions, some white and dark grits, and a few small voids. Int.: ridged. Ext.: very pale brown slip (10YR 7/4) and black paint. Part of the flank and underbelly of a goat (?) walking r. Dotted concentric circles under belly.

A73/93.50.57.L248.B144.(1)

From pre-604 quarry fill.



Scale 2:5

- 331 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 6.65; W 6.6; Th 0.55.

Medium coarse, micaceous, pink (7.5YR 7/4) clay with small to large lime grits, some erupting to surface. Int.: strongly ridged. Ext.: pale yellow slip (2.5Y 7/4) with lustrous dark brown to black paint, now crackling. Remains of two lower registers separated by streaky band. Below: tips of lotus blossom. Above: part of head, neck, forelegs, and partial body of grazing goat walking r. Head in outline, part of ear above. Body and legs solid except for reserved underbelly and vertical line between neck and chest. Upright segmented triangle between legs; part of another filler below body. Hooves and blossom tips overlap ground line.

A78/95.50.48.L452.B33.(3)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.5.4; Stager 1996a:67\*, fig. 10 second row from bottom l.; Stager 1996b:60 center l. Discussed in Käufler 2006:103-4.



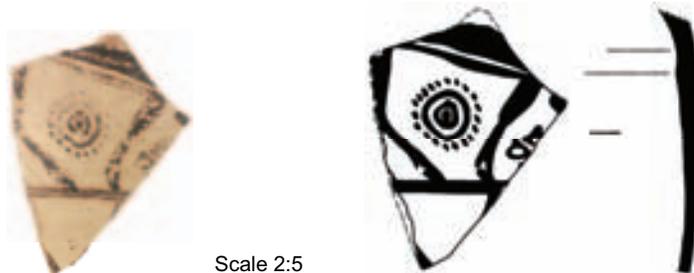
Scale 2:5

- 332 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 8.9; W 6.2; Th 0.65.

Medium, micaceous, reddish-yellow clay (5YR 7/6) with occasional small white grits. Light gray (2.5Y 7/2) slip with worn, lustrous, black paint. Parts of two registers separated by horizontal ground line. Upper: underbelly, flank, and two legs of a grazing(?) goat (body tilts down). Underbelly in outline. Dotted concentric circles under belly. Lower: lines to upper r. and lower l. (lotus?). Light wheel ridges on int. and some drag marks.

A89/96.50.48.L453.B94.(58)

From pre-604 quarry fill.



Scale 2:5

- 333 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 2.8; W 4.0; Th 0.6.

Medium coarse, micaceous yellowish-red clay (5YR 5/6) with small to medium white grits, some voids. One prominent, narrow ridge on int. Ext.: white slip (10YR 8/2); lustrous black paint; one spot of added r (red 7.5YR 4/6). Preserved are the neck and r. foreleg of a grazing goat. Possible rear leg of another goat to r. edge. Added r on goat's chest; reserved line between base of neck and chest.

A78/95.50.58.LF318.(9)

From pre-604 quarry fill.



Scale 2:5

334 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 6.8; W5.5; Th 0.5.

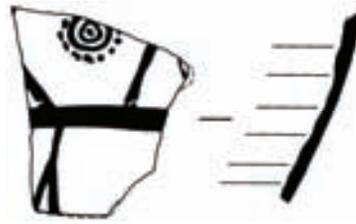
Medium coarse, micaceous, pink to light brown clay (7.5YR 7-6/4) with pinkish-gray core (7.5YR 6/2); small to medium white and crystalline grits (lime and quartz?). Int.: ridged. Ext.: very pale brown slip (10YR 7/4) with lustrous, dark brown paint. Remains of two lower registers separated by streaky horizontal line. Below: tip of one lotus blossom to l.; part of bud to r. Upper: foreleg of goat walking r., rear leg of another goat walking r.; dotted concentric circles between. Hooves of goats overlap ground line.

A78/95.50.48.L452.(50) + A78/95.50.48.L462.B241.(50)

From pre-604 quarry fill.



Scale 2:5



335 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 3.25; W 4.15; Th 0.5.

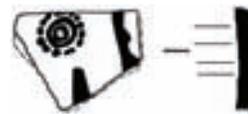
Medium, micaceous, pink (7.5YR 7/4) clay with grayish core; small to medium white grits, some small voids. Faint wheel marks on int. Ext.: very pale brown (10YR 7/3) slip with dark brown paint. Part of segmented horn and tip of ear of a goat; dotted concentric circle above ear.

A78/95.50.57.L256.(1)

From pre-604 quarry fill.



Scale 2:5



336 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. PH 4.15; PW 4.7; Th 0.6.

Medium, yellowish-red clay (5YR 5/6) with many fine micaceous inclusions, occasional small to medium white grits, some erupting to surface. Very pale brown slip (now dirty). Parts of two filling ornaments in dark reddish-brown paint (5YR 3/2). Goat horn in red (2.5YR 4/6).

A89/96.50.48.L453.(33)

From pre-604 quarry fill.



Scale 2:5



337 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 3.5; W 2.45; Th 0.4.

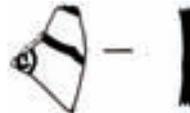
Medium coarse, micaceous, reddish-yellow clay (7.5YR 7/6) with small to medium white (lime) grits. Int.: lightly ridged. Ext.: very pale brown slip (10YR 7/3) with lustrous yellowish-red (5YR 4/6) paint. Preserved are a couple of slender diagonal lines, possibly goat legs moving l.; filler to l. Darker outline around solid forms. Not enough preserved to decipher.

A78/95.50.48.L452.B114.(118)

From pre-604 quarry fill.



Scale 2:5



338 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 4.6; W 4.8; Th 0.65.

Medium, micaceous, light brown (7.5YR 6/4) clay with pinkish core (7.5YR 6/2); small white and black grits. Wheel ridges on int. Ext.: very pale brown slip (10YR 7/3) with lustrous black paint. Reserved underbelly and flank of dappled deer with dotted concentric circle below. No trace of head or legs. Dapples shown with reserved dots.

A89/96.50.49.L453.(5)

From pre-604 quarry fill.



Scale 2:5



- 339 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd, possibly from the shoulder. H 3.6; W 4.1; Th 0.5.

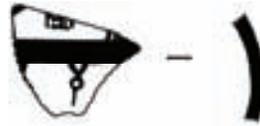
Medium, micaceous light brown clay (7.5YR 6/4) with small to medium white grits. Fine wheel ridges on int. Ext.: very pale brown slip (10YR 7/4) with lustrous red (2.5YR 4/8) to dark reddish-brown (5YR 3/3) paint. Parts of two registers separated by horizontal band. Only filling ornaments preserved above and below the line.

A78/95.50.57.L256.(10)

From pre-604 quarry fill.



Scale 2:5



- 340 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 3.5; W 3.4; Th 0.55.

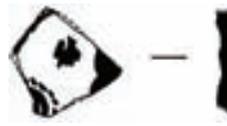
Medium, micaceous, pink clay (7.5YR 7/4) with some medium quartz crystals and small lime inclusions. Int.: strongly ridged. Ext.: very pale brown slip (10YR 7/4) with lustrous dark brown paint. Partial filling ornaments, possibly part of an animal broken to r.

A78/95.50.48.L452.B54.(48)

From pre-604 quarry fill.



Scale 2:5



- 341 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 2.4; W 2.3; Th 0.5.

Medium coarse, micaceous, pink clay (7.5YR 7/4) with occasional lime grits. Int.: ridged. Ext.: very pale brown slip (10YR 7/3) with lustrous dark brown paint. Partial filling ornaments.

A78/95.50.48.L452.B33.(14)

From pre-604 quarry fill.



Scale 2:5



- 342 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 2.9; W 3.3; Th 0.5.

Medium coarse, micaceous, pink clay (7.5YR 7/4) with medium to large dark and white grits. Int.: ridged. Ext.: very pale brown slip (10YR 7/4) with streaky lustrous dark brown paint. Part of a register line(?) at bottom; filling ornament above; part of a curved tail(?) at top; to r. vertical dark and reserved area.

A78/95.50.48.L452.B33.(30)

From pre-604 quarry fill.



Scale 2:5



- 343 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 3.7; W 3.0; Th 0.6.

Coarse, micaceous, pale brown clay (10YR 6/3) with darker core; small to large black, white, and brown grits. Int.: finely ridged. Ext.: very pale brown slip (10YR 7/4) with very worn paint. Only outlines of decoration preserved. Possibly part of a ground line and filling ornament.

A78/95.50.48.L452.B33.(22)

From pre-604 quarry fill.



Scale 2:5



- 344 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 1.6; W 4.1; Th 0.5.

Small sherd broken at bottom along some transitional point. Medium, micaceous, pink (7.5YR 7/4) clay with small to medium white and black grits. Strong wheel ridges on int. Ext.: very pale brown (10YR 7/4) slip with lustrous yellowish-brown (10YR 5/6) to black paint. To r. possible rear foot of a lion, griffin, or sphinx on ground line. To l. unintelligible.

A78/95.50.48.L452.B33.(36)

From pre-604 quarry fill.



Scale 2:5



- 345 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. PH 3.45; PW 2.1; Th 0.4.

Medium fine, micaceous, pink (5YR 7/3) clay. Int.: ridged. Ext.: very pale brown (10YR 7/3) slip with streaky dark brown paint. Parts of two registers separated by a horizontal band. Below: tip of a lotus overlapping register line; above: part of a filling ornament?

A78/95.50.48.L452.B62.(40)

From pre-604 quarry fill.



Scale 2:5



- 346 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. PH 1.9; PW 2.5; Th 0.5.

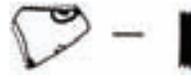
Medium, strong brown clay (7.5YR 5/6) with darker core; many fine micaceous inclusions, occasional small white grits. Small body sherd with remains of ornament. Slip very pale brown (10YR 7/3); paint dark brown (7.5YR 3/4).

A78/95.50.47.L285.(15)

From pre-604 quarry fill.



Scale 2:5



- 347 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 1.65; W 2.9; Th 0.4.

Fine, somewhat micaceous, reddish-yellow clay (5YR 6/6) with small dark brown, black, and white grits. Very faint wheel marks on int. Ext.: pink (7.5YR 7/4) slip with yellowish-red (5YR 5/8) paint. Part of a triangle preserved within a larger triangle.

A78/95.50.57.L256.(15)

From pre-604 quarry fill.



Scale 2:5



*Lower-body sherds:*

- 348 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. H 5.7; W 9.4; Th 0.9.

Micaceous, light reddish-brown clay (5YR 6/4) with small to medium black and white (lime) grits and some voids. Int.: deep and fine wheel ridges. Ext.: very pale brown slip (10YR 7/3) with dark reddish-brown paint (2.5YR 2.5/4). Paint abraded and scratched. Part of a lotus bud preserved.

A78/95.50.48.L461.(2)

From pre-604 quarry fill.



Scale 2:5



- 349 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Body sherd. PH 4.35; PW 4.7; Th 0.5.

Medium, very pale brown clay (10YR 7/4) with gray (10YR 6/1) core. Fine micaceous inclusions with occasional black grits and some voids. Ext.: light gray slip (2.5YR 7/2) with lustrous black paint. From lowest register: part of a lotus bud to l.; to r. edge of blossom.

A78/95.50.48.L452.B58.(49)

From pre-604 quarry fill.



Scale 2:5



- 350** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. H 6.1; W 7.3; Th 0.55.

Pinkish-gray (7.5YR 7/2) clay with light brownish-gray core (10YR 6/2); fine micaceous inclusions with small to medium white and black grits, some erupting to surface. Low wheel ridges and grooves on int. Ext.: light gray slip (2.5Y 7/2) with worn and crackling black paint. To l. r. half of a lotus bud; to r. outer edge of a lotus blossom from lowest register of vessel.

A78/95.50.48.L452.B33.(41)

From pre-604 quarry fill.



Scale 2:5

- 351** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 3.5; PW 4.6; Th 0.7.

Medium, strong brown clay (7.5YR 5/6) with many fine micaceous inclusions, occasional small to medium white grits, some erupting to surface. Part of lower register with lotus bud and blossom frieze. Surface slipped very pale brown (10YR 7/4). Remains of lotus black to streaky strong brown (7.5YR 4/6).

A89/96.50.48.L462.(27)

From pre-604 quarry fill.



Scale 2:5

- 352** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 4.8; PW 7.0; Th 0.5.

Medium coarse, very pale brown clay (10YR 7/3) with gray (10YR 6/1) core. Fine micaceous inclusions with small to medium black and white (lime) grits, some erupting to surface. Int.: ridged. Ext.: light gray (2.5YR 7/2) slip with worn and crackling black paint. To r. upper part of a lotus blossom; to l. edge of lotus bud.

A78/95.50.48.L452.B33.(46)

From pre-604 quarry fill.



Scale 2:5

- 353** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 2.1; PW 1.8; Th 0.4.

Medium, reddish-yellow clay (5YR 6/6) with fine micaceous inclusions. Fine ridges on int. Ext.: very pale brown slip (10YR 7/4) with dark brown (7.5YR 3/4) to black paint. Remains of part of a lotus from lower register.

A78/95.50.48.L452.B88.(19)

From pre-604 quarry fill.



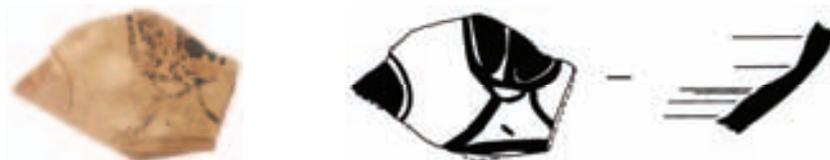
Scale 2:5

- 354** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. H 4.8; W 7.3; Th 0.8.

Highly micaceous, reddish-yellow (7.5YR 6/6) clay with small white grits. Int.: strongly ridged. Ext.: very pale brown slip (10YR 7/3) with lustrous dark yellowish-brown (10YR 3/4) to black worn paint. Part of lower register with part of a “chunky” style lotus bud to l.; blossom to r. Horizontal line at base. Similar to nos. **355**, **360**.

A78/95.50.48.L452.B33.(44)

From pre-604 quarry fill.



Scale 2:5

- 355** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. H 2.0; W 5.0; Th 0.6.

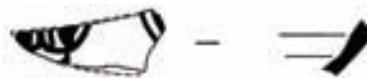
Medium, micaceous reddish-yellow clay (7.5YR 7/6) with occasional small white grits and some voids. Int.: fine wheel ridges. Ext.: light brownish-gray slip (10YR 6/2) with dark brown to black paint. Bottom parts of two lotus bud/blossoms preserved. Buds are of “chunky” type, rather than curvaceous. Similar to nos. **354**, **360**.

A78/95.50.48.L452.(117)

From pre-604 quarry fill.



Scale 2:5



*Analyzed body sherds* (for Samples D3 and D4 see figure 10.4 after cat. no. **399**):

- 356** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. Th 0.7.

Micaceous, strong brown clay (7.5YR 5/6) with small white grits. Pink slip (7.5YR 7/4), reddish-brown paint (2.5YR 4/6). Wheel made. Unintelligible design. Petrographic analysis: Sample D3, Category 13, Samo-Milesian? (Master 2001:50, 138–41).

A55/94.50.48.L439.B60 not registered

From pre-604 quarry fill.

- 357** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. Th 0.6.

Micaceous, yellowish-red clay (5YR 5/6) with grayish-brown core (10YR 5/2); small white and black grits. Wheel made. Slip: very pale brown (10YR 8/3) with yellowish-red (5YR 5/6) paint. Unintelligible ornament arranged in roughly horizontal bands. Petrographic analysis: Sample D4, Category 13, Samo-Milesian? (Master 2001:51, 138–41).

A55/94.50.48.L444.B40 not registered

From pre-604 quarry fill.

- 358** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd.

Brown clay (7.5YR 5/4). Petrographic analysis: Sample D5, Category 13, Samo-Milesian? (Master 2001:57–58, 138–41).

A78/95.50.48.L452.(50)

From pre-604 quarry fill. (No photograph.)

- 359** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. Th 0.7.

Strong brown clay (7.5YR 5/6). Petrographic analysis: Sample D6, Category 13, Samo-Milesian? (Master 2001:69, 138–41).

A78/95.50.48.L453.(19)

From pre-604 quarry fill. (No photograph.)

“Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe bases. With the exception of nos. **360** and **361**, which preserve some part of the floral decoration above the foot, the bases that follow are decorated simply with dark brown or reddish bands on the foot and lower body. In two cases (nos. **373** and **374**) enough of the body above the foot is preserved to see that it was

decorated with horizontal stripes of varying thickness. Similar examples have been found at Assesos (Kalaitzoglou 2008:pls. 85, 87 nos. 439, 443–46). At least one of the Assesos pieces (no. 439) belongs to a banded oinochoe with dot rosette on the shoulder similar to Ashkelon no. **392**. For the sake of convenience, the oinochoe bases are grouped together here.

*Bases:*

- 360** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Base sherd. H 3.35; ED base 8.5; W foot 1.0; Th 0.55.

Medium, light yellowish-brown (10YR 6/4) clay; very micaceous with small white and dark grits, some voids. Int.: ridged and grooved. Ext.: surface darkened, by burning? Broad resting surface with low ridge on inner edge; outer edge of foot beveled. Reserved resting surface and underside. On lower body, lower part of crude “chunky” style lotus bud or blossom resting on painted band that overlaps the outer surface of the foot. Lotus shape similar to nos. **354** and **355**. For lotus shape cf. Käufler 2006:259, pl. 25 no. 530 dated 615/10–590 B.C.

A78/95.50.48.L452.B33.(47)

From pre-604 quarry fill.



Scale 2:5



- 361** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. H 2.7; ED foot 9.0; W foot 1.4; Th 0.75.

Medium, highly micaceous, light brown clay (7.5YR 6/4) with small to medium white grits. Strong wheel ridges on int. Ext.: very pale brown slip (10YR 7/3) with red (2.5R 4/6) paint. Foot: flat resting surface, beveled outer edge; floor of vessel thinned and convex on underside. Reserved resting surface, underside, and edge of foot. Red band over top edge of foot and lower body; lower part of blossom or tendrils above. For shape of foot cf. Käufler 2006:pl. 51 no. 525, dated 615/10–590 B.C.

A78/95.50.48.L452.B68.(107)

Pre-604 quarry fill.

(No photograph.)



Scale 2:5

- 362** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 12.5; PH 4.0; Th wall 0.7.

Medium, micaceous, soft, pink clay (7.5YR 7/4) with many small to medium white grits, some erupting to surface, some voids and pits. Low ring foot with flat resting surface and beveled outer edge. Underside and resting surface reserved. Ext. wall: white slip (10YR 8/2) with band of streaky dark brown across bottom of wall and top of foot.

A78/95.50.47.L285.(5)

From pre-604 quarry fill.



Scale 2:5



- 363** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 11.0; PH 3.2; Th wall 0.5.

Micaceous, pale brown clay (10YR 6/3) with somewhat grayer core in foot and lower wall; small white and black grits, some erupting to surface; some voids. Wheel marks on int. Convex wall; floor thins toward center. Low ring foot with flat resting surface. Underside and resting surface reserved. Ext. wall: very pale brown slip (10YR 7/3) with streaky very dark grayish-brown band (10YR 3/2) on lower wall, top of foot, and ext. foot.

A89/96.50.48.L462.B17.(2)

From pre-604 quarry fill.



Scale 2:5



- 364** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 14.0; PH 3.0; Th wall 0.4.

Ext.: very micaceous clay, reddish yellow (7.5YR 6/6); int.: very pale brown (10YR 7/4); occasional small to medium white grits. Broad, low ring foot with concave resting surface; beveled edge. Underside and resting surface reserved with some traces of white slip, perhaps slopping onto resting surface. Upper wall: white slip (2.5YR 8.2); lower wall and top of foot: streaky black. Floor thins toward center.

A78/96.50.48.L452.B63.(110)

From pre-604 quarry fill.



Scale 2:5



- 365** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 9.2; PH 2.8; Th wall 0.8.

Medium coarse, micaceous reddish-yellow clay (7.5YR 7/6) with small to large white (lime) grits, some erupting to surface; at least one small pebble. Hole worn through center of underside. Cracks in underside. Pronounced wheel ridges on int. Low, spreading beveled ring foot with flat resting surface; low ridge on top, outer surface. Underside and resting surface reserved. Dark reddish-brown paint (2.5YR 3/4) along lower wall and outer foot. White slip (2.5Y 8/2) on wall above.

A78/95.50.58.LF318.(11)

From pre-604 quarry fill.



Scale 2:5



black-and-white photograph

- 366** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 13.0; W resting surface 1.2; H foot 0.7; PH 2.0.

Medium, yellowish-red clay (5YR 5/8) with many fine micaceous inclusions, occasional small white and dark grits. Low spreading ring foot with slightly concave resting surface. Beveled outer edge. Most of wall gone. Underside and resting surface reserved. Ext.: light gray (10YR 7/2) slip with worn black band on lower wall and upper foot.

A80/97.50.48.L462.B1.(16)

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

- 367** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 11.0; PH 2.0; Th wall 0.3.

Micaceous, light brown clay (7.5YR 6/4) with small to medium white grits, some erupting to surface. Low ring foot with flat resting surface. Underside and resting surface slipped light yellowish brown (10YR 6/4). None of upper wall preserved. On lower wall and top of foot is streaky dark brown to black paint.

A89/96.50.49.L449.B8.(3)

From pre-604 quarry fill.



Scale 2:5

- 368** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 8.5; PH 2.1; Th wall 0.6.

Somewhat micaceous, pinkish-gray clay (7.5YR 7/2); many small to medium white and black grits, some erupting to surface; some large voids and "folding" of clay on int. Most of upper wall and floor missing. Low, spreading, ring foot with flat resting surface, beveled outer edge. Underside and resting surface reserved. On lower wall, top of foot and edge of foot, very dark grayish-brown paint (10YR 3/2).

A78/95.50.57.L256.(8)

From pre-604 quarry fill.



Scale 2:5

- 369** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 13.0; PH 3.3; Th wall 0.6.

Very micaceous, very pale brown clay (10YR 7/4) with occasional small white grits. Low ring foot with flat resting surface and beveled outer edge. Underside and resting surface reserved. On wall: worn and dirty white slip (10YR 8.2) with dark brown band across lower wall and top of foot.

A78/95.50.48.L452.(109)

From pre-604 quarry fill.



Scale 2:5

- 370** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 14.0; PH 3.0; Th wall 0.7.

Medium, highly micaceous, light brown clay (7.5YR 6/4) with occasional small white (lime) grits; some pits. Most of floor missing; very worn. Low ring foot with beveled outer edge, groove on inner surface. Underside and resting surface reserved. Ext. wall: slip mostly worn off; band of red (2.5YR 5/6) across top of foot.

A78/95.50.47.L285.(6)

From pre-604 quarry fill.



Scale 2:5

- 371 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. 3JSh. D 13.3; PH 3.1; Th wall 0.45.

Micaceous, light brown clay (7.5YR 6/4) with small to large white grits. Low spreading ring foot with flat resting surface, beveled edge. Underside and resting surface reserved. On ext. upper surface of foot is a red (2.5YR 5/6) band. Int.: strong wheel ridges.

A78/95.50.58.LF318.(12)

From pre 604 quarry fill.



Scale 2:5



- 372 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. 2JSh. ED 13.5; PH 2.5; W foot 1.65; Th floor 0.6; Th lower wall 0.7.

Medium, yellowish-red (5YR 5/6) clay with reddish-brown (5YR 5/4) core. Many fine micaceous inclusions, small to large white and crystalline grits, some small voids. Flat ring foot with beveled outer edge. Underside and resting surface reserved; strong wheel ridges on int. Surface: very pale brown slip (10YR 8/3). Reddish-yellow (5YR 6/6) band of paint on outer surface of foot.

A80/97.50.48.L462.B1.(17a+b)

From pre-604 quarry fill.

(No photograph.)



Scale 2:5

- 373 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED 14.0; PH 5.3; Th wall 0.7.

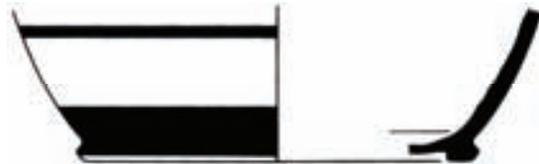
Medium, micaceous pink clay (7.5YR 7/4) with small to large soft white grits. Wheel ridges on int. Low ring foot with shallow groove in outer edge. Flat resting surface. Underside and resting surface reserved. Ext.: very pale brown (10YR 7/3) slip. At bottom of wall and over top and upper ext. of foot: wide black band. Above: a narrow black band streaking to yellowish red (5YR 5/5).

A78/95.50.48.L452.B33.(18)

From pre-604 quarry fill.



Scale 2:5



- 374 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Base sherd. ED foot 13.5; H 6.2; Th wall 0.5.

Micaceous, light reddish-brown clay (5YR 6/4) with pinkish-gray (5YR 6/2) core; small to medium white grits, some erupting to surface; some voids. Prominent wheel ridges on int. Low, spreading ring foot with flat resting surface. Underside and resting surface reserved. Ext. wall: pale yellow slip (2.5Y 7/4) with two thin horizontal dark yellowish-brown (10YR 4/6) lines above, wider band of same on lower wall and top and ext. surface of foot.

A78/95.50.48.L453.(17)

From pre-604 quarry fill.



Scale 2:5



**375** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Base sherd. ED 15.5; PH 4.0; Th wall 0.8.

Micaceous, reddish-yellow clay (5YR 7/6) with small to medium white and black grits, some voids. Strong wheel ridges on int. Very low, broad ring foot with flat resting surface. Wall, resting surface, and underside covered with powdery light gray slip (10YR 7.2). Thin dark brown line across top of foot.

A78/95.50.48.L452.(99) (or 49?)

From pre-604 quarry fill.



Scale 2:5



**376** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Base sherd. ED 16.5; PH 5.5; Th wall 0.8.

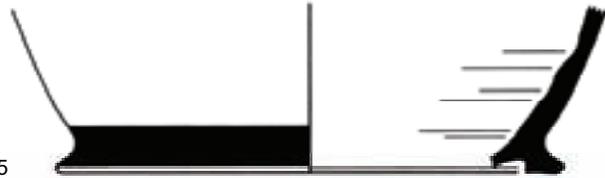
Micaceous, yellowish-red clay (5YR 5/6) with small to large white (lime) grits, some erupting to surface. Strong wheel ridges on int. Floor mostly missing. Low, thin everted ring foot. Resting surface of foot and underside slipped (but discolored). Ext. wall: white slip (2.5Y 8/2). Band of streaky dark brown across lower wall and top of foot.

A78/95.50.48.L452.(100)

From pre-604 quarry fill.



Scale 2:5



*Analyzed base sherd* (see figure 10.4 after cat. no. 399):

**377** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Base sherd. ED 11.0.

Low ring foot with beveled outer edge, flat resting surface. Micaceous clay, outer surface light reddish brown (5YR 6/3), next inner layer yellowish red (5YR 5/6), core pinkish gray (5YR 6/2). Many voids. Small to large white grits and grog. Black band on outer surface. Petrographic analysis: Sample C8, Category 13, Samo-Milesian? (Master 2001:44, 138–41).

A72/92.50.48.L392.FG22.B360 not registered

From 604 use/destruction phase (Building 276 Room 421).

*Handles:*

**378** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Shoulder sherd with handle. H 15.2; W 4.5; Th one coil 1.3.

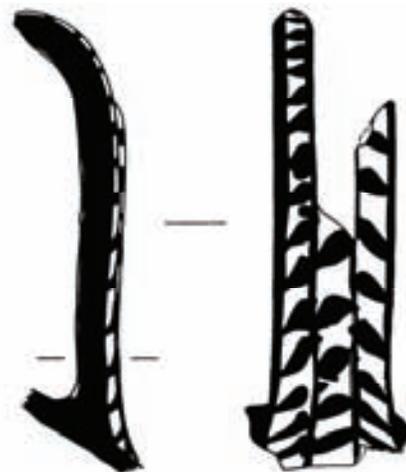
Triple-coil rising from part of shoulder. Medium coarse, micaceous, reddish-yellow clay (7.5YR 6/6) with small to large white and dark grits, some erupting to surface. Surface: very pale brown slip (10YR 7/3) with red (2.5YR 4/6) to reddish-brown (2.5YR 4/4) paint. Leftmost coil still preserves top curve. Diagonal leaf-shaped strokes of red paint on outer surface; left and center coils: diagonal strokes pointing to l.; r. coil: diagonal strokes pointing to r. Red vertical line on outer edges; red paint on inner part of shoulder.

A78/95.50.48.L452.(15)

From pre-604 quarry fill.



Scale 2:5



- 379 "Wild Goat" (MileA Id) oinochoe. Shoulder sherd with handle. W 5.0; Th one coil 1.3.

Section of lower shoulder with start of turn to body. Lower stump of triple-coil handle. Micaceous, hard-fired, medium, pale brown clay (10YR 6/3) with gray core (10YR 6/1). Small to medium white crystalline grits, black grits and lime. Surface: very pale brown slip with lustrous black paint. Remains of a black ray on each side of handle root; black verticals between coils, black diagonals across lower surface of coils and lower shoulder.

A78/95.50.48.L452.B33.(26)

From pre-604 quarry fill.



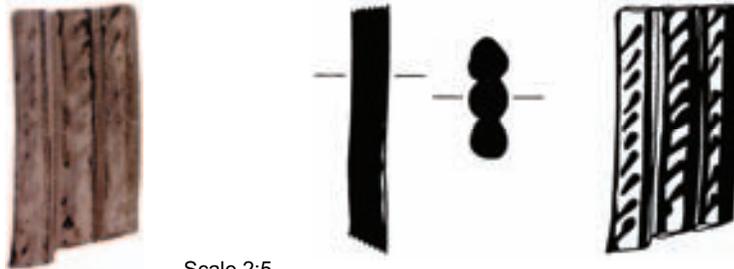
Scale 2:5

- 380 "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Handle. PH 7.95; W 4.0; Th one coil 1.3.

Triple-coil broken at both ends. Micaceous, light brown clay (7.5YR 6/4) with small to medium white and dark grits, some erupting to surface. Surface: pale yellow slip (2.5Y 7/4) smeary and thin on inner surface; black paint, some very worn. Black vertical lines on outer edges, diagonals on outer face, all pointing in same direction.

A78/95.50.48.L452.B63.(104)

From pre-604 quarry fill.



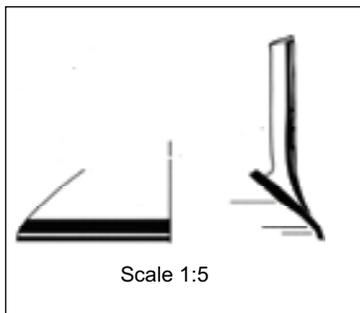
Scale 2:5

- 381 "Wild Goat" (MileA Id) oinochoe. Shoulder sherd with handle. H 13.2; W 10.5; W handle 2.8; D one coil 1.1; Th wall 0.7.

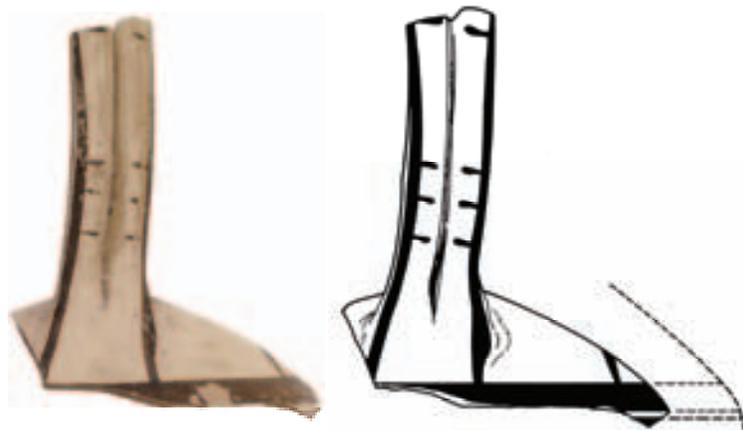
Lower part of vertical double-coil handle and adjacent part of shoulder. Medium, reddish-yellow (5YR 6/6) clay with many fine micaceous inclusions; small to large white grits, some erupting to surface. Int.: fine wheel ridges. Ext. surface: very pale brown (10YR 8/3) slip, washy on outer handle, thicker on shoulder. Lustrous dark reddish-brown (5YR 3/3) paint. Inner surface of handle reserved. Brown vertical strip on outer edge of each coil; group of three widely spaced horizontal lines near base of handle; another, single line above (near break). Broad reddish-brown horizontal band on shoulder below handle. Tip of one ray to r. Trace of another band on lowermost edge.

A80/97.50.48.L453.(62)

From pre-604 quarry fill.



Scale 1:5



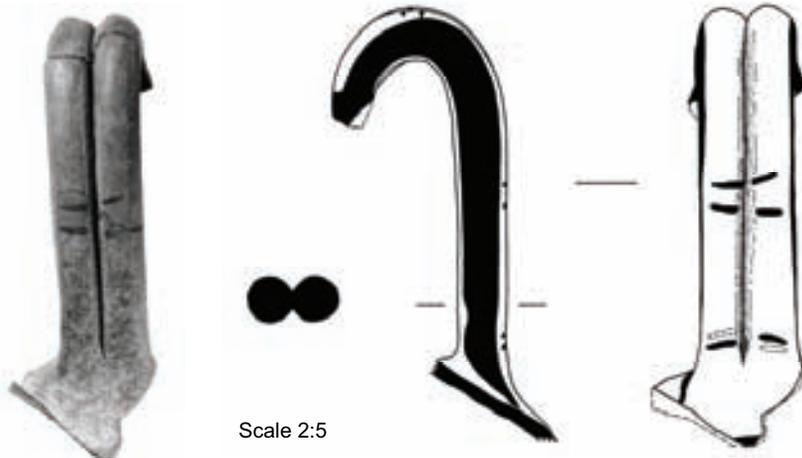
Scale 2:5

- 382** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Part of rim and shoulder with handle. H. 14.4; W. 2.9; Th one coil 1.5; W rim attachment 3.75.

Double coil with parts of rim and shoulder attachment preserved. Light brown slip (7.5YR 6/4) with lustrous reddish-brown (2.5YR 4/4) paint down outer sides, across rim attachment, and in two groups of two horizontal lines on top of curve and midway down outer surface.

A78/95.50.58.LF318.(32)

From pre-604 quarry fill.

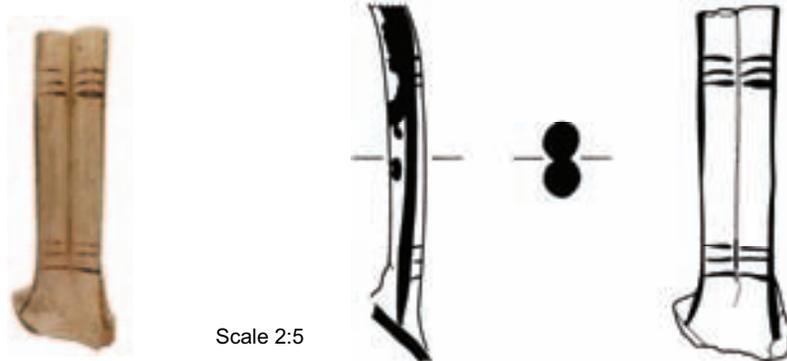


- 383** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd with handle. PH 11.8; W 2.8; Th one coil 1.25.

Lower part of double-coil with shoulder attachment. Micaceous, yellowish-red clay (5YR 3/8) with small to large white (lime) grits, some erupting to surface; some voids. On surface: very pale brown slip (10YR 7/3); lustrous, dark brown paint (7.5YR 3/2). Vertical line up outer sides on l. and r.; two groups of three horizontal lines above shoulder and about 5 cm higher up.

A78/95.50.48.L453.(54)

From pre-604 quarry fill.



- 384** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Rim sherd with handle. H 10.1; W 2.7; Th one coil 1.6.

Most of double-coil handle with rim attachment. Micaceous, reddish-yellow clay (7.5YR 6/6) with small to medium white grits, some erupting to surface; some voids. Surface: very pale brown slip (10YR 8/3). Lower end missing. Worn black paint across outer surface of rim attachment, outer r. and l. surfaces of coils; faded brown(?) paint in groups of three horizontal lines on outer surface.

A78/95.50.48.L452.B11.(9)

From pre-604 quarry fill.



- 385** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd with handle. H 7.2; W 4.1; Th one coil 1.35.

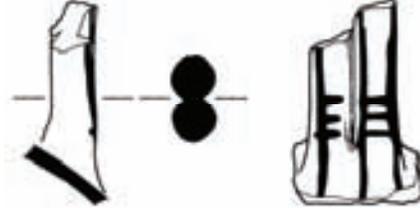
Lower part of double-coil handle with part of shoulder attachment. Micaceous, yellowish-red clay (5YR 5/6) with small to medium white (lime) grits. Covered with white slip (2.5Y 8/2), very thin and washy in places. Lustrous, dark yellowish-brown paint (10YR 4-3/6). Vertical lines on outer and inner sides of coils, triple horizontal lines near base of coils.

A55/94.50.48.L444.B51.(11)

From pre-604 quarry fill.



Scale 2:5



- 386** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Handle. PH 5.6; W 3.3; Th one coil 1.2.

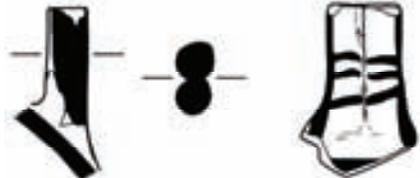
Lower end of double-coil handle. Micaceous, reddish-yellow clay (7.5YR 7/6) with small white grits. Wheel ridges on int. of shoulder section. Ext.: very pale brown (10YR 7/3) slip with yellowish-red paint (5YR 4/6). Vertical stripes up sides; groups of three horizontal lines near lower end; remains of at least one horizontal line at base of handle.

A78/95.50.48.L452.B63.(105)

From pre-604 quarry fill.



Scale 2:5



- 387** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Shoulder sherd with handle. H 5.1; W 4.1; Th one coil 1.1.

Lower part of double-coil handle with part of shoulder attachment and start of upper curve. Very micaceous, light brownish-gray clay (10YR 6/2) with many small to medium white (lime) and small black grits. Very pale brown slip (10YR 7/3), almost worn away, with traces of black paint between coils and on ext. surface.

A55/94.50.48.L439.B45.(12)

From pre-604 quarry fill.



Scale 2:5



- 388** "Wild Goat" (SiA Ic-d/MileA Ic-d) oinochoe. Handle. PH 5.8; PW 2.9; Th one coil 1.5.

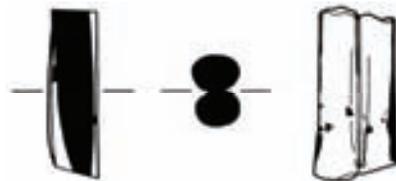
Double-coil. Micaceous pink clay (7.5YR 7/4) with light gray core (7.5YR N7/); small to large white (lime) and brown grits, some erupting to surface. Both ends broken; surface reserved with red (2.5YR 4/6) vertical stripes up outer sides. Possibly some red paint (horizontal stripes?) on ext. surface as well, now mostly worn away.

A89/96.50.48.L462.B10.(13)

From pre-604 quarry fill.



Scale 2:5

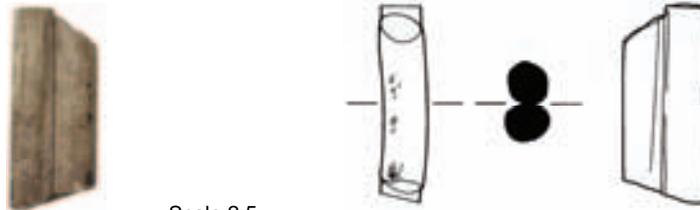


- 389 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Handle. PH 6.5; W 2.8; Th one coil 1.5.

Double-coil handle, broken at both ends. Hard, micaceous, light brownish-gray clay (10YR 6/2) with pink (7.5YR 7/4) core. Small to medium white (lime) and black grits. On surface, very worn white slip (10YR 8/2) with black paint, mostly flaked off.

A78/95.50.48.L452.(90)

From pre-604 quarry fill.



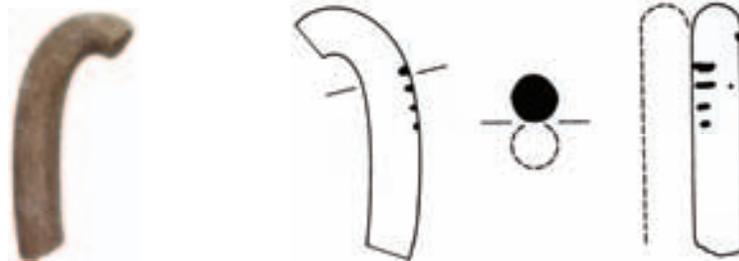
Scale 2:5

- 390 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Handle. PH 8.6; Th coil 1.6.

Single coil, probably broken off a double-coil handle (inner surface unslipped). Micaceous, light brown clay (7.5YR 6/4) with occasional small white and black grits. On surface: worn light brown slip (7.5YR 6/4) with traces of reddish-brown paint forming pattern of horizontal strokes.

A78/95.50.48.L452.(94)

From pre-604 quarry fill.



Scale 2:5

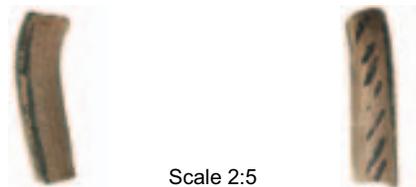
- 391 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Handle. H 4.85; Th 1.4.

Micaceous, pale brown clay (10YR 6/3) with small white (lime) grits and some small black grits. Outer coil of double- or triple-coil handle, broken at both ends. Light gray (2.5YR 7/2) slip with black paint. Black diagonal lines between black verticals on outer surface.

A78/95.50.48.L452.(91)

From pre-604 quarry fill.

(No drawing.)



Scale 2:5

**Uncatalogued coils from double-coil handles of “Wild Goat” oinochoai; from pre-604 quarry fill (qty. 3):**

[4052] A78/95.50.47.L285 not registered

[4053] A89/96.50.48.L462 not registered

[4054] A89/96.50.48.L462 not registered

*South Ionian Archaic (SiA Id/MileA Id?) oinochoai with rosette decoration (nos. 392–94).* Three examples were found of oinochoai in a rather thin, light-weight fabric, decorated with dot-rosettes on the shoulder and added white stripes over dark brown to black bands. This type is likely a late variation of the “Wild Goat” oinochoe. Käufeler publishes two examples from Miletos that he dates to the first quarter of

the sixth century and places in his “Niedrige Kannen — Späte Gruppe” (2006:166, 310, pl. 39.845, 846; pl. 60.845). Kalaitzoglou (2008:172–73, 400, pl. 85 no. 439) publishes one from Assesos; and several similar ones were found at Istros/Histria in Romania, for which Lambrino cites parallels on Rhodes and Samos (Lambrino 1938:154–63, figs. 110–12). This variant does not appear to be widely distributed, however.

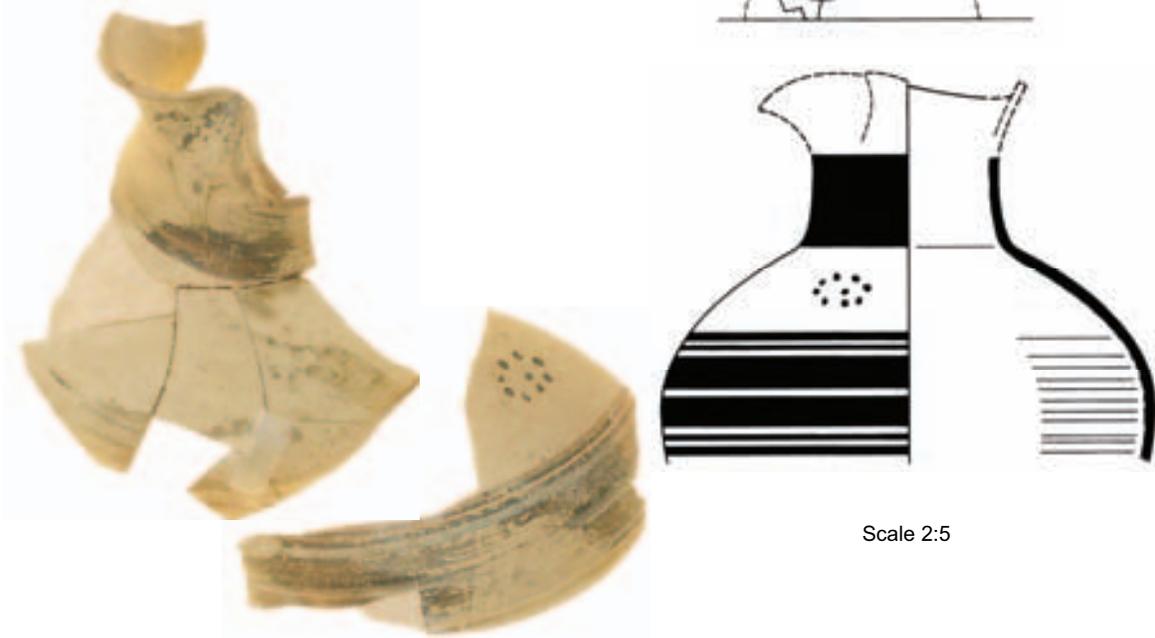
- 392** “Wild Goat” (SiA Id/MileA Id?) oinochoe with rosette decoration. Rim, neck, shoulder, and upper body. PH 13.0; Th 0.45.

Remains of front spout and one side-spout of trefoil rim, reverse-conical neck; sloping, curving shoulder and bulbous upper body. Medium fine, thin, light-weight, micaceous, light brown to brown clay (7.5YR 6/4–5/4) with many fine micaceous inclusions and small to medium white and black grits, some erupting to surface; some voids. Int.: narrow wheel ridges. Ext. surface: very pale brown slip (10YR 7/3) on shoulder. Paint very worn. Neck and rim once solid black; lower shoulder to body streaky, dark brown to black painted bands with worn added w stripes. On shoulder: one well-preserved dot rosette, one very worn (“ghost”) dot rosette. Differential wear (paint on some sherds very worn or absent).

A55/94.50.48.L444.B40.(18+21) + A78/95.50.48.L452 not registered

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.6.3.



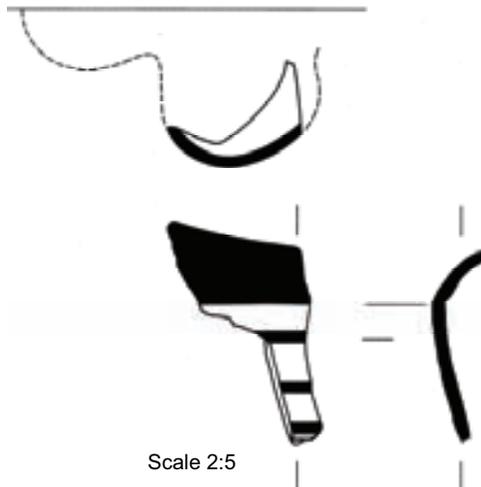
- 393** “Wild Goat” (SiA Id/MileA Id?) oinochoe with rosette decoration? Rim sherd. PH 6.4; PW rim 4.5; H rim 2.5; Th rim 0.4; Th neck 0.45.

Medium, brown clay (10YR 5/3) with many fine micaceous inclusions, occasional small to large white and black grits. One lobe of trefoil rim and part of neck. Ridge and groove at join of rim and neck. Int.: reserved. Ext.: very worn light gray slip (2.5YR 7/2) with remains (“ghosts”) of four horizontal black lines on neck, solid black on rim. Possibly from a “rosette” oinochoe similar to no. **392**. Cf. Käufler 2006:310 pl. 39 no. 846 (from Miletos, dated to first quarter of sixth century).

A78/95.50.58.LF318.(35)

From pre-604 quarry fill.

(No photograph.)

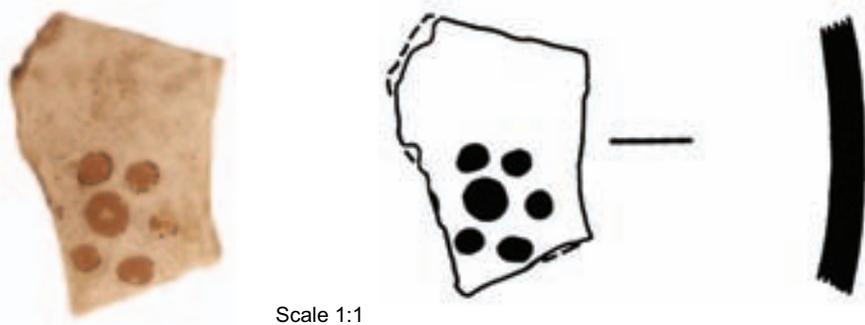


- 394** “Wild Goat” (SiA Id/MileA Id?) oinochoe with rosette decoration. Body sherd. PH 3.6; PW 2.5; Th 0.45.

Fine, thin, very micaceous, rather soft pink clay (7.5YR 7/4) with occasional small white grits. Faint wheel marks on int. Ext.: very pale brown slip (10YR 7/3) with yellowish-red (5YR 4/6) paint. Remains of a dot-rosette ornament in yellowish red with a thin black outline.

A78/95.50.48.L452.(213)

From pre-604 quarry fill.



*Analyzed oinochoe body sherds, probably Milesian (see figure 10.4 after cat. no. 399):*

- 395** “Wild Goat” oinochoe. Body sherd. Th 0.5.

Fine, micaceous, yellowish-red clay (5YR 5/6) with small white grits, some voids. Very pale brown slip (10YR 7/3) with dark reddish-brown, narrow, horizontal stripe (5YR 3/2). Petrographic analysis: Sample C6, Category 13, Samo-Milesian? (Master 2001:77, 138–41).

A73/93.50.49.L413.B11 not registered

From 604 use phase (mudbrick wall collapse in Building 406 Room 423).

- 396** “Wild Goat” oinochoe. Body sherd. Th 0.45.

Fine, micaceous, yellowish-red clay (5YR 5/6) with some small white grits. Very pale brown slip (10YR 8/4) with dark reddish-brown paint (5YR 3/2) streaking to black. Petrographic analysis: Sample C2, Category 13, Samo-Milesian? (Master 2001:61, 138–41).

A78/95.50.48.L453 not registered

From pre-604 quarry fill.

- 397** “Wild Goat” oinochoe. Body sherd. Th 0.7.

Fine, micaceous, reddish-yellow clay (5YR 6/6) with some small white grits. Pink slip (7.5YR 7/4) with red horizontal line (2.5YR 4/8) streaking to black. Petrographic analysis: Sample C3, Category 13, Samo-Milesian? (Master 2001:70, 138–41).

A78/95.50.48.L454 not registered

From pre-604 quarry fill.

- 398** “Wild Goat” oinochoe. Body sherd. Th 0.6.

Fine, micaceous, reddish-brown clay (5YR 4/4) with small white grits, some voids. Light brownish-red slip (10YR 6/2), somewhat dirty and discolored. Two wide black stripes streaking to dark brown. Petrographic analysis: Sample C4, Category 13, Samo-Milesian? (Master 2001:89, 138–41).

A78/95.50.57.L256 not registered

From pre-604 quarry fill.

- 399** “Wild Goat” oinochoe. Body sherd. Th 0.4.

Fine, yellowish-red clay (5YR 5/6) with fine white grits. White slip (2.5YR 8/2) with dark reddish-brown, wide, horizontal stripe. Petrographic analysis: Sample C5, Category 13, Samo-Milesian? (Master 2001:106, 138–41).

A78/95.50.58.LF318 not registered

From pre-604 quarry fill.



Figure 10.4: Oinochoai body sherds subjected to petrographic analysis (Samples C1–C8 and D1–D4)  
The catalogue numbers of the sherds are given after the sample numbers.

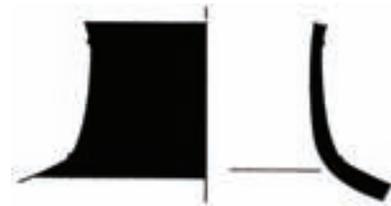
“Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoai from post-604 contexts:

- 400 “Wild Goat” (MileA Id) oinochoe. Neck sherd. PH 5.5; PW base of neck 5.0; Th neck 0.5; Th shoulder 0.7; H neck 4.5.

Medium, yellowish-red clay (5YR 5/6). Gray just under surfaces. Many fine micaceous inclusions, occasional small to medium white grits. Reverse conical neck; ridge at top and bottom where it joins rim and shoulder. Int.: reserved. Ext.: very worn light gray slip (2.5YR 7/2) with remains of black pattern: ray on shoulder, two horizontal lines on neck with something else between.

A72/92.50.48.L384.B337.(2)

From post-604 sandy silt washed over destruction debris in Grid 50 Plaza.  
(No photograph.)



Scale 2:5

- 401 “Wild Goat” (MileA Id) oinochoe. Shoulder sherd. PH 4.0; PW 3.2; Th 0.5.

Micaceous. Ext.: very pale brown slip. Remains of two downward pointing black rays with tip intersecting horizontal black band. Wheel ridges on int.

A72/92.50.48.L384.B327.(9)

Post-604 sandy silt washed over destruction debris in Grid 50 Plaza.  
(No photograph.)



Scale 2:5

- 402 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Shoulder sherd. H 10.8; W 7.7; Th 0.7.

Medium fine to medium coarse, light brown (7.5YR 6/4) clay with brown (7.5YR 5/2) core, small to medium white (lime) inclusions and some small voids. Int.: ridged. Ext.: very pale brown slip (10YR 7/3); somewhat cracked and worn, lustrous black paint with added p (weak red 10R 4/3). At base of neck, thin, irregularly spaced vertical lines; pendent half-roundel and triangles. In field: elongated body of dappled male deer walking r. Body and legs solid black; male genitalia indicated under body; two rows of reserved dots on body; reserved line for underbelly. Curved line of added p on rump. Under belly: dotted concentric circles; to l. of rear leg, part of an upright segmented triangle; part of a worn filling ornament to r. of foreleg; worn horizontal ground line.

A55/94.50.57.L203.B98.(1)

From post-604 gully that cuts through destruction debris in Grid 50 Building 234.

*Previous publication:* Waldbaum in press:pl. 14.3.5.6; Stager 1996a:67\*, fig. 10 second row center;  
Stager 1996b:60 bottom row second from r.

402



Scale 2:5

403 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Shoulder sherd. H 7.0; W 9.5; Th 0.7.

Medium coarse, light brown (7.5YR 6/4) clay with many fine micaceous inclusions, small to large white grits, some erupting to surface; some voids. Strong wheel ridges on int. Surface: very pale brown (10YR 8/4) slip with dark brown (10YR 3/3) to black lustrous paint. Some added r (weak red 7.5YR 4/4). At base of neck: narrow vertical lines between horizontals; to r. pendent half-roundel. Below, a grazing goose (front of head missing); added r on chest. Below neck: dotted concentric circles and a solid quatrefoil ornament. Part of an upright segmented triangle below.

A80/97.50.48.LF151.(6)

From a Byzantine well.



Scale 2:5

404 “Wild Goat” (MileA Id) oinochoe. Shoulder sherds. 2JSh. H 5.4; W 6.4; Th 0.6.

Fine to medium coarse, brown clay (7.5YR 5/4) with grayish-brown core (10YR 5/2). Very micaceous with some small to medium lime grits. Ext.: very pale brown slip (10YR 7/3–4), paint lustrous dark reddish brown (5YR 3/4), dull weak red (10R 4/3), and lustrous black; int.: plain. Part of the shoulder/upper body register with head and neck of grazing deer. Head, eye, and ear in outline, eyebrow over eye, neck dark reddish brown with row of four reserved dots to indicate dappling. Antler(?) rising from head. In front: downward pointing ray in weak red outlined in black. Narrower black ray within red. Quarter roundel between lower ray and ground line. Remains of horizontal ground line.

A72/92.50.47.L192.B552.(1)

From post-604 Persian-period fill.

*Previous publication:* Waldbaum in press:pl. 14.4.5.7; Stager 1996a:67\*, fig. 10 second row r.; 1996b:60 photo, lower r.



Scale 2:5

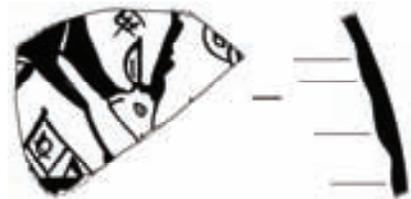
405 “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. H 6.0; W 7.8; Th 0.5.

Wheel ridges on int. Medium, yellowish-red (5YR 5/6) clay, very micaceous with small to medium lime grits, some erupting to surface. Ext.: very pale brown slip (10YR 8/3) with lustrous dark brown (7.5YR 4/4) to black paint. Head, horn, and forelegs of grazing goat. Eye, head, ear reserved; horn, neck, body, legs in solid dark brown/black; reserved underbelly and separation between neck and chest. In field: upright segmented triangle between forelegs and on ground line. Between horn and neck, hastily drawn lozenge; to r. of horn, remains of a quatrefoil?

A72/92.50.48.L389.B331.(1)

From post-604 natural accumulation.

*Previous publication:* Waldbaum in press:pl. 14.3.5.5; Stager 1996a:67\*, fig. 10 third row r.; 1996b:second row r. Käufeler (2006:103–4) attributes this piece to the “Boston Painter” (see nos. 287, 301, 331).



Scale 2:5

**406** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 3.6; PW 5.55; Th 0.6.

Medium, micaceous, brown (10YR 5/3) clay. Int.: unpainted. Ext.: very pale brown slip (10YR 7/3). Paint very worn and chipped. Just visible are the underbelly and forelegs of an elongated wild goat walking r. Dotted concentric circles under belly.

A41/89.38.74.L229.B538 not registered

From a post-604 robber’s trench.

(No drawing.)

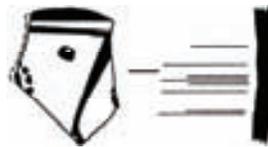


Scale 2:5

**407** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 4.5; PW 3.4; Th wall 0.6.

Medium, strong brown clay (7.5YR 4/6) with fine micaceous inclusions, occasional small white grits and a few black grits and small voids. Int.: reserved with horizontal wheel marks. Ext.: very pale brown slip (10YR 8/3). Part of a goat’s body walking r. Dark reddish-brown paint on underside of body and leg. Black outline around leg; reserved underbelly. Remains of dot-rosette filling ornament to l., “blob” under belly.

Found on modern surface in Grid 50. Not registered.



Scale 2:5

**408** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 3.85; PW 5.3; Th 0.7.

Medium, micaceous, light brown (7.5YR 6/4) clay. Int.: unpainted. Ext.: solid black with added r horizontal lines above and below band of very pale brown (10YR 7/3) slip divided into small squares with black vertical lines. Within the squares are alternating X and blob. Perhaps similar: Kalaitzoglou 2008:399 pl. 83 no. 431; pl. 108 no. 531 (krater) from Assesos; Käufler 2006:264–65, pls. 26–27 nos. 561–64.

A16/87.50.58.F16.B369 not registered

Found during cleaning.

(No drawing.)

*black-and-white photograph*

Scale 2:5

**409** “Wild Goat” (SiA Ic–d/MileA Ic–d) oinochoe. Body sherd. PH 4.0; PW 3.4; Th 0.5.

Lower body. Medium, very micaceous, pale brown (10YR 6/3) clay. Int.: unpainted with heavy wheel ridges. Ext.: light gray (2.5YR 7/2) slip with part of a lotus blossom from the lower body frieze in very dark gray (2.5Y 3/0).

A40/90.50.58.F181.B300.(17)

From post-604 Persian-period mudbrick wall collapse.

(No drawing.)



Scale 2:5

**Miletos “Proto-Fikellura” (SiA IIa/MileA IIa) oinochoe (no. 410):**

**410** Miletos “Proto-Fikellura” (SiA IIa/MileA IIa) oinochoe. Shoulder sherd. H 5.9; W 8.7; Th 0.6.

Upper part of flat shoulder with start of turn to neck. Medium, light brown (7.5YR 6/4) clay with gray core. Many fine micaceous inclusions; small white and black grits; large voids on inner surface. Narrow wheel ridges on int. Ext. surface: very pale brown (10YR 8/3) slip with lustrous dark brown to black paint. Remains of two downward pointing rays (one l., one r.); silhouetted lotus bud between. See above, nos. **265**, **266**, **270** footed dishes in similar style. For shape of lotus bud, see Kerschner and Schlotzhauer 2005:52, figs. 48, 50, 52; Schlotzhauer 2007:272–73, fig. 2, pl. 37.3; Käufler 2006:263, 273–75, pl. 26 nos. 550–51, pl. 27 nos. 616–22, pl. 29 no. 635.

A80/97.50.48.L453.B6.(71)

From pre-604 quarry fill.



**North Ionian or Aiolian oinochoai.** Small quantities of sherds from several different decorative traditions may be attributed to the North Ionian/Aiolian region. The exact provenance of the different styles of Aiolian pottery has been much debated. Kerchner (2006) sums up the discussion and the most recent archaeological contributions. His Neutron Activation Analysis (NAA) work with H. Mommsen (Mommsen and Kerschner 2006; Kerschner 2006) has done much to differentiate some of the main classes of decorated wares from this region.

*North Ionian/Aiolian(?) “Wild Goat” oinochoai with thick white slip (nos. 411–12).* Two oinochoe body sherds (nos. **411**, **412**) with white slip and dark linear decoration possibly came from North Ionian or Aiolian vessels. (A sherd of an open vessel with a female or sphinx head, possibly from a dinos or krater, and similar in surface treatment and style to these two sherds, was found in a Persian-period fill and is included below with the kraters as no. **440**.) No. **411** comes from 604 B.C. destruction debris and no. **412** from the pre-604 quarry fill in Grid 50. These sherds are characterized by fine, light reddish-yellow to reddish-yellow clay (5YR 6/4, 7.5YR 6/4) with fine mi-

aceous inclusions. Both are covered with thick white slip (2.5Y 8/2) and decorated with glossy dark brown to black paint.

Because of the white slip, these sherds were originally attributed to Chios, where pottery decorated with dark patterns on a white slip is common (Stager 1996a:69\*, fig. 10 lower r.). It is difficult, however, to find good parallels in the Chian corpus (see, e.g., Lemos 1991). Kerschner (2006:117) classifies the two sherds shown in Stager (1996a:60\* fig. 10 lower r.) as stylistically related to “dinoi of the London Dinos Group,” which he places in his Provenance Group G/g and localizes “in the border region between Aiolis and North Ionia” (p. 113), more specifically at Kyme and/or Larisa (see also Kerschner 2006:122, figs. 2–6 for “London Dinos Group” sherds with white slip, and Mommsen and Kerschner 2006 for NAA). İren (2002:185–6, 199 no. 8, fig. 10a) takes both sherds shown in Stager’s illustration (our nos. **412** and **440**) as coming from a dinos. While no. **440** is from an open vessel that could be a dinos, nos. **411** and **412** are from closed vessels, most likely oinochoai. It cannot be told whether or not they are from the same vessel.

**411** North Ionian/Aiolian(?) “Wild Goat” oinochoe. Body sherd. PH 2.9; PW 2.3; Th 0.5.

Fine, light reddish-brown clay (5YR 6/4) with fine micaceous inclusions and some small voids. Int.: plain. Ext.: thick white slip (2.5Y 8/2) with glossy dark brown to black paint. Remains of two registers separated by two parallel horizontal lines. Upper: (?) corner of a filling ornament rising from ground line. Lower: (?) pendent square surrounding a dot; to r. part of a tail?

A72/92.50.58.L274.B353.(1)

From 604 destruction debris under Layer 262 in South Street.



**412** North Ionian/Aiolian(?) “Wild Goat” oinochoe. Body sherd. PH 3.6; PW 5.5; Th 0.6.

Fine, reddish-yellow (7.5YR 6/6) clay with fine micaceous inclusions. Int.: plain. Ext.: thick white (5Y 8/2) slip with glossy black paint. To l.: chest and forelegs of stylized sphinx walking r. Dotted scale pattern on chest; legs done in outline with black infill. Between legs and to r. of body: filling ornaments.

A73/93.50.48.L405.FG24.B27.(2)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.6.5; Stager 1996a:67\*, fig. 10 bottom second from r.; Stager 1996b:60 bottom center.



Scale 1:1

**Aiolian black polychrome (schwarzbunte) oinochoai (nos. 413–18).** Seven sherds of black polychrome oinochoai were found in Grid 50. No. **417** came from a 604 B.C. deposit and the rest from the pre-604 quarry fill. The surface of two of these Ashkelon pieces (nos. **413**, **414**) is painted a dark brownish black and decorated with series of tongues formed by coarse incision and adorned with added red and white/cream paint. Below the tongues are horizontal lines in added w-r-w.

Probably related to nos. **413** and **414** are three fragments of oinochoai or olpai painted solid black and decorated with horizontal lines in added w-r-w, but lacking the incised tongues (nos. **415**, **416**, and uncatalogued body sherd [4095]). Two oinochoe feet (nos. **418**, **417**) are also painted black and probably relate to the decorated sherds. No. **415**, the best preserved of these, was analyzed petrographically and placed in Master’s Category 13, relating it generally to the “Samo-Milesian” pottery discussed here, including the Milesian “Wild Goat.” According to Schlotzhauer (pers. comm. May 2003), however, the type is rare at Miletos. Master also performed petrographic analysis on no. **413** and, according to his preliminary interpretation, it seems to fit in with other East Greek micaceous material from Ashkelon (Master, pers. comm. 2001).

Pottery with similar decoration is found at a number of sites in the eastern Mediterranean and Black Sea regions and is currently known as Black Polychrome Ware (e.g., Kerschner 2006:112) or “schwarzbunte” ware (Posamentir 2006:159; Posamentir and Solovyov 2006:107, fig. 3). Kerschner has done

NAA analysis on examples found at Naukratis in the Egyptian Delta and at Berezan on the Black Sea and assigns them to Aiolis, Provenance Group G (see Kerschner 2006:112, 123 fig. 9 from Naukratis; Posamentir 2006:167 n. 7 from Berezan). The examples from Berezan pictured in Posamentir 2006:fig. 1 all have incised tongues with added color on the shoulder above w-r-w lines similar to no. **413**; nos. **415**, **416**, and [4095] have only the horizontal lines preserved. As noted above, Kerschner now thinks that Provenance Group G was most likely produced in Kyme or possibly Larisa.

In the eastern Mediterranean, examples similar to the ones from Ashkelon have been found at Amathus on Cyprus (Thalman 1977:79–80 nos. 158–61, pl. 15.5–9) and Emporio on Chios (Boardman 1967:150, pl. 52 no. 624), as well as at Naukratis (Venit 1988:48–49, pl. 40; Möller 2000:256–57). In these publications they are classed as “Vroulian,” so-called because the style was first identified at the site of Vroulia on Rhodes (Kinch 1914:168–94). At Vroulia, cups are the primary form, though other shapes are known, and recent scientific analyses have ascribed the cups to a Rhodian origin (Jones 1986:670). R. M. Cook rejects the Vroulian attribution of the Amathus oinochoai because of the presence of added white in the decoration (Cook and Dupont 1998:114–15, 204 n. 3). Three complete oinochoai from a single tomb at Vroulia, illustrated in color by Kinch, however, all have added white (Kinch 1914:51–52, nos. 5–7; 191, pl. 11.1–3), and one (Kinch 1914:51 no. 6, pl. 11.2) has a pattern of horizontal w-r-w bands below the shoulder zone similar to one of the Ashkelon sherds.

Price noted that “[t]he technique of these would seem to be an Eastern Greek imitation of the Proto-Corinthian or Corinthian ware of the same style,” (Price 1924:188–89, and cf. Kerschner 2006:112 with references), an opinion with which I would concur. Kerschner’s recent attribution of examples of this ware to Aiolis, Provenance Group G (Kerschner 2006:112, 123 fig. 9), leaves open the question of whether all such oinochoai are Aiolian in origin or whether some, at least, hail from Rhodes.

In his discussion of Greek pottery from Al Mina, Robertson mentions “black, round-mouthed jugs with

red and white bands, of which numbers were also found at Al Mina” and which were associated with finds of black Ionian cups (Robertson 1940:13). Robertson cites a single whole example published (but not discussed) by Woolley (1938:pl. 13 MN203). The type is possibly related to the Ashkelon fragments. Similar examples were found at Meşad Hşavyahu (Fantalkin 2001:89, fig. 32.1 with references to others from mainland and East Greek sites; Waldbaum in press:pl. 14.3.6.1) and one comes from Kabri (Niemeier and Niemeier 2002:233, fig. 5.94:5, 5.93:8 who cite unpublished examples from Miletos).

*Shoulders:*

- 413** Aiolian black polychrome oinochoe. Shoulder. SJSh. H 4.15; W 9.2; Th 0.4.

Four joining sherds from the shoulder of a small closed jug: olpe or oinochoe. Medium fine, pink (7.5YR 7/4) clay with some micaceous inclusions. Ext.: two registers divided by three horizontal lines of added cream-added r-added cream. Upper register: tongue pattern outlined by coarse incision; alternating colors of black, added cream, black, added cream, added p, black, added cream, black. “Cream” is reddish yellow (5YR 7/6); “purple” is weak red (10R 4/2). Cream and purple are added over lustrous black ground. Lower register: somewhat streaky, lustrous black. Petrographic analysis: D. Master, pers. comm. 2001.

A78/95.50.48.L452.(88a)

From pre-604 quarry fill.

*Previous publication:*

Waldbaum in press:

pl. 14.3.6.4.



Scale 2:5

- 414** Aiolian black polychrome oinochoe. Shoulder sherd. H 5.65; W 4.0; Th 0.6.

Medium fine, pink (7.5YR 7/4) clay with gray core and micaceous inclusions. Ext.: two registers divided by four horizontal lines of added w-r-w-r. Upper register: remains of two tongues outlined by coarse incision: one black, one added p. Lower register: streaky black misfired to reddish brown. Tongues are larger and wider than in no. 413. Petrographic analysis: D. Master, pers. comm. 2001.

A78/95.50.48.L452.(88b) (Same reg. no. as 413, with which it was found, but probably not from the same vessel.)

From pre-604 quarry fill.

*Previous publication:*

Waldbaum in press:pl. 14.3.6.4.



Scale 2:5

- 415** Aiolian black polychrome oinochoe. Remains of trefoil rim where it joins handle, whole double-coil handle, reverse-conical neck, and shoulder. H handle 9.8; W handle 3.0; Th one coil 1.5; Th wall 0.6.

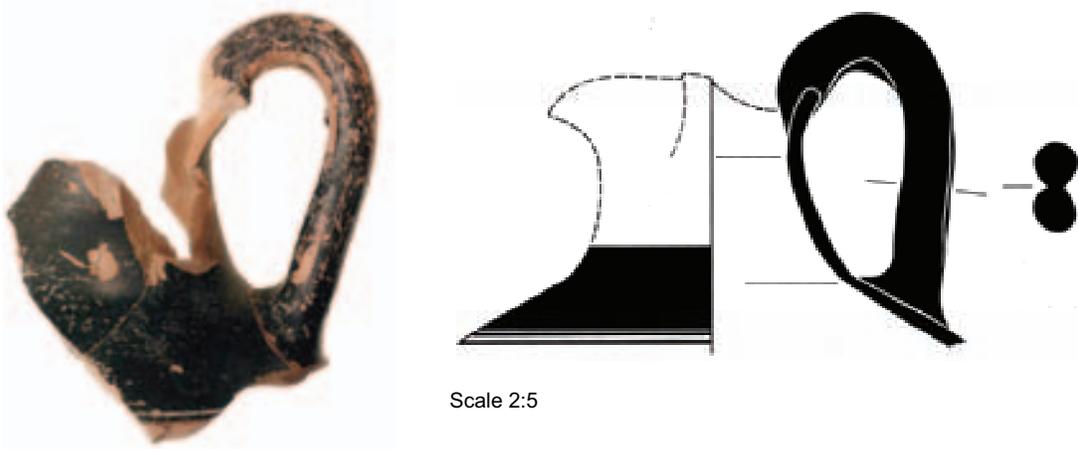
Pink clay (5YR 7/4) with light gray core (7.5YR N7/), fine micaceous inclusions, small to large white (lime) grits, some erupting to surface, some small to medium black grits and some voids. Narrow wheel ridges on int. Int.: entirely reserved, including inner neck and rim. Ext.: covered all over with lustrous black paint. At broken edge of shoulder and at base of handle: two added lines, one white, one red (dusky red 10R 3/4); probably once another white line below break. Petrographic analysis: Sample C9, Category 13, Samo-Milesian? (Master 2001:86, 138–41).

A89/96.50.49.L451.B20+25+101.(3)

From pre-604 quarry fill.



415

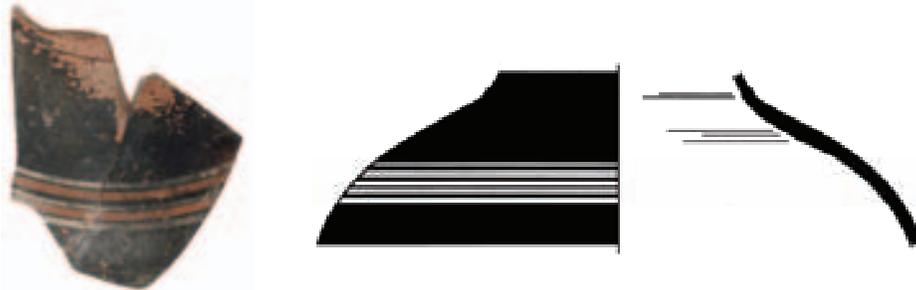


416 Aiolian black polychrome oinochoe. Shoulder. 2JSh. PH 8.5; PW 7.8; Th 0.5.

Medium fine, light brown (7.5YR 5/4) clay with many fine micaceous inclusions and small to medium white grits, some erupting to surface. Low, narrow wheel ridges on int. Ext.: low, narrow ridge at base of neck. Surface: solid, lustrous black paint, worn on upper shoulder and base of neck. On shoulder: pattern of added w and r horizontal lines (w-r-w-r-w). Red is reddish brown (2.5YR 5/4). Similar to but not same as no. 415.

A80/97.50.58.L396.(6)

From pre-604 quarry fill.



Scale 2:5

**Uncatalogued Aiolian black polychrome oinochoe shoulder sherd with w-r-w-r stripes (qty. 1):**

[4095] A78/95.50.48.L452 not registered; from pre-604 quarry fill.

*Bases:*

417 Aiolian black polychrome oinochoe? Base sherd. ED 9.5; PH 2.9; Th wall 0.3; W foot 0.8.

Medium fine, reddish-yellow (7.5YR 6/6) clay with many fine micaceous inclusions, occasional small white grits, some small voids. Low ring foot with beveled outer edge, slight shallow groove along top; slightly rounded underside. Ext.: wall and top of foot covered with solid but very worn lustrous black paint. Underside and resting surface reserved.

A72/92.50.58.L274.B316.(6)

From 604 destruction debris under Layer 262 in South Street.



Scale 2:5

**418** Aiolian black polychrome oinochoe? Base sherd. ED 9.5; PH 2.6; Th wall 0.3.

Micaceous, light brown clay (7.5YR 6/4) with occasional small to medium white grits; some voids. Wheel ridges on int. Wall quite thin for this kind of vessel. Low ring foot with rounded resting surface. Underside and resting surface reserved. Ext. wall and top of foot streaky black.

A78/95.50.48.L452.(180)

From pre-604 quarry fill.



Scale 2:5

**Oinochoe with human figure decoration (no. 419).**

A sherd decorated with part of a scene including a helmeted warrior and horse was found in the pre-604 quarry fill in Grid 50. A joining sherd with a bit more of the scene (but unfortunately no additional figures) was found in 1990 in a Persian-period fill in Grid 50 and the two have now been joined under the same catalogue number. The fragment is similar in fabric and color to the SiA Ic-d ware discussed above but the presence of the warrior and horse suggest a different tradition, and the ornament between registers, instead of a simple line or band, as well as the filling ornaments (pendent hook, scalloped half-roundel, dot rosette), are similar to those illustrated by Käufler 2006:pls. 69–71 for MileA IIa (see esp. pl. 69.1, four-cornered rosette; pl. 71.8, open guilloche; pl. 71.4, “Stiel-Punkt-Rosette”).

The closest parallel, so far, in subject (but not in style) comes from a cemetery at Bayraklı (Old Smyrna) where a large krater with a lion-hunt scene, including armed and helmeted warriors with a shield decorated with a horse protome, is dated to the late seventh or early sixth century B.C. and is attributed to a local, North Ionian, painter (Akurgal 1999:51, pl. 1, fig. 2; I owe this reference to the kindness of Dr. Michael Kerschner). Human figures are found in Chian decorated pottery, and some of the filling ornaments can be paralleled there, but Lemos places most examples in the sixth century (see, e.g., Lemos 1991:79, 92, fig. 48 [fillers]; 95–97 fig. 51, pl. 92.700–4 [humans]) and the style is not the same. An amphora or jug with male figure striding left was found at Miletos but it is not similar (von Graeve 1973–74:102, pl. 26 no. 83).

**419** Oinochoe with human figure decoration. Body sherds. 2JSh. H 7.7; W 12.2; Th 0.7.

Medium fine, pink (7.5YR 7/4) clay with many fine micaceous inclusions, some small to large white and dark grits, some small voids. Int.: faint wheel ridges. Ext. surface: very pale brown (10YR 7/3) to pale yellow slip (2.5YR 7/4), burnished; yellowish-red (5YR 5/6) paint streaking to black; added r (10R 4/4) mostly worn off. Remains of two registers: upper: forehooves of horse to l.; rear leg of another horse to r., filling ornaments between and under horses' legs. Between registers are two horizontal lines separated by simple guilloche pattern; pendent from lower line a hook (to l.) and half-roundel to r. Lower register: head of a warrior in crested helmet to l., upraised hand to l. holds spear pointing r. Diagonal line from upper l. to back of neck, another almost crossing it and spear (two additional spears?). Lower part of body covered by round shield facing out; quiver with arrows suspended from it. Reserved O (=part of an inscription?) on upper l. corner of shield; worn added r border around rim of shield. To r. several filling ornaments.

A80/97.50.48.L453.B17.(59) + A40/90.50.49.L280.B334.(1)

From pre-604 quarry fill (50.48.L453) and Persian-period fill (50.49.L280).

(Photograph and drawing on facing page.)



Scale 1:1

**Chian jug or oinochoe (no. 420).** The base of a jug or oinochoe covered with a thin, washy pale-brown-to-gray slip is attributed to Chios. The base is somewhat coarse and similar to a number of the other oinochoe bases found at Ashkelon, although its slip is somewhat lighter and the paint across the foot is redder. It was found with a Chian amphora rim (no. 519) and several Chian amphora body sherds.

**420** Chian jug or oinochoe. Base sherd. ED foot 13.5; H 2.6; W foot 1.45; Th floor 0.7.

Medium, light reddish-brown (5YR 6/4) clay with many fine micaceous inclusions. Low, spreading ring foot with flat resting surface. Over outer wall, underside, and resting surface: thin, washy, very pale brown to light gray slip (10YR 7/3–2). Lustrous, reddish-brown (2.5YR 5/4) paint across lower wall and top of foot, slopping over to underside in places. Found with Chian amphora rim (no. 519) and Chian amphora body sherds.

A55/94.50.48.L439.B42.(3)

From pre-604 quarry fill.



Scale 2:5

**Other decorated oinochoai (nos. 421–25).** What follows are decorated pieces whose fabric I could not readily identify. In a few cases, fairly large sections of the vessels are preserved, but they seem different from the wares discussed above in essential details and it seemed best to separate them. These pieces

include miscellaneous base, handle, and body sherds. It is entirely possible that some or all of the miscellaneous pieces belong to the Milesian “Wild Goat” vessels discussed above. Since not enough of their distinguishing decoration was preserved to allow classification, however, I include them here.

**421** Decorated oinochoe. Shoulder sherd? Near join to neck? PH 2.7; PW 3.5; Th 0.5.

Micaceous. Sherd from small apparently straight-walled vessel. Ext.: two horizontal reddish-brown bands on very pale brown slip. Int.: reserved and rough.

A72/92.50.58.L262.FG11.B205.(10)

From 604 destruction debris on floor in Building 234 Room 227.

(No photograph.)



Scale 2:5

**422** Decorated oinochoe. Neck sherd. PH 5.7; Th 0.5.

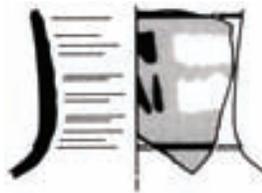
Medium fine, micaceous, pink (7.5YR 7/4) clay with some small and at least one large white crystalline inclusion. Pronounced wheel ridges on int. Red to dark red slip (2.5YR 4–3/6) over whole surface except for panel of very pale brown (10YR 7/3) toward what had been the front. Red wavy line outlined in black (as is panel) across center of panel, straight red line near bottom. To r. over red is a pattern of drops or petal-like strokes in dark brown with highlights of strong brown (7.5YR 5/6). Thin ridge at join to rim; inset at join to shoulder.

A55/94.50.48.L444.B13.(20)

From pre-604 quarry fill.



Scale 2:5



**423** Decorated oinochoe. Shoulder sherd. H 4.6; W 4.3; Th 0.8.

Medium, micaceous, light brown clay (7.5YR 6/4) with small to medium white (lime), crystalline and black grits, some voids. Wheel ridges on int. Ext.: very pale brown slip (10YR 7/4) with alternating black and added weak red (10R 4/2) paint. Sherd thickens toward the top. Three preserved palmette petals and remains of a fourth to l.

A78/95.50.48.L452.B63.(113)

From pre-604 quarry fill.



Scale 2:5



**424** Decorated oinochoe. Shoulder sherd. PH 6.8; PW 6.2; Th 0.65.

Medium, reddish-brown (5YR 5/4) clay with many fine micaceous inclusions; small to large white and black grits; some small to large voids. Wheel ridges on int. Narrow ridge at base of neck. Surface: reserved with lustrous dark reddish-brown (5YR 3/3) paint in pattern on shoulder.

A78/95.50.48.L453.(35)

From pre-604 quarry fill.

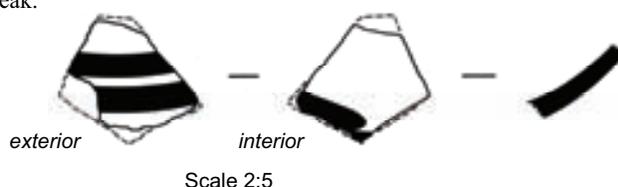
**425** Decorated oinochoe? Shoulder sherd? Or lower body? PH 4.1; PW 4.8; Th 0.6.

Mildly micaceous. Oinochoe? Not an open form. Unslipped. Ext.: two very dark brown bands. Int.: patch of dark paint and part of another near lower break.

A78/95.50.48.L453.(22)

From pre-604 quarry fill.

(No photograph.)

**Uncatalogued decorated oinochoe body sherds from 604 use phase or destruction debris (qty. 19):**

- [4115] A5/86.38.64.L61.B67+69 not registered; from 604 destruction debris on floor Feature 67 in Building 776.
- [4116] A72/92.38.64.LF776.B85 not registered; from 604 use phase (Building 776 Room 796 beaten earth floor).
- [4142] A61/91.38.74.LF429.FG84+85 not reg'd; from 604 destr. debris on floor F492 in Building 776 Room 492.
- [4061] A72/92.50.48.L392.FG51.B341 not registered
- [4120] A72/92.50.48.L393.B52 not registered; from 604 use phase (Plaza).
- [4121] A72/92.50.48.L393.B352 not registered
- [4119] A72/92.50.48.L393.B396 not registered
- [4124] A73/93.50.48.LF431.B120 not registered
- [4127] A72/92.50.49.L374.B197 not registered
- [4128] A72/92.50.49.L389.B349 not registered
- [4130] A72/92.50.57.L206.FG58.B120 not registered
- [4062] A72/92.50.58.LF252 not registered
- [4134] A72/92.50.58.LF260.FG96.B178 not registered
- [4135] A72/92.50.58.L262.FG53.B179 not registered
- [4136] A72/92.50.58.L262.FG53.B104 + A72/92.50.58.L262.FG51.B221 not registered
- [4137] A72/92.50.58.L262.FG53.B118 not registered
- [4138] A72/92.50.58.L262.FG13.B158 not registered
- [4141] A72/92.50.58.L262.B3 not registered
- [4139] A72/92.50.58.L274.B322 not registered

**Uncatalogued decorated oinochoe neck and shoulder sherds from pre-604 quarry fill (qty. 10):**

- [4094] Shoulder. A78/95.50.47.L285.(7)
- [4107] Neck. A78/95.50.48.L452 not registered
- [4108] Neck. A78/95.50.48.L452 not registered
- [4114] Neck? A78/95.50.48.L452 not registered
- [?] Lower neck to shoulder. A78/95.50.48.L452 not registered
- [4079] Shoulder. A78/95.50.48.L452 not registered
- [4096] Shoulder? A78/95.50.48.L452 not registered
- [4143] Shoulder? A80/97.50.48.L453.(67a, b)
- [4131] Shoulder. A73/93.50.57.L234.B19 not registered
- [4075] Shoulder and upper body. A80/97.50.58.L396.B111 not registered

**Uncatalogued decorated oinochoe body sherds from pre-604 quarry fill (qty. 25):**

[4118] A73/93.50.46.L100 not registered	[4091] A80/97.50.48.L462.B1 not registered
[4122] A73/93.50.48.L405.FG64.B43 not registered	[4059] A89/96.50.48.L462 not registered
[4123] A73/93.50.48.L405.FG13.B61 not registered	[4145] A89/96.50.48.L465.B19 not registered
[4126] A55/94.50.48.L439.B45 not registered	[4146] A89/96.50.49.L449.B2.(11)
[4125] 50.48.L444.B13 not registered	[4090] A89/96.50.49.L451.B192 not registered
[4129] A73/93.50.48.L444 not registered	[4058] A78/95.50.49.L451 not registered
[4073] A78/95.50.48.L452 not registered	[4148] A89/96.50.49.L451.B45 not registered
[4097] A78/95.50.48.L452 not registered	[4060] A78/95.50.57.L256 not registered
[4149] A78/95.50.48.L452 not registered	[4132] A55/94.50.57.L259.B120 not registered
[4154] A78/95.50.48.L453 not registered	[4133] A55/94.50.57.L259.B111 not registered
[4144] A78/95.50.48.L454 not registered	[4092] A78/95.50.58.LF318 not registered
[4150] A78/95.50.48.L461 not registered	[4111] A78/95.50.58.LF318 not registered
[4081] A80/97.50.48.L462.B1 not registered	

**Plain jugs (nos. 426–29).** Several sherds of unpainted closed vessels are most likely from oinochoai or jugs. They are probably South Ionian in origin, possibly from Miletos. Kalaitzoglou (2008:175–76, 403, pl. 91 nos. 456–61) published a group of “grooved

jugs” (“Riefelkannen”) from Assesos similar to these and cites parallels from Miletos as well. Vessels similar to nos. 427 and 429 are found at Miletos and Ephesos among the unpainted wares (Kerschner, pers. comm. May 2003).

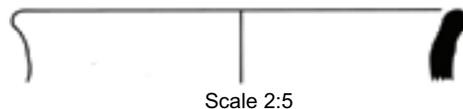
**426** Plain jug. Rim sherd. ED rim 14; PW rim 4.5; PH 2.4; Th rim 0.8; Th wall 0.8.

Medium, strong brown clay (7.5YR 4/6) with many fine micaceous inclusions; occasional small to medium white grits. Rounded rim, slightly everted, curving directly into wall below.

A73/93.50.49.L389.B16.(5)

From 604 use phase (East Street build-up).

(No photograph.)



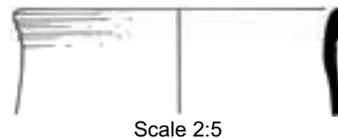
**427** Plain jug. Rim sherds. 2JSh. ED rim 10.5; Th rim 0.5; Th wall 0.4.

Medium fine, very dark gray (burnt?) clay (10YR 3/1). Many fine micaceous inclusions, occasional small to medium white and crystalline grits, some voids. Rounded, thickened rim, tilted outward, then curving into wall. Two horizontal ridges below rim. Cf. Kalaitzoglou 2008:403, pl. 91 nos. 459–60.

A72/92.50.49.L373.B185.(5)

From 604 use phase (sandy fill in Building 406 Room 373).

(No photograph.)



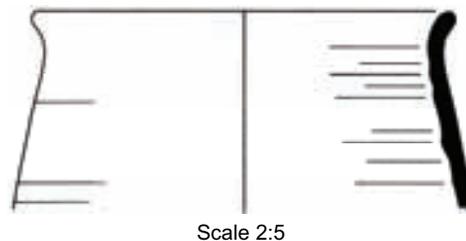
**428** Plain jug. Rim sherd. PH 6.7; ED rim 14; PW rim 2.7; Th rim 0.7; Th wall 0.5.

Medium, strong brown clay (7.5YR 4/6). Many fine micaceous inclusions, occasional small white grits. Clay cracking. Strong wheel ridges on int. Rounded rim (not trefoil) tilted outward and curving directly into upper wall or neck. Reserved int. and ext. Does not look like an amphora or cooking pot. Cf. Kalaitzoglou 2008:403, pl. 91 no. 462.

A78/95.50.58.LF318.(42)

From pre-604 quarry fill.

(No photograph.)



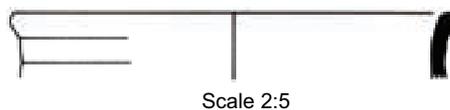
**429** Plain jug. Rim sherds. 2NJSh. ED rim 14.5; PH 3.4; Th rim 0.6; Th wall 0.4.

Medium fine, strong brown clay (7.5YR 5/6) with many fine micaceous inclusions, occasional small to large white grits. Thickened, rounded rim, tilted outward and curving into wall below. Wheel ridges on int.

A73/93.50.57.L240.B62.(18)

From pre-604 quarry fill.

(No photograph.)



**Uncatalogued plain jug rim sherd from pre-604 quarry fill** (qty. 1):

[4042] A78/95.50.48.L461.(19)

**Uncatalogued plain jug body sherds from 604 use phase or destruction debris** (qty. 2):

[4117] A73/93.38.64.LF801.FG78.B43 not registered

[4140] A72/92.50.58.L262.B2 not registered

**Uncatalogued plain jug body sherd from pre-604 quarry fill** (qty. 1):

[4147] A89/96.50.49.L451 not registered

## SMALL OLPAI OR FLAT-BASED JUGS (nos. 430–36)

Seventeen fragments of small, flat-based jugs or olpai were found at Ashkelon. They are probably South Ionian in origin, and possibly from Miletos. All but one body sherd came from the pre-604 quarry fill in Grid 50. There are one rim, five bases, and one handle; the rest are body sherds. Clays are fine to medium in texture and range from very pale brown (10YR 8/3–8/4) to strong brown (7.5YR 5/6) to pink (7.5YR 7/4) to yellowish red (5YR 5/6). All contained some mica and most had small to medium or large white grits as well. The bases are all flat; the wall above flares slightly upward. Only one rim fragment with a small part of the rim offset from a convex body (no. **430**), and only one small, plain handle (no. **436**) were preserved. The rest are uncatalogued convex body sherds. Decoration consists of simple horizontal bands on either a slipped or an unslipped surface. D. Master did petrographic analysis on two samples (nos. **433**, **434**) and preliminarily groups them with the East Greek micaceous material (Master, pers. comm. 2001).

Small flat-based jugs, or olpai, as they have been called, are a common form in the East Greek repertoire, but they are not common in the Levant. In the eastern Aegean, similar jugs have been found at Assesos, where at least one complete example and many fragments were found in the 608 B.C. destruction (see Kalaitzoglou 2008:178–84, 404–6, pls. 93–94 nos. 467–91 “kleine Olpen” Type 1, with discussion of the origins and distribution of the type). Others are

known at Emporio on Chios beginning in the late seventh century B.C. (Boardman 1967:144–45, pl. 51 nos. 592–96); at Samos where they are very numerous and dated late seventh and sixth centuries (Isler 1978a:162, pl. 72, Beilage 22 nos. 631, 632; Furtwängler 1980:174–76, 204, 206, 210, 215–16, 222, pls. 46, 49, 52, 57, figs. 14, 17, 19, 23); and at Vroulia (Kinch 1914:154, pl. 26.14, 18a). A few were found at Istros/Histria on the Black Sea (Alexandrescu 1978:102–3 nos. 670–73, pl. 71 [olpes]; Lambriño 1938:168–69, figs. 116–17).

In North Africa they are known at Tocra, where they are found in deposits of the late seventh and early sixth centuries (Hayes 1966:66–67, 70, pl. 49 nos. 848–52; Hayes 1973:19 nos. 1993–94, 33, pl. 18 nos. 2074–75), and at Cyrene (Schaus 1985:53, pl. 17 esp. 282 and references to examples in the west and Black Sea area).

In Syria, only two such jugs are reported from Tall Sūkās, where they are thought to be Chian and late seventh century (Ploug 1973:70–71, pl. 16 nos. 320–21). Several examples, unpublished, come from Al Mina (Lehmann 1996:pl. 95 G25/3 Stratum 7 and G25/4 Stratum 6). To my knowledge, none has been reported from Ras el-Bassit and I know of none from Cyprus. Kalaitzoglou (2008:183 n. 816) identifies one from Meşad Ḥashavyahu, called a “Votive Ionian Cup” by Fantalkin (2001:79 Type VIC, 81 fig. 29:3). As far as I know, this example is the only one identified in Palestine outside of Ashkelon.

**430** Small olpe. Rim/body sherd? PH 4.4; PW 2.4; PW rim 1.9; Th 0.25; Th 0.4; (fragment of rim is too small to measure diameter).

Medium fine, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions, occasional small to medium white grits, some erupting to surface. No decoration on int. Short everted “rim,” thicker than wall, abraded on upper edge. No real neck. Body strongly convex. Red band across lower rim and upper body (2.5YR 4/6). Dark red stripe (2.5YR 3/6) on lower body.

A78/95.50.48.L452.(144)

From pre-604 quarry fill.

(No drawing.)



Scale 2:5

**431** Small olpe. Base sherd. D base 3.6; PH 3.6; Th 0.3.

Micaceous, yellowish-red clay (5YR 3/6) with small to medium white grits, some erupting to surface. Flat base; convex lower wall. Strong wheel ridges on int. Pale brown slip (10YR 6/3); at broken edge of wall, remains of a worn, horizontal, very dark grayish-brown line (10YR 3/2). Some cracking on underside and lower wall.

A89/96.50.49.L451.B116.(12)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.6.6.



Scale 2:5

**432** Small olpe. Base sherd. D base 3.6; PH 2.3; Th 0.4.

Fine, very pale brown clay (10YR 8/4) with fine micaceous inclusions, occasional small white grits, some cracking on underside. Prominent wheel ridges on int. Flat base, convex lower wall. Very pale brown slip (10YR 7/4); at top edge/break a band of dark brown (7.5YR 3/2) streaking to strong brown (7.5YR 5/6). There is a trace of this at the edge of the base and underside (accidental?).

A89/96.50.49.L451.B122.(13)

From pre-604 quarry fill.



Scale 2:5

**433** Small olpe. Base sherd. D base 4.4; PH 2.5; Th wall 0.5.

Fine, micaceous, very pale brown clay (10YR 8/3) with small white grits. Flat base, convex wall with some shallow grooves (from turning?). Strong wheel ridges on int. and a yellow residue (10YR 8/6). Ext.: unslipped. Remains of a painted band in worn dark brown (10YR 3/3) paint. Petrographic analysis: D. Master, pers. comm. 2001.

A78/95.50.48.L452.(121)

From pre-604 quarry fill.



Scale 2:5

**434** Small olpe. Base sherd. ED base 4.0; PH 2.5; Th wall 0.5.

Fine, micaceous pink clay (7.5YR 7/4) with small white grits. Flat base, thin floor, convex wall; strong wheel ridges on int. Ext.: unslipped. Faded grayish-brown (10YR 5/2) band across edge (at break). Petrographic analysis: D. Master, pers. comm. 2001.

A78/95.50.48.L452.(122)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.6.7



Scale 2:5

**435** Small olpe. Base sherd. ED base 4.0; PH 4.0; Th wall 0.3.

Medium fine, strong brown clay (7.5YR 5/6) with many fine micaceous inclusions and occasional small to large white grits; some voids. Flat base, strong wheel ridges on int.; convex wall flares outward as it ascends, thickens as it descends. Worn yellowish-red band (5YR 5/6) preserved above base.

A89/96.50.49.L453.(34)

From pre-604 quarry fill.



Scale 2:5

**436** Small olpe. Handle sherd. H 4.9; W 1.3; Th 0.8.

Flattened single-coil vertical handle with splayed shoulder and rim attachment. Break along inner side. Micaceous light brown clay (7.5YR 6/4) with small to medium black and white (lime) grits. Surface unslipped; red paint (weak red 10R 4/2) on rim join. Cf. Kalaitzoglou 2008:178, 404, 407, pl. 93 no. 468, pl. 95 nos. 502-4.

A78/95.50.48.L452.(92)

From pre-604 quarry fill.



Scale 2:5

**Uncatalogued small olpe body sherd from 604 use phase or destruction debris (qty. 1):**

[4036] A72/92.50.58.L262.FG13.B220 not registered

**Uncatalogued small olpe body sherds from pre-604 quarry fill (qty. 9):**

[4032] A78/95.50.48.L452 not registered

[4031] A78/95.50.57.L256 not registered

[4034] A78/95.50.48.L452 not registered

[4037] A78/95.50.57.L256 not registered

[4029] A78/95.50.48.L453 not registered

[4028] A78/95.50.58.LF318 not registered

[4035] A87/96.50.49.L451.B34 not registered

[4030] A78/95.50.58.LF318 not registered

[4033] A80/97.50.49.L453.B4.(23)

**D. EAST GREEK COARSE WARE: OPEN FORMS (nos. 437–95)****MIXING VESSELS (nos. 437–40)**

Two rim fragments of large open-mouthed vessels (nos. **437**, **438**), probably kraters or mixing vessels, were found in the pre-604 quarry fill in Grid 50. Fabric, shape of rim, and decoration differ. Neither was analyzed and we cannot restore the full shape or decorative scheme of either, so it is difficult to determine whether these came from the same region or different ones. Kalaitzoglou (2008:185–205, 408–13, pls. 96–112 nos. 509–38) published a series of mastoid and neck kraters from the 608 B.C. destruction level at Assesos that are perhaps similar to these, though rim profiles differ, raising the possibility that these, like so many other shapes found at Ashkelon, were also products of the South Ionian region in or near Miletos.

In general, nos. **437** and **438** both belong to what R. M. Cook calls “banded and plain wares” (Cook and Dupont 1998:132); what G. M. A. Hanfmann calls “Waveline Ware,” of which “red-glazed kraters” are a subset (Hanfmann 1956:182; 1963:316–20, 324–25, pls. 105–8); and what G. Ploug calls “East Greek wares with wave/band decoration” (Ploug 1973:23–27), although these are widely distributed and not well defined. A kiln with remains of wave-

line ware and local vessels was found in a Period 6 (ca. 650–575) context at Kinet Höyük, showing that at least some examples of this ware are local to North Syria. That site lies on the Gulf of Iskenderun between Al Mina and Tarsus (Hodos 2000:148).

A few examples of the general type have been found at Tall Sūkās (Ploug 1973:25–26, 27.95, fig. a, pl. 4) and a few have been found at Meşad Hashav-yahu (Naveh 1962a:106 fig. 7.14, 16; Fantalkin 2001:82–84) and Yavneh-Yam (Fantalkin forthcoming a, figs. 3.4, 4.4), but these are not close parallels, and at least one of the types identified by Fantalkin appeared on petrographic analysis to stem from Cyprus (Fantalkin 2001:83, Type eg K4).

Two additional fragments, probably from kraters, or perhaps dinoi, came from post-604 Persian-period contexts: no. **439** is part of a flat rim, possibly from a dinos or lebes (relative of the krater but with rounded bottom); and no. **440** is a body fragment, possibly of a krater or dinos, coming from the Aiolian or North Ionian region and related to oinochoai nos. **411** and **412** above. (For East Greek dinoi or lebetes from Assesos, see Kalaitzoglou 2008: 206–8, 414–15, pls. 114–18 nos. 543–48.)

**437** Krater. Rim sherd. ED rim 30.0; PH 5.8; Th rim 1.4; Th wall 0.8.

Medium, very micaceous, fairly soft, pale brown clay (10YR 6/3) darkening to light reddish brown (5YR 6/4) near inner surface. Small to medium black and white grits and some voids. Fairly steep-walled vessel with outturned rim sloping back into neck. Low ridge on ext. of rim at join with neck. Outer edge of rim flattened. Horizontal banding on ext. and int., rays on rim. Int. and ext. surfaces slipped light gray (10YR 7/2) with dark brown (7.5YR 3/4) on outer rim, reddish brown (2.5YR 4/4) on int. at base of rim. Red rays (2.5YR 5/8) on rim and very dark gray on ext. below rim.

A78/95.50.48.L452.B88.(21)

From pre-604 quarry fill.



exterior



Scale 1:4



interior

- 438 Krater. Rim sherd. ED rim 20.5; Th rim 1.3; H rim 2.0; PH 4.0; Th wall 0.55.

Medium fine, hard reddish-brown clay (5YR 4/4); fine, sparse micaceous inclusions and occasional small to medium white grits. Thickened rim, angled outward then sloping back into flaring neck. Wheel ridges on int. Int.: light brownish-gray slip (10YR 6/2). Ext.: pale brown slip (10YR 6/3). Across outer rim, top of rim, and just inside rim is a broad band of dark reddish-brown paint (5YR 3/4).

A89/96.50.49.L453.(36)

From pre-604 quarry fill.



Scale 1:4

- 439 Krater. Rim sherd. ED rim 17.0; PH 3.6; W rim 2.2; Th wall 0.8.

Medium coarse, light yellowish-brown (10YR 6/4) clay with white and black inclusions. Broad rim bent out from short neck forming overhang. Pale yellow (2.5Y 7/4) slip overall. Dark gray (7.5YR N4/) paint on ext. rim and upper body; dark reddish gray (5YR 4/2) on int. rim and neck. Possible linear pattern on top of rim obscured by dirt incrustation.

A40/90.50.49.L306.B342.(1)

From post-604 Persian-period courtyard fill.

(No drawing.)



Scale 2:5

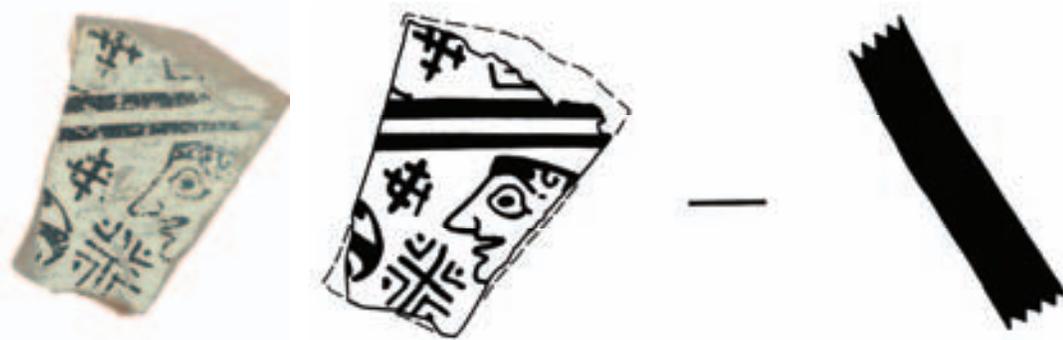
- 440 Aiolian/North Ionian krater. Body sherd. H 4.3; W 3.6; Th 0.9.

Medium fine, well-levigated, reddish-brown clay (5YR 5/4) with fine micaceous inclusions and some voids. Thick, fairly straight-walled form. Int.: chalky white slip (5Y 8/2), thinly applied, dull, and worn. Remains of a thin black line across lower edge. Ext.: chalky white slip (5Y 8/1) with glossy black paint. Remains of two registers divided by two parallel horizontal lines. Upper: only partial filling ornaments preserved. Lower: to r. female head (sphinx, siren?) facing l. Flat, low-domed skull, prominent nose and chin, large frontal eye with dot for pupil, all done in outline. To l. of head three filling ornaments. Similar in fabric and style to oinochoai nos. 411 and 412. Kerschner (2006:117) cites this piece along with no. 412 as “stylistically related vessels of uncertain shape”; cf. Kerschner 2006:112, 122, figs. 2–8 (London Dinos Group; Aiolian Provenance Group G/g). İren (2002:185–6, 199 no. 8, fig. 10a) says they likely belong to the workshop of the London Dinos Group or its circle.

A72/92.50.47.L175.B406.(1)

From post-604 Persian-period fill.

*Previous publication:* Waldbaum in press:pl. 14.4.4.3; Stager 1996a: 67\*, fig. 10 lower r.; 1996b:60 bottom center.



Scale 1:1

#### COOKING AND FOOD PREPARATION VESSELS (nos. 441–95)

A total of 185 imported Greek cooking pot fragments were found (54 catalogued and 131 uncatalogued), of which 53 came from the 604 B.C. use phase or destruction debris (one in Grid 38 and the rest in Grid

50), 131 came from the pre-604 quarry fill in Grid 50, and one from a post-604 context in Grid 50. In addition, an imported Greek mortarium fragment (no. 495) was found in the pre-604 quarry fill in Grid 50.

**Cooking pots (nos. 441–94).** Most of the Greek cooking pot fragments found at Ashkelon are of the same general type: the chytra, or one-handed pot (see Waldbaum 2002a). No complete vessels were found but there are enough rims and handles, and even some bases, to make identification certain (41 rims; 14 handles; 2 bases; 130 body fragments). Furthermore, the fabric of these vessels is so distinctive that even the body sherds can be readily recognized.

For most of the cooking pots, the fabric is coarse but light, with large chunks and flakes of light-colored mica added to the clay, as well as other inclusions. Clay colors range from reds (2.5YR 5/2, 4/6, 4/8) to reddish browns (5YR 6/4, 5/4, 5/6, 4/3, 4/4, 3/3 3/4) to reddish gray (5YR 4/2), to yellowish reds (5YR 5/6, 4/6), to browns (7.5YR 5/4, 4/4, 4/6, 10YR 2/2) to dark grayish brown and dark yellowish brown (10YR 2/2, 4/2, 4/4). The Ashkelon examples are all characterized by a sagging shape, a broad strap handle attached at lip and shoulder, everted, thickened, sometimes beveled lip, and, in the two cases where a base is preserved, a rounded bottom. Rim diameters range from about 16 to 22 cm with a few smaller ones from about 12 to 15 cm. There are some variations in profile: the majority (nos. 441–58) conform to Kalaitzoglou's Type I at Assesos (2008:279, pl. 154, nos. 688–709), corresponding also to Fantalkin's Type eg CP 1 at Meşad Ḥashavyahu (2001:84, 86, fig. 31.1), or, in the case of our nos. 464–67, the smaller version Type eg CP 1a at Meşad Ḥashavyahu (Fantalkin 2001:86, fig. 31.2). Assesos Type I has a thickened, slightly everted rim, baggy or sack-shaped body with low center of gravity and rounded bottom. Kalaitzoglou (2008:280, pl. 155 nos. 710–14) defines two subtypes: Type Ia, with a somewhat higher center of gravity than Type I; and Type Ib, with fairly thick and straight wall. These are represented by a few examples at Ashkelon (nos. 459–63 conform to Assesos Type Ia and nos. 468–71 to Type Ib). There is at least one larger example with a strongly everted rim (no. 472) that fits Fantalkin Type eg CP 2 (Fantalkin 2001:86, fig. 31.3). A couple of other variations, not recognized at Assesos or Meşad Ḥashavyahu, also appear in small quantities. No. 473 has a rolled rim; it is perhaps another variant of Type I. No. 474 has a short, carinated rim rather than a continuous curve from rim to body, and the body widens out swiftly from the rim.

In East Greece, similar cooking pots and related household materials have been found in stratified deposits and in kilns at Miletos (Aydemir 2002; 2005), in the 608 destruction at Assesos (Kalaitzoglou 2008: 278–87, 434–38, pls. 154–57, nos. 688–724), and in archaic deposits at Ephesos (Kerschner 1997:115, pl.

3.18; 155, pl. 12.91, 92). Kalaitzoglou (2008:281) proposes a Milesian, or at least, South Ionian origin for the chytra and distinguishes three main types (I, II, and III) with a couple of subvariants (pp. 279–80).<sup>59</sup>

Chytrai of very similar type and fabric were found at Tocra in North Africa, where Hayes identified them as “Cycladic?” (Hayes 1966:135–37, nos. 1412, 1413; 1973:58–61 nos. 2247–50 and cf. Kalaitzoglou 2008:281).<sup>60</sup> At Tocra, dates range from late seventh century into the sixth century B.C. Hayes distinguishes four stages of development in the form based on parallels from the Athenian Agora as well as the evidence from Tocra. Most of the Agora examples are later than ours, covering the sixth through fourth centuries (Sparkes and Talcott 1970:224–26, pl. 93), but these are descended from eighth- and seventh-century “jug-chytrai” whose shape is much closer to the Ashkelon examples, although most have flat instead of rounded bases. The rounded base, meant for setting on a ring over the fire, was apparently introduced in the late seventh century (Brann 1962:55, pl. 11.203–10).

In Israel, similar cooking pots have been found in small quantities at a number of sites. Meşad Ḥashavyahu produced an estimated 33 vessels (51 sherds divided into three types; Fantalkin 2001:84–87, fig. 31.1–4, 102, table 16). Fragments of one or two cooking pots were recovered at Tel Batash–Timnah in the Stratum II destruction debris of Area F, a primarily domestic context (Magness 2001:143). About six cooking pots came from the late Iron Age destruction debris at Tel Kabri (Niemeier 2001:15; Niemeier and Niemeier 2002:238; Waldbaum and Magness 1997:31–32), and a few more from Iron Age Level IX at Yavneh-Yam (Fantalkin 2001:133; forthcoming a, figs. 3.5–7, 4.5; Fisher 2002:51 fig. 3c). Master has compared samples from Ashkelon to samples of imported cooking pots from Meşad Ḥashavyahu and Tel Batash and found that not only are they all very similar in appearance and texture, but they are also petrographically identical, suggesting that they were all manufactured in the same place, perhaps even in the same workshop (Master 2001:167). The significance of the East Greek cooking pots found at Ashkelon is discussed above.

<sup>59</sup> The cooking pots and related materials from Miletos will be published by Ahmet Aydemir.

<sup>60</sup> Curiously, no Greek cooking pots were identified at Migdol, which Oren (1984:25, 35) identifies as a camp of Greek mercenaries analogous to Meşad Ḥashavyahu, and which Niemeier (2001:22) compares to Tel Kabri. At both Meşad Ḥashavyahu and Kabri, the presence of cooking pots is taken as a sign of Greek mercenary presence (see the discussion at the beginning of the present chapter).

*Kalaitzoglou Type I (Fantalkin Type eg CP 1) cooking pot rims from 604 use phase or destruction debris:*

- 441** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 20.0; H ca. 7.7; Th rim 1.25; Th wall 0.7.

Coarse, very micaceous, red (2.5YR 4/6) clay with small to large flakes of silver mica, small to medium white and dark grits; some small to large pits. Rounded, thickened rim, tilting outward, then curving downward into wall of vessel. Faint charring on ext. of rim.

A72/92.50.48.L398.B361+364.(1)

From 604 use phase (Plaza).

*Previous publication:*

Waldbaum 2002b:58, fig. 7 bottom r.;

Waldbaum and Magness 1997:fig. 11 bottom r.

(No photograph.)



Scale 1:4

- 442** Kalaitzoglou Type I cooking pot. Rim sherd with handle. ED rim 20.0; H 4.4; Th handle 1.3; Th wall 1.0.

Coarse red (2.5YR 4/6) clay with gray core; fine to large mica flakes, occasional small to medium white grits. Thickened, rounded rim tilts outward; beveled on ext.; top of flat strap handle projects directly from rim; lower wall curves in, then out below rim.

A72/92.50.58.L262.B2.(1)

From 604 destruction debris on floor in Building 234 Room 227.

(No photograph.)



Scale 1:4

- 443** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 19.5; Th rim 1.3; Th wall 0.4; PW rim 7.3.

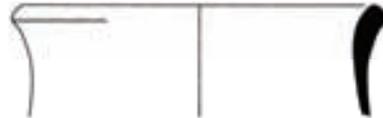
Coarse, very micaceous, yellowish-red clay (5YR 4/6) with many small to large silver mica chunks and flakes and occasional small to medium white grits. Thickened rim, beveled on ext. Wall below rim curves in, then out, thinning as it descends. Some charring on ext.

A72/92.50.48.L393.(6)

From 604 use phase (Plaza).



Scale 1:4

**Uncatalogued Kalaitzoglou Type I cooking pot rim sherds from 604 use phase or destruction debris (qty. 2):**

[3121] A5/86.38.64.L61 not registered; from 604 destruction debris on floor Feature 67 in Building 776.

[4018] A72/92.50.49.L368.FG53.B135.(2); uncharred; from 604 use phase (East Street mudbrick detritus).

*Kalaitzoglou Type I (Fantalkin Type eg CP 1) cooking pot rims from pre-604 quarry fill:*

- 444** Kalaitzoglou Type I cooking pot. Part of rim with handle. 6NJS. ED rim 18.0; H (largest piece) 5.0; Th lip 1.1–1.3; Th wall 0.75; W top of handle 6.15.

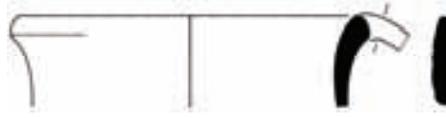
Coarse, yellowish-red (5YR 4/6) clay with gray core in handle. Very micaceous with fine to large mica flakes and pieces and occasional small white and dark grits. Thickened rounded rim, flattened on ext. and tilted outward. Below rim, body curves in, then out in a continuous S-curve. Flat strap handle pulled out and down from rim.

A55/94.50.48.L439.B71.(6) + A55/94.50.48.L439.B61.(7+8) + A55/94.50.48.L439.B53.(5) + A55/94.50.48.L439.B67.(9)

From pre-604 quarry fill.



rim



Scale 1:4



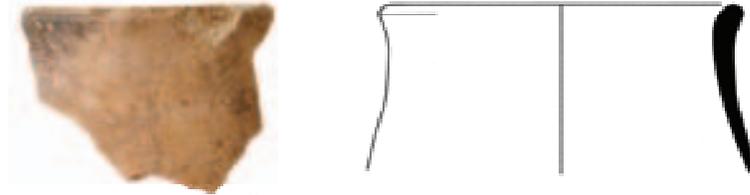
handle

- 445 Kalaitzoglou Type I cooking pot. Rim sherd. ED 18.5; H 8.9; Th lip 1.2; Th wall 0.6.

Coarse, yellowish-red clay (5YR 4/6). Very micaceous with small to large silver mica pieces and flakes; some large quartz pieces. Thickened, rounded rim curves outward, beveled on outer edge. Wall below curves in, then out, thinning as it descends.

A78/95.50.58.LF318.(37)

From pre-604 quarry fill.



Scale 1:4

- 446 Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 18.0; H 5.8; Th lip 1.3; Th wall 0.7.

Coarse, yellowish-red clay (5YR 5/6). Highly micaceous with small to large pieces and flakes of silver mica; small to medium red grits. Charred on ext. Thickened, rounded rim, curved outward. Wall below curves in, then out, thinning as it descends.

A78/95.50.48.L452.(78)

From pre-604 quarry fill.



Scale 1:4

- 447 Kalaitzoglou Type I cooking pot. Rim sherd. H 3.1; W at lip 3.6; Th lip 1.2; Th wall 0.9.

Coarse, yellowish-red clay (5YR 4/6). Very micaceous with small to large silver mica pieces and flakes; small to medium dark grits. Thickened, rounded rim curves slightly outward. Wall below curves in, then out.

A78/95.50.48.L452.(41)

From pre-604 quarry fill.



Scale 1:4

- 448 Kalaitzoglou Type I cooking pot. Rim sherd. ED 16.0; H 4.3; W at lip 3.8; Th lip 1.35; Th wall 0.8.

Coarse, strong brown clay (7.5YR 4/6). Highly micaceous with small to medium dark grits. Thickened rounded rim, curved outward. Wall below curves in, then out.

A78/95.50.48.L452.(72)

From pre-604 quarry fill.



Scale 1:4

- 449 Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 17.0; H 2.8; Th lip 1.0; Th wall 0.7.

Coarse, very dark brown clay (10YR 2/2) to dark reddish brown (5YR 3/3). Very micaceous with small to large pieces of silver mica; small to medium white grits, small voids. Thickened, rounded rim, beveled on outer edge, curves outward. Wall below curves in, then out. Slight charring inside rim.

A89/96.50.49.L449.(4)

From pre-604 quarry fill.



Scale 1:4

- 450 Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 20.0; H 5.05; Th lip 1.2; Th wall 0.8.

Coarse, yellowish-red clay (5YR 5/6). Highly micaceous with small to large flakes and pieces of silver mica; small to medium red grits, some large grog. Thickened, rounded rim, beveled on outer edge, curves outward; wall below curves in, then out, thinning as it descends.

A78/95.50.57.L256.(6)

From pre-604 quarry fill.



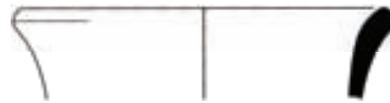
Scale 1:4

- 451** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 19.0; H 5.0; Th lip 1.3; Th wall 0.7.

Coarse, yellowish-red clay (5YR 4/6). Highly micaceous with small to large silver mica pieces and flakes; small to medium red and brown grits. Thickened, rounded rim, flattened on outer surface, curving outward, then in, then out again. Wall thins as it descends.

A78/95.50.48.L452.(70)

From pre-604 quarry fill.



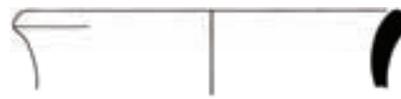
Scale 1:4

- 452** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 20.0; H 4.4; Th lip 1.4; Th wall 0.85.

Coarse, yellowish-red clay (5YR 4/6) near outer surface, dark yellowish brown near inner surface (10YR 4/6). Highly micaceous with small to large silver mica flakes and pieces, small to medium red and white grits, a few voids. Thickened, rounded rim, curving outward. Wall below curves in, then out, thinning as it descends. No charring.

A78/95.50.48.L452.(79)

From pre-604 quarry fill.



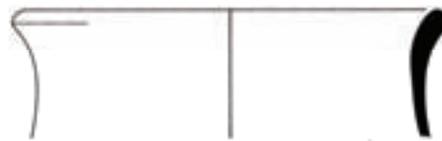
Scale 1:4

- 453** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 22.0; H 6.9; Th lip 1.25; Th wall 0.6.

Coarse, yellowish-red clay (5YR 5/6). Highly micaceous with small to large pieces and flakes of silver mica; some small to medium white and red grits. Thickened, rounded rim, curving outward. Wall below curves in, then out, thinning considerably as it descends. No charring.

A78/95.50.48.L453.(13)

From pre-604 quarry fill.



Scale 1:4

- 454** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 20.0; Th rim 1.35; Th wall 0.65; PW rim 6.8.

Coarse, very micaceous, yellowish-red clay (5YR 4/6) with many small to large silver mica chunks and flakes, and occasional small to medium white grits. Thickened rim, beveled on outer surface. Wall below rim curves in, then out.

A89/96.50.49.L451.(27)

From pre-604 quarry fill.



Scale 1:4

- 455** Kalaitzoglou Type I cooking pot. Rim sherd. ED rim 19.0; Th rim 1.1; Th wall 0.6; PW at rim 4.5.

Coarse, very micaceous, yellowish-red clay (5YR 4/6) with many small to large silver mica flakes and chunks and occasional small to medium white grits. Thickened rim, curved outward; wall below curves in, then out. Some charring.

A89/96.50.49.L451.(28)

From pre-604 quarry fill.



Scale 1:4

*Probable Kalaitzoglou Type I (Fantalkin Type eg CP 1) cooking pot rims from pre-604 quarry fill (drawings not available):*

- 456** Kalaitzoglou Type I (?) cooking pot. Rim sherds. SJSsh. ED rim 20.0; H ca. 5.8; Th rim 1.1; Th wall 0.9.

Coarse, reddish-brown (5YR 5/4) clay with gray core. Many small to large flakes of mica, small to large white and dark grits, some voids. Rounded rim curves outward, then down to concave neck, convex body. Heavily charred on ext.

A78/95.50.48.L452.(69)

From pre-604 quarry fill.

*Previous publication:*

Waldbaum 2002b:58, fig. 7 upper l.;

Waldbaum and Magness 1997:31, fig. 11 upper l.

(No drawing.)



*black-and-white photograph*

Scale 1:4

- 457** Kalaitzoglou Type I (?) cooking pot. Rim sherd. H 5.4; W at lip 3.5; Th lip 1.2; Th wall 0.8 (too narrow for ED).

Coarse, yellowish-red clay (5YR 5/6). Highly micaceous with small to large pieces and flakes of silver mica, small to large white and dark grits, some small stones. Thickened, rounded rim, curves outward and flattens on outer surface. Wall below curves in slightly, then slightly outward.

A78/95.50.48.L452.(73).

From pre-604 quarry fill.

(No drawing.)



Scale 1:4

- 458** Kalaitzoglou Type I (?) cooking pot. Rim sherd. H 5.6; W at lip 3.7; Th lip 1.2; Th wall 0.6.

Coarse, yellowish-red clay (5YR 4/6). Highly micaceous with small to medium pieces and flakes of silver mica. Bits of chaff, small to medium voids, small dark grits. Thickened, rounded rim, curving outward, then in and downward. Wall thins considerably as it descends. No charring.

A78/95.50.48.L454.(9)

From pre-604 quarry fill.

(No drawing.)



Scale 1:4

*Kalaitzoglou Type Ia cooking pot rims from pre-604 quarry fill (somewhat higher center of gravity than Type I):*

- 459** Kalaitzoglou Type Ia cooking pot. Rim sherd. ED rim 19.0; H 6.8; Th lip 1.2; Th wall 0.7.

Coarse, red (2.5YR 4/6) clay with gray just below inner surface. Fine to large mica flakes; occasional small white grits, some voids. Charred on ext. surface and top of rim. Thickened, rounded rim, beveled on outer surface; tilted outward. Wall below rim curves in, then out.

A78/95.50.58.LF318.(40)

From pre-604 quarry fill.



Scale 1:4



- 460** Kalaitzoglou Type Ia cooking pot. Rim sherd. ED 18.0; H 7.0; Th lip 1.3; Th wall 0.6.

Coarse, yellowish-red clay (5YR 4/6) with gray core in thicker part of rim. Very micaceous with small to large pieces and flakes of silver mica; occasional medium to large white grits, some dark grits. Charred on ext. Thickened, rounded rim, beveled on outer edge, curves outward. Wall below curves in, then out, thinning as it descends.

A78/95.50.58.LF318.(38)

From pre-604 quarry fill.



Scale 1:4



- 461** Kalaitzoglou Type Ia cooking pot. Rim sherd. ED 18.5; H 5.5; Th lip 1.2; Th wall 0.6.

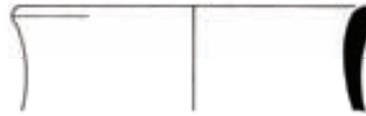
Coarse, yellowish-red clay (5YR 4/6). Small to large pieces and flakes of silver mica; small to large white and dark grits, some voids. Rounded, thickened rim tilts outward. Wall below curves in, then out, thinning considerably as it descends.

A78/95.50.48.L453.(12)

From pre-604 quarry fill.



Scale 1:4



- 462** Kalaitzoglou Type Ia cooking pot. Rim sherd. ED rim 19.0; PH 6.2; Th rim 1.35; Th wall 0.7.

Coarse, very micaceous, yellowish-red clay (5YR 5/6) with gray core. Many small to large pieces and flakes of silver mica and some small to large white and brown grits. Thickened rim, beveled on outer edge, curving in, then out into wall. Wall thins as it descends. Ext. and top of rim charred.

A78/95.50.48.L452.(68)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

- 463** Kalaitzoglou Type Ia cooking pot. Rim sherd. ED rim 14.5; H 6.6; Th lip 1.2; Th wall 0.85.

Coarse clay. Color grades from strong brown on outer surface (7.5YR 4/6) to dark grayish brown (10YR 4/2) inside inner surface. Highly micaceous with small to large pieces and flakes of silver mica, small to large dark and white grits. Rounded, thickened rim, curving outward. Wall below curves in, then out in a convex curve.

A78/95.50.48.L452.(76)

From pre-604 quarry fill.



Scale 1:4



*Fantalkin Type eg CP Ia cooking pot rims from pre-604 quarry fill (smaller variant of Kalaitzoglou Type I):*

- 464** Fantalkin Type eg CP Ia cooking pot. Rim sherd. ED rim 13.0; H 3.8; Th lip 1.2; Th wall 0.8.

Coarse, yellowish-red clay (5YR 4/6). Highly micaceous; small to large pieces and flakes of silver mica; small to large dark and white grits. Rounded, thickened rim, beveled on outer edge. Wall below curves in, then out.

A78/95.50.48.L452.(230)

From pre-604 quarry fill.



Scale 1:4



- 465** Fantalkin Type eg CP Ia cooking pot. Rim sherd. ED rim 15.0; PH 2.4; Th lip 1.0; Th wall 0.8.

Coarse, yellowish-red clay (5YR 4/6). Highly micaceous with small to large pieces and flakes of silver mica and small to large dark and white grits. Rounded, thickened rim, beveled on outer edge, slopes outward.

A78/95.50.48.L452.(74)

From pre-604 construction fill.



Scale 1:4



- 466** Fantalkin Type eg CP Ia cooking pot. Rim sherd. ED rim 15.0; H 3.7; Th lip 1.2; Th wall 0.8.

Coarse, yellowish-red clay (5YR 4/6). Highly micaceous with small to large mica pieces; small to large red and brown grits. Thickened, rounded rim, beveled on outer edge; wall below curves in, then out. No charring.

A78/95.50.48.L452.(75)

From pre-604 quarry fill.



Scale 1:4



- 467** Fantalkin Type eg CP 1a cooking pot. Rim sherd. ED rim 13.0; H 4.3; Th lip 1.1; Th wall 0.65.

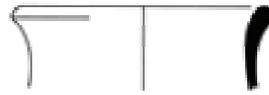
Coarse, dark reddish-brown clay (5YR 3/4). Very micaceous with small to large silver mica flakes and pieces. Occasional small white grits. Charred on ext. Thickened, rounded rim, flattened on outer edge; wall below curves in, then out, thinning as it descends.

A78/95.50.58.LF318.(39)

From pre-604 quarry fill.



Scale 1:4



*Kalaitzoglou Type Ib cooking pot rims from pre-604 quarry fill (with relatively thick, straight wall):*

- 468** Kalaitzoglou Type Ib cooking pot. Rim sherd. ED rim 18.0; H ca. 5.1; Th rim 1.2; Th wall 0.6.

Coarse, yellowish-red (5YR 5/6) clay. Outer surface reddish gray (5YR 5/2). Highly micaceous with small to large flakes of mica; some small white and dark grits. Rounded rim curves outward then down into fairly straight wall. No evidence of charring. Kalaitzoglou (2008:434–35, no. 689) compares a photograph of this piece to Assesos no. 689 and takes it as his Type I. The drawing, however, shows the wall to be quite straight and more like his Type Ib.

A78/95.50.48.L452.(71)

From pre-604 quarry fill.

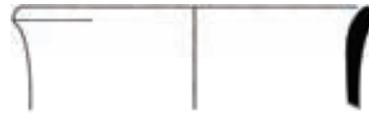
*Previous publication:*

Waldbaum 2002b:58, fig. 7 upper r.; Waldbaum and Magness 1997:31, fig. 11 upper r.



*black-and-white photograph*

Scale 1:4



- 469** Kalaitzoglou Type Ib cooking pot. Rim sherd. ED 19.0; H 8.0; Th lip 1.3; Th wall 0.9.

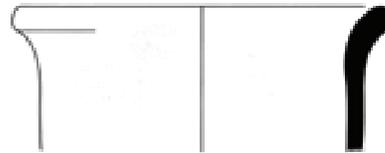
Coarse, yellowish-red clay (5YR 4/6). Very micaceous with small to large silver mica pieces and flakes; some large cracks and voids. Small to medium white grits. Charred on ext. Thickened, rounded rim, beveled on ext; curves outward, then in. Wall below is fairly straight; thins as it descends.

A89/96.50.49.L453.B127.(28)

From pre-604 quarry fill.



Scale 1:4



- 470** Kalaitzoglou Type Ib cooking pot. Rim sherd. ED rim 18.0; H 6.7; Th lip 1.2; Th wall 0.8.

Coarse, yellowish-red clay (5YR 4/6) lighter near surface. Very micaceous with small to large silver mica pieces and flakes, small to medium white grits. Thickened, rounded rim, curving outward. Wall below curves in, then out.

A78/95.50.57.L256.(5)

From pre-604 quarry fill.



Scale 1:4



- 471** Kalaitzoglou Type Ib cooking pot. Rim sherd. ED 12.5; H 7.6; Th lip 1.0; Th wall 0.6.

Coarse, dark brown clay (7.5YR 4/4). Highly micaceous with small to large pieces of mica, small to medium dark grits. Thickened, rounded rim, curved outward and beveled at outer edge. Wall below fairly straight to slightly convex; smaller variant on straight-walled type (nos. 465–67). Charred on ext. surface.

A78/95.50.48.L452.(77)

From pre-604 quarry fill.



Scale 1:4



*Fantalkin Type eg CP 2 cooking pot rims from pre-604 quarry fill:*

- 472 Fantalkin Type eg CP 2 cooking pot. Rim sherd. ED rim 26.0; Th rim 1.1; Th wall 0.9; H ca. 8.7.

Coarse, reddish-brown (5YR 5/4) clay with pale brown surface. Many fine micaceous inclusions; small to large white grits, and occasional small pebbles. Wide, open, rounded rim strongly splays outward, then slopes in to concave neck, convex body. Uneven charring on int. and ext. surfaces.

A78/95.50.48.L453.(14)

From pre-604 quarry fill.

*Previous publication:* Waldbaum 2002b:58, fig. 7 lower l.; Waldbaum and Magness 1997:31, fig. 11 lower l. (erroneously described in both as coming from 50.48.L452 instead of L453).



*black-and-white photograph*

Scale 1:4

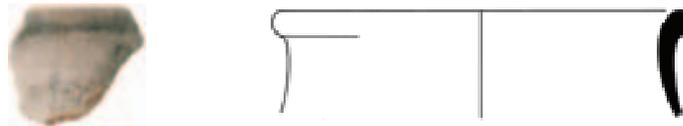
*Miscellaneous cooking pot types not represented in Kalaitzoglou 2008 or Fantalkin 2001:*

- 473 Miscellaneous cooking pot. Rim sherd. ED 21.0; H 5.7; Th lip 1.2; Th wall 0.5.

Coarse, yellowish-red clay (5YR 4/6) with gray core in thicker parts. Very micaceous with small to large silver mica pieces and flakes. Charred over whole ext. surface. Thickened, rounded, rolled rim, curves outward. Wall below curves in, then out, thinning as it descends.

A89/96.50.49.L451.B103.(24)

From pre-604 quarry fill.



Scale 1:4

- 474 Miscellaneous cooking pot. Rim sherds. 3NJS. ED rim 18.0; H largest piece 5.2; Th rim 0.8; Th wall 0.4.

Coarse, dark reddish-gray (5YR 4/2) clay with many small to medium flakes of mica; white and dark grits, some voids. Short, thickened, rounded carinated rim, tilted outward, then sloping down and in to carination, then out to convex globular body. All three sherds have similar rims but curvature is different for each. Same vessel? Ext. surface heavily charred; part of int. also.

A78/95.50.48.L452.(80)

From pre-604 quarry fill.



Scale 1:4

**Uncatalogued miscellaneous cooking pot rim sherds from pre-604 quarry fill (qty. 5):**

[3706] A78/95.50.48.L452.(125); uncharred.

[3890] A89/96.50.48.L453.B4.(39)

[3891] A78/95.50.48.L454.(10); charred on ext. wall and top of rim.

[3895] A78/95.50.58.LF318.(58)

[3896] A78/95.50.58.LF318.(59)

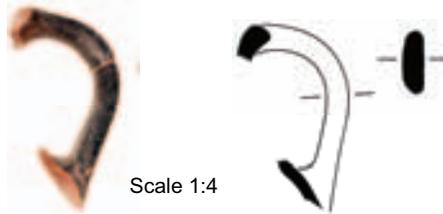
*Miscellaneous cooking pot handles from pre-604 quarry fill:*

- 475** Cooking pot. Handle with rim attachment. 2JSh. H 10.3; W 5.3; Th 1.2.

Coarse, reddish-brown to yellowish-red (5YR 5/4–6) clay. Fine micaceous inclusions. Strap handle, rising from curved wall, then curving over to meet rim. Inner and outer surface of handle completely charred; rim attachment uncharred.

A89/96.50.48.L453.B95.(8)

From pre-604 quarry fill.



- 476** Cooking pot. Handle. PL 4.4; W 4.0; Th 1.2.

Upper part of flat strap handle with rim attachment. Coarse, yellowish-brown (10YR 4/4) clay with many small micaceous inclusions and small black grits. Underside of handle and upper wall of vessel completely charred; upper surface brown (7.5YR 5/4).

A78/95.50.48.L452.(85)

From pre-604 quarry fill.



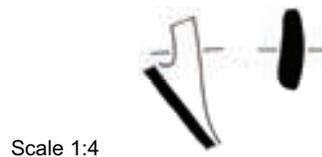
- 477** Cooking pot. Handle. PH 7.2; W 4.3; Th handle 1.2.

Lower part of handle with attachment to body. Coarse, yellowish-red (5YR 4/6) clay with many fine to medium mica flakes; small white and dark grits; some voids. Flat strap handle broadening at base. Charred on both surfaces.

A78/95.50.48.L452.(82)

From pre-604 quarry fill.

(No photograph.)



- 478** Cooking pot. Handle. PH 7.7; W 2.9; Th handle 1.4.

Lower part of handle with attachment to body. Coarse, brown (7.5YR 5/4) clay. Occasional mica; small white and dark inclusions; voids. Ovoid section. Vertical tool marks on ext. Some charring on int. surface. This piece is a little different from the others in terms of texture, hardness, surface appearance, and amount of mica.

A78/95.50.48.L452.(61)

From pre-604 quarry fill.

(No photograph.)



- 479** Cooking pot. Handle. PH 7.0; W 4.5; Th handle 1.1; Th wall 0.7.

Lower part of a vertical strap handle with attachment to wall. Coarse, dark reddish-brown (5YR 3/3) clay with very dark gray (5YR 3/1) core. Many fine to large mica flakes; occasional small to medium white grits; a few voids. Handle widens where it hits wall. Charred on ext. surface and edges of int.

A89/96.50.49.L453.B36.(29)

From pre-604 quarry fill.

(No photograph.)



**480** Cooking pot. Handle. PH 4.5; W 4.3; Th handle 1.0.

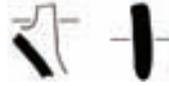
Lower part of strap handle with attachment to wall. Coarse, red (2.5YR 4/8) clay with no apparent core. Many small to medium mica flakes. Handle broadens at base. Charred on ext. surface.

A78/95.50.48.L452.(86)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4

**481** Cooking pot. Handle. PH 10.6; W 4.9; Th 1.2.

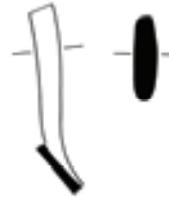
Lower part of large strap handle with attachment to wall. Coarse, reddish-brown (5YR 5/4) clay with dark grayish-brown (2.5Y 4/2) core. Many fine to large mica flakes; occasional small white grits. Much of wall broken away so core at base of handle is visible.

A78/95.50.57.L256.(7)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4

**482** Cooking pot. Handle. W 4.5; PH ca. 9.0; Th 1.0.

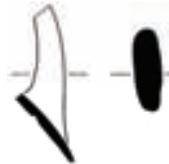
Lower part of handle with attachment to wall. Coarse, yellowish-red (5YR 5/6) clay. Many small to large flakes of mica; some small to medium white grits. Gray core at thickest part. Flat strap handle, broadening at base where it attaches to wall.

A78/95.50.48.L452.(83)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4

**483** Cooking pot. Handle. W 4.3; Th. 1.4.

Lower part of flat strap handle with part of wall attached. Coarse, yellowish-red (5YR 5/6) clay with gray core. Many small to large flakes of mica, and other mineral inclusions. Broad, vertical strap handle, widening at base to attach to wall.

A78/95.50.48.L452.(84)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4

**484** Cooking pot. Handle. H 6.0; W 3.4; Th 1.3.

Upper part of handle to just before attachment to rim. Coarse, hard, yellowish-red (5YR 5/6) clay. Fine micaceous inclusions (not as many as usual). Occasional small white grits. Charred on underside.

A89/96.50.49.L453.B1.(26)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4

**Uncatalogued miscellaneous handle parts from pre-604 quarry fill (qty. 4):**

[4017] A78/95.50.48.L453.(11)

[4019] A78/95.50.48.L?.B1 not registered; charred on both sides.

[3725] A89/96.50.49.L453.B130.(25); charred on ext. surface around base.

[3727] A89/96.50.49.L453.B130.(27)

*Miscellaneous cooking pot base sherds from pre-604 quarry fill:*

**485** Cooking pot. Base sherd. 5.8 × 5.0; Th 0.9.

Coarse, very micaceous clay; inner surface grayish brown (2.5Y 5/2); ext. surface dark grayish brown (10YR 4/2); slightly reddish core. Small dark grits; some cracking on int. surface. Slightly convex, flattened base; convex hump in center of floor. Charring on ext.

A78/95.50.48.L452.(87)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

**486** Cooking pot. Base sherd. W 12.5; Th 0.9 at center.

Coarse, brown (7.5YR 5/4) clay with many fine to small micaceous inclusions; small white grits; some voids. Convex base curving up to lower wall (not preserved). Slight convex bump on center of floor. Ext. very charred.

A78/95.50.58.LF318.(36)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

*Analyzed cooking pot body sherds (see figure 10.5 after cat. no. 494):*

**487** Cooking pot. Body sherd. Th 0.5.

Very micaceous with small to large plates of mica. Red clay (2.5YR 4/6). Coarse gritty texture; charred ext. Petrographic analysis: Sample B8, Category 15 (Master 2001:45, 143–44).

A72/92.50.48.L398.B361 not registered

From 604 use phase (Plaza).

**488** Cooking pot. Body sherd. Th 0.8.

Very micaceous, reddish-brown clay (5YR 4/4), with fairly large plates of mica; coarse gritty texture. Charring on ext. Petrographic analysis: Sample B1, Category 15 (Master 2001:55, 143–44).

A78/95.50.48.L452 not registered

From pre-604 quarry fill.

**489** Cooking pot. Body sherd. Th 0.4.

Very micaceous, reddish-brown clay (5YR 4/4), friable with some voids. Coarse gritty texture, some charring on ext. Petrographic analysis: Sample B2, Category 15 (Master 2001:60, 143–44).

A78/95.50.48.L453 not registered

From pre-604 quarry fill.

**490** Cooking pot. Body sherd. Th 0.5.

Very micaceous with small to medium flakes/plates of mica. Coarse gritty texture. Red clay (2.5R 4/6), charred on ext. Petrographic analysis: Sample B3, Category 15 (Master 2001:72, 143–44).

A78/95.50.48.L461 not registered

From pre-604 quarry fill.

**491** Cooking pot. Body sherd. Th 0.6.

Very micaceous, yellowish-red clay (5YR 4/6); coarse gritty texture, charring on ext. Petrographic analysis: Sample B4, Category 15 (Master 2001:88, 143–44).

A78/95.50.57.L256 not registered

From pre-604 quarry fill.

**492** Cooking pot. Body sherd. Th 0.6.

Very micaceous, yellowish-red clay (5YR 5/6) with some grog. Coarse gritty texture; charred on ext. Petrographic analysis: Sample B5, Category 15 (Master 2001:81, 143–44).

A89/96.50.49.L451.B30 not registered

From pre-604 quarry fill.

**493** Cooking pot. Body sherd. Th 0.6.

Very micaceous, yellowish-red clay (5YR 4/6) with coarse gritty texture. Ext. completely charred. Petrographic analysis: Sample B6, Category 15 (Master 2001:107, 143–44).

A78/95.50.58.LF318 not registered

From pre-604 quarry fill.

**494** Cooking pot. Body sherd. Th 0.7.

Very micaceous, red clay (2.5YR 4/6) with some grog. Reddish uncharred surface. Petrographic analysis: Sample B7, Category 15 (Master 2001:90, 143–44).

A55/94.50.57.L259 not registered

From pre-604 quarry fill.



Figure 10.5: Cooking pot body sherds subjected to petrographic analysis (Samples B1–B8)

**Uncatalogued cooking pot body sherds from 604 use phase or destruction debris (qty. 47):**

[3897] A55/94.50.46.LF83.B54 not registered; charred; from 604 use phase (Building 276 Room 78 floor makeup).

[3899] A72/92.50.48.L392.FG81.B362 not registered; charred; from 604 use phase (occupational debris).

[3900] A72/92.50.48.L393 not registered; uncharred; from 604 use phase (courtyard debris).

[3901] A72/92.50.48.L398.B361 not registered; uncharred; from 604 use phase (Plaza).

[3902] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3903] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3904] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3905] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3906] A72/92.50.48.L398.B361 not registered; charred int. and ext.; from 604 use phase (Plaza).

[3907] A72/92.50.48.L398.B361 not registered; uncharred; from 604 use phase (Plaza).

[3908] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3909] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3910] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3911] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3912] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3913] A72/92.50.48.L398.B361 not registered; charred ext.; from 604 use phase (Plaza).

[3914] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3915] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3916] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3917] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3918] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3919] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3920] A72/98.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3921] A72/92.50.48.L398.B361; not registered; charred ext.; from 604 use phase (Plaza).

[3922] A72/92.50.48.L398.B361; not registered; uncharred; from 604 use phase (Plaza).

[3923] A72/92.50.48.L398.B361; not registered; uncharred; from 604 use phase (Plaza).

[3924] A72/92.50.48.L398.B364; not registered; charred; from 604 use phase (Plaza).

[3925] A72/92.50.48.L398.B364; not registered; lightly charred; from 604 use phase (Plaza).

[3926] A72/92.50.48.L398.B364; not registered; lightly charred; from 604 use phase (Plaza).

[3927] A72/92.50.48.L408.B397; not registered; 6 NJSh (3 charred, 3 uncharred—possibly same vessel); from 604 use phase (occupational debris).

[3942] 50.49 not registered; charred.

- [3944] A72/92.50.49.L368 not registered; uncharred; from 604 use phase.  
 [3945] A73/93.50.49.L389 not registered; charred; from 604 use phase.  
 [3946] A72/92.50.49.L386.B233 not registered; uncharred; from 604 use phase.  
 [3953] A72/92.50.58.L262.B3 not registered; possibly near handle; uncharred; from 604 destruction debris.  
 [3954] A72/92.50.58.L262.B2+3 not registered; charred ext.; from 604 destruction debris.  
 [3955] A72/92.50.58.L262.B3 not registered; charred; from 604 destruction debris.  
 [3956] A72/92.50.58.L262.B3 not registered; charred; from 604 destruction debris.  
 [3957] A72/92.50.58.L262.B3 not registered; uncharred; from 604 destruction debris.  
 [3958] A72/92.50.58.L262.FG11.B205 not registered; charred; from 604 destruction debris.  
 [3959] A72/92.50.58.L262.FG54.B103 not registered; charred; from 604 destruction debris.  
 [3960] A72/92.50.58.L262.FG53.B179 not registered; charred; from 604 destruction debris.  
 [3961] A72/92.50.58.L262.FG3.B222 not registered; uncharred; from 604 destruction debris.  
 [3962] A72/92.50.58.L262.FG31.B233 not registered; uncharred; from 604 destruction debris.  
 [3963] A72/92.50.58.L262.FG41.B234 not registered; uncharred; from 604 destruction debris.  
 [3964] A72/92.50.58.L262.FG52.B231 not registered; charred; from 604 destruction debris.  
 [3952] A72/92.50.58.L264.FG71 not registered; uncharred; from 604 destruction debris.

**Uncatalogued cooking pot body sherds from pre-604 quarry fill (qty. 72):**

- |   |   |
|---|---|
| [4016] A78/95.50.47.L285 not registered; uncharred.       | [4014] A78/95.50.48.L454 not registered; lightly charred.   |
| [3928] A55/94.50.48.L439.B65 not registered; charred.     | [4015] A78/95.50.48.L454 not registered; lightly charred.   |
| [3929] A55/94.50.48.L439.B29 not registered; charred.     | [3943] A72/92.50.49.L420.B53 not registered; charred.   |
| [3930] A55/94.50.48.L439.B47 not registered; uncharred.   | [3947] A73/93.50.49.L420.FG32.B46 not reg'd; charred.   |
| [3931] A55/94.50.48.L439.B67 not registered; uncharred.   | [3983] A89/96.50.49.L449.B2 not registered; charred.  |
| [3932] A55/94.50.48.L439.B47 not registered; uncharred.   | [3984] A89/96.50.49.L449 not registered; charred.   |
| [3933] A55/94.50.48.L439.B29 not registered; charred.     | [3985] A89/96.50.49.L449.B14 not reg'd; little charring.  |
| [3934] A55/94.50.48.L444.B16 not registered; charred.     | [3982] A89/96.50.49.L451.B63 not registered; charred.   |
| [3935] A55/94.50.48.L444.B16 not registered; charred.     | [3986] A89/96.50.49.L451 not registered; charred.   |
| [3936] A55/94.50.48.L444.B16 not registered; uncharred.   | [3987] A89/96.50.49.L451.B19 not reg'd; charred int. & ext.   |
| [3937] A55/94.50.48.L444.B16 not registered; uncharred.   | [3988] A89/96.50.49.L451.B142 not registered; charred.  |
| [3938] A55/94.50.48.L444.B40 not registered; charred.     | [3989] A89/96.50.49.L451 not registered; uncharred.   |
| [3939] A55/94.50.48.L444.B40 not registered; charred.     | [3990] A89/96.50.49.L451.B19 not registered; charred.   |
| [3940] A55/94.50.48.L444.B40 not registered; charred.     | [3974] A78/95.50.57.L256 not registered   |
| [3941] A55/94.50.48.L444.B106 not registered; charred.    | [3975] A78/95.50.57.L256 not registered   |
| [3991] A78/95.50.48.L452 not registered; charred.         | [3976] A78/95.50.57.L256 not registered   |
| [3992] A78/95.50.48.L452.B2 not registered; charred.      | [3977] A78/95.50.57.L256 not registered   |
| [3993] A78/95.50.48.L452 not registered; charred.         | [3978] A78/95.50.57.L256 not registered   |
| [3994] A78/95.50.48.L452 not registered; uncharred.       | [3979] A78/95.50.57.L256 not registered   |
| [3995] A78/95.50.48.L452 not registered; charred.         | [3980] A78/95.50.57.L256 not registered   |
| [3996] A78/95.50.48.L452 not registered; uncharred.       | [3948] A55/94.50.57.L259.B111 not registered; charred.  |
| [3997] A78/95.50.48.L452 not registered; lightly charred. | [3949] A55/94.50.57.L259.B111 not registered  |
| [3998] A78/95.50.48.L452 not registered; uncharred.       | [3950] A55/94.50.57.L259.B111 not registered  |
| [3999] A78/95.50.48.L452 not reg'd; charred int. and ext. | [3951] A55/94.50.57.L259.B112 not registered  |
| [4000] A78/95.50.48.L452 not registered; charred.         | [3981] A55/94.50.57.L259.B117 not reg'd; some charring.   |
| [4001] A78/95.50.48.L452 not registered; charred ext.     | [3965] A78/95.50.58.LF318 not reg'd; compl. charred ext.  |
| [4002] A78/95.50.48.L453 not registered; charred.         | [3966] A78/95.50.58.LF318 not registered; highly micaceous; charred ext.; possibly belongs with [3965] but no join (8 NJSh poss. go with 3965–66 but no joins; all heavily charred; micaceous). |
| [4003] A78/95.50.48.L453 not registered; uncharred.       | [3967] A78/95.50.58.LF318 not registered  |
| [4004] A89/96.50.48.L453 not registered; uncharred.       | [3968] A78/95.50.58.LF318 not registered; light charring; heavily micaceous.  |
| [4005] A89/96.50.48.L453 not registered; uncharred.       | [3969] A78/95.50.58.LF318 not registered; uncharred.  |
| [4006] A89/96.50.48.L453 not registered; charred.         | [3970] A78/95.50.58.LF318 not registered; charred.  |
| [4007] A89/96.50.48.L453 not registered; charred.         | [3972] A78/95.50.58.LF318 not registered; uncharred.  |
| [4008] A89/96.50.48.L453 not registered; charred.         | [3973] A78/95.50.58.LF318 not registered; lightly charred.  |
| [4009] A89/96.50.48.L453 not registered; charred.         | [3971] A80/97.50.58.L396.(11); charred.   |
| [4010] A89/96.50.48.L453 not registered; charred.         |   |
| [4011] A89/96.50.48.L453 not registered; charred.         |   |
| [4012] A89/96.50.48.L453 not registered; charred.         |   |
| [4013] A78/95.50.48.L454 not reg'd; heavily charred.      |   |

**Uncatalogued cooking pot body sherd from post-604 sandy silt over Plaza in Grid 50 (qty. 1):**

[3898] A72/92.50.48.L384.B322 not registered; uncharred.

**Mortarium (no. 495).** One fragment of an imported mortarium or grinding bowl rim was found in the pre-604 quarry fill. It shows signs of use, having an abraded inner surface. While this mortarium resembles the general form of mortarium found in Israel, it differs from the more common type of mortarium in being highly micaceous (see Stern et al. 1995:53–55 and Villing 2006 for discussion of Greek adaptations of the original Cypro-Phoenician type; for functions of mortaria see Villing 2006:34–35 and Sapin 1998).

The piece was sampled and analyzed petrographically by Master and assigned to his Category 14. It was one of only two samples assigned to this category, the other being an amphora (no. 498/A9). Except for fabric color, there were close similarities between Category 14 and Category 13, Master's most abundant Greek category, which included a variety of forms. Master suggests that the color differences might be attributable to differences in firing and he places this sample, as well as no. 498/A9, in the same geologic range as Category 13 (Master 2001:141–42). A base fragment of another mortarium, reg. no. A80/97.50.58.LF318.(7), with very similar appearance and texture was sampled and analyzed at the same time, but it proved not to be from the Aegean. It is also unlike the locally made mortaria, and Master tentatively suggests North Syria or Cyprus as a provenance for it (Master 2001:114, 137–38).

Kalaitzoglou (2008:275–78, 433–34, pl. 153 nos. 678–87) publishes fragments of ten mortaria that were found at Assesos, and he identifies three different forms (A, B, C) that were extant at the time of the 608 B.C. destruction of the sanctuary. Most of the Assesos examples are of Form B, with an everted and overhanging lip, which corresponds to the Ashkelon

piece. Kalaitzoglou does not mention whether or not the Assesos fragments contain micaceous inclusions, implying that they do not, since he mentions inclusions for other forms of East Greek pottery. Flat-based, micaceous mortaria are found on Samos, where they are assigned to the late seventh–early sixth centuries (Isler 1978a:97, pl. 50, Beilage 3 no. 146, “Fundgruppe F”; 159, Beilage 19 nos. 597–98). Some are published from archaic deposits at Ephesos as well (Kerschner 1997:119, pl. 4.20; 140–41, pl. 9.63). Villing (2006) publishes several mortaria from Naukratis but does not mention micaceous inclusions and, in fact, refers to the type found at Naukratis as the “Eastern Mediterranean type” and suggests it originates in Cyprus, or more broadly, the “Cypro-Phoenician realm.” The “Eastern Mediterranean type” includes the “local” flat-based mortaria commonly found in Israel as well as elsewhere in Egypt (Villing 2006:37–39). Villing (who will also publish the mortaria from Miletos) makes a good case for trade in coarse wares, including mortaria, beginning in early Archaic times (2006:40–41).

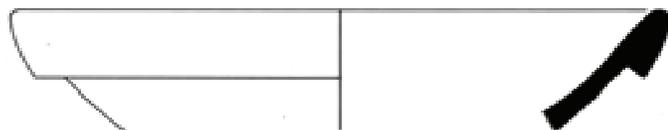
Fantalkin includes mortaria, which he calls “heavy bowls,” in his discussion of East Greek pottery from Meşad Ḥashavyahu. It is clear, however, that he is referring to the flat-based mortaria commonly found in seventh-century contexts in the southern Levant (and synonymous with Villing's “Eastern Mediterranean type”), and not to the micaceous variety that may be more closely associated with East Greece. Petrographic analysis of one sample from Meşad Ḥashavyahu, in fact, suggested that it originated in Cyprus, rather than the eastern Aegean (Fantalkin 2001:79–82). A number of micaceous examples of apparently local type were found at Tell Keisan, however (Sapin 1998:97–103).

**495 Mortarium. Rim sherd. ED 34.0; rim H 9.0; W 10.1; Th rim 2.1; Th wall 1.3.**

Coarse, very micaceous brown clay (7.5YR 5/4) with small to medium white grits, some erupting to surface; some pitting; sandy texture. Rim thickened and folded out, triangular in section. Angled body thickens as it descends. Light gray slip (10YR 7/2) thinly applied int. and ext.; very worn on int., perhaps abrasion from use. Petrographic analysis: Sample B9, Category 14, Samo-Milesian? (Master 2001:72, 141–42).

A78/95.50.48.L454.(3)

From pre-604 quarry fill.

*Previous publication:* Waldbaum 2002b:58, fig. 8 top.

Scale 1:4

## E. EAST GREEK COARSE WARE: CLOSED FORMS (nos. 496–560)

## TRANSPORT AMPHORAI (nos. 496–548)

A total of 187 amphora fragments were recovered. Five amphorai were completely or partly restorable (nos. **496**, **507**, **517**, **522**, **523**); most are simply sherds. One sherd is from a “small” or table amphora that was probably not used for transport (no. **529**); 2 sherds could have belonged either to large amphorai or to kraters (nos. **531**, **532**). The rest all belonged to large transport amphorai.

Sixteen pieces came from the 604 B.C. deposits (13 from Grid 50, 3 from Grid 38) and the rest came from the pre-604 quarry fill in Grid 50. On the basis of shape, decoration, or petrographic analysis, 6 are thought to be from Chios, 21 from the Samo-Milesian area, and 6 from the northeast Aegean. There are no Attic “SOS” amphorai, which date to the late eighth through seventh centuries B.C. (Johnston and Jones 1978:103, 132–35, 140; Jones 1986:706). The vast majority are body sherds, the provenance of which could not be identified (and which, with few exceptions, are not represented in the catalogue). Two of the body sherds (nos. **535**, **536**) have incised potters’ marks, consisting of one letter each. One amphora “toe” (no. **511**) had been reused in antiquity as a paint pot. It contained the remains of red pigment that had dripped over an ancient break. This practice is not unprecedented in Greece itself (e.g., Lawall 2002: 416–19 [Athenian Agora]; Johnston 1990:54, 60 no. 148 [Aegina])—I owe these references to Dr. Sabine Weber of Johannes Gutenberg-Universität, Mainz).

Sixteen samples were analyzed petrographically (nos. **498/A9**, **504/A10**, **514/A8**, **515/A7**, **516/A6**, **519/A11**, **523/A13**, **527/A4**, and eight that were chosen later: nos. **507–10**, **517**, **520**, **522**, **526**). According to Master, nos. **515/A7**, **516/A6**, and **498/A9** belong to Category 13 and are clustered with several other vessels—hydriai, jugs, “Wild Goat” oinochoai, Ionian cups, and stemmed or footed dishes—that show the same microscopic characteristics and are now believed to be Milesian. No. **514/A8** and mortarium no. **495/B9** cluster with these but their fabric is of a different color and Master assigned them to Category 14. This could be owing to different provenance or simply to different firing conditions (Master 2001:138–42). No. **504/A10** was too well levigated to determine even a general provenance and Master placed it in his Category 19 (Master 2001:147, 155 fig. 2.9.10). Stylistically, however, this rim and neck fragment is Samian. Master placed nos. **517** and **519/A11** in Category 17 (Master 2001:145–46), confirming their Chian origin determined on the basis of style. He also attributed no. **520** to Chios (Master,

pers. comm.). Four more samples (nos. **522**, **523/A13**, **526** and **527/A4**) were assigned to the northeast Aegean region (nos. **527/A4** and **523/A13** to Category 16 and no. **522** to Category 18; Master 2001:144–45, 146–47).

**South Ionian transport amphorai from Miletos or Samos (nos. 496–516).** Of the 21 pieces classified as Samian, Milesian, or “Samo-Milesian,” 2 are nearly complete vessels (nos. **496**, **507**), 10 are rims, 6 are toes, and 3 are bodies. The nearly complete vessel (no. **496**) and one body sherd came from 604 deposits; the rest came from pre-604 fills.

Clay textures run from medium to coarse and colors from yellowish red (5YR 5/6, 5YR 5/8) to light reddish brown (5YR 6/3, 5YR 6/4) to light brown (7.5YR 6/4) to brown (7.5YR 5/4) to pinkish gray (7.5YR 7/2, 7.5YR 6/2). All contain visible mica and one or more other kinds of inclusions. Stylistically, 8 pieces are apparently Milesian (the nearly complete jar no. **496** and 7 rims, nos. **497–503**). Three specimens (nos. **504–6**), all rims, seem to be Samian. The rest could not be readily distinguished and are simply called “Samo-Milesian.” (Whitbread [1995:129] also comments on the difficulty of distinguishing Samian and Milesian amphorai.) The Samian pieces have thick and echinoid rims, and where the neck is preserved it is rather squat and concave without ridges (cf. Cook and Dupont 1998:164–65, fig. 23.6 a, b; Dupont 1982:207; Grace 1971:pl. 15.1). The Milesian pieces, in general, are characterized by a relatively tall, convex rim profile, a proportionately taller neck than the Samians, and, where enough of the neck is preserved, one or more overhanging ridges on the top of the neck below the rim, with neck flaring upward. Occasionally, they exhibit traces of painted horizontal lines (nos. **496**, **501**, **502**). No. **497** has one small incised circle on the rim and another on the neck. In addition, the body of the nearly complete no. **496** is bulging with a high center of gravity. In general, the pieces assigned to Miletos conform to the characteristics of early Milesian amphorai enumerated by Dupont and confirmed by his analyses (Cook and Dupont 1998:174, fig. 23.7a, 23.8a; Dupont 1982:203–6; 199:148–49; 2005:230–31). More recent analyses were successful in differentiating Samian from Milesian amphorai (de Domingo and Johnston 1997; Johnston and de Domingo 2003; Kerschner and Mommsen 2005) although the problem is not completely solved (see Dupont in Cook and Dupont 1998:176–77; 1999:148, 152–53; 2000; and 2005:

230, 234 on the complexity in making these distinctions). The number of variants, especially in rim shape, among Milesian amphorai found at Assesos (Kalaitzoglou 2008:pl. 131–37) and at Miletos (Seifert 2004:14–18, pls. 4–26, differentiating several groups of Milesian amphorai assigned to seventh and early sixth century dates) suggests that several of the “unidentified” specimens from Ashkelon could belong to the Milesian (or Samo-Milesian) repertoire.

Samian amphorai of the “early type” (late seventh to early sixth century) are found, of course, on Samos (e.g., Isler 1978a:162, Beilage 22 nos. 626–29; 1978b: 82, pl. 41 fig. 45; Furtwängler and Keinast 1989:115 no. I/32, fig. 16.1, 2; 21.32, pl. 24) and were imported to Miletos (Seifert 2004:24–25, 71–72 nos. 183–89, pls. 72–73). They are also known on Cyprus (Calvet and Yon 1977:19, pl. 11.115, 116 assigned to the first half of the sixth century); in Egypt at Naukratis (Petrie 1886:pl. 16.2; Möller 2000:212 n. 209), Tell Defeneh (Petrie 1888:pls. 33.1, 10, 34.39), Migdol (Oren 1984:25, figs. 23.5, 36–38), and elsewhere (Oren 1984:25, 27); and in North Syria at Tall Sūkās (Ploug 1973: 84–85, pl. 20 nos. 387–89) and Ras el-Bassit (Courbin 1993:30, 67, fig. 17.2, pl. 19.2, inv. C 566. Courbin identifies this amphora as Milesian but the rim shape and neck proportion seem more characteristic of Samos; cf. Cook and Dupont fig. 23.6.a–c [Samian], fig. 23.7.a, 23.8.a, b [Miletos]).

Locally, an estimated 21 vessels are known from Meşad Ḥashavyahu (Naveh 1962a:104 fig. 6.1–3, 5; Fantalkin 2001:90–91, 103), and a complete one was found at Tel Batash–Timnah in the late seventh-century destruction level (Kelm and Mazar 1995:90 fig. C36, 155; Magness 2001:142). Four rim fragments were found at Tel Kabri (Niemeier and Niemeier 2002:235, nos. 26–29 figs. 5.95:1–4). A fragment of a seventh-century transport amphora came from a Persian-period context at Tell Keisan (Nodet 1980:124, pl. 18.12) where it was identified as Cypriot “Plain White VI Ware”; but though Nodet refers to Gjerstad 1948:fig. 63.3a (Plain White VI, Cypro-Classical period in date) as a parallel, Nodet’s pl. 18.12 is clearly closer to Gjerstad 1948:fig. 571.7, which Gjerstad classes with Plain White V (Cypro-

Archaic II, ca. 600–475 by Gjerstad’s chronology; see Gjerstad 1948:427). Although Gjerstad views these amphorai as of Cypriot manufacture, distinguishable from Greek products only by “examination of the clay” (Gjerstad 1948:307), they seem far more likely to be Greek imports. Nodet’s mistaken comparison seems attributable to the fact that the piece in question had been found in a Persian-period context and to his general unfamiliarity with, or lack of expectation of, earlier Greek imports.

A recent paper on the seventh century B.C. Kekova shipwreck (Greene 2008) reported its contents as including “southeast Aegean amphorai (likely from Samos or Miletus),” along with amphorai from Corinth and basket-handled jars.

Distribution of Milesian amphorai in the eastern Mediterranean differs somewhat from that of Samian and is less widespread. In the Aegean, they are found at Miletos (Seifert 2004; Cook and Dupont 1998:174; Dupont 1986:62, pl. 3.1; Naso 2005, who mentions thousands of sherds dating from late eighth to fifth centuries); Assesos (Kalaitzoglou 2008:223–32, 421–24, pls. 131–39, nos. 597–612); Ephesos (Kerschner 1997:120, 123, pl. 4.27; Kerschner and Mommsen 2005); on Chios (Boardman 1967:140, fig. 87 no. 507); and at Kommos on Crete, where they were found in late seventh-century B.C. deposits in Building Q along with sherds of amphorai from Samos, Chios, and Lesbos, the presence of which is attributed to regular long-distance trade that passed through the site (Johnston and de Domingo 2003; de Domingo and Johnston 1997:62).

Milesian amphorai are known as well on Cyprus (Calvet and Yon 1977:19, pl. 11.117, 119) and in northern Egypt at Migdol (Oren 1984:20 fig. 23.5, 25, 29 figs. 36–38 with references). In the Black Sea area they are found at several sites including Histria/Istros, Berezan, and Jagorlyk (see, e.g., Dupont 2005:231; 2007:625–27, though most examples cited are later than late seventh century). An estimated 6 Milesian amphorai were identified at Meşad Ḥashavyahu (Fantalkin 2001:92–93, 103, fig. 33.5–7, 115, fig. 42:11–12). One has been identified at Tel Kabri (Niemeier and Niemeier 2002:237 no. 30, fig. 5.95:5).

*Transport amphorai from Miletos (nos. 496–503):*

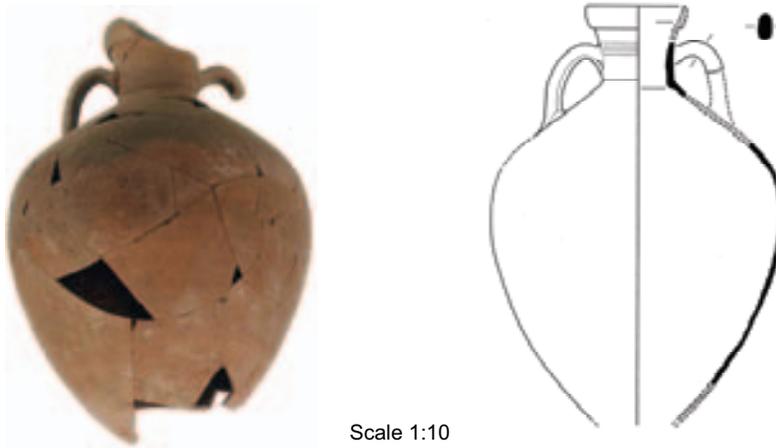
**496** South Ionian (Milesian) transport amphora. NCpl. ED rim 15.0; PH 56.5; MD body 39.5; Th rim 1.1; Th neck wall 0.7; Th body wall 1.7; W handle 3.7.

Medium, light brown (7.5YR 6/4) clay with many fine micaceous inclusions; small to large white grits, some erupting to surface; some black grits; some voids. Toe, lower body, part of rim, and one handle missing. Thickened, rounded rim; slightly convex cylindrical neck with horizontal ridges and grooves; indented at handle root. Neck handle attaches ca. halfway down neck. Sloping shoulder; bulging body with high center of gravity. Barako (2008:442) estimates the capacity of this vessel as ca. 35.64 liters. Faint pattern of horizontal black lines around neck and shoulder.

A72/92.50.49.L353.FG44.B62+83+86+87.(1)

From 604 use phase (occupational debris on floor in Building 406 Room 375).

*Previous publication:* Waldbaum in press:pl. 14.3.7.6; Barako 2008:442 no. 12 (Barako identifies it as “Samian” and does not note traces of paint); Stager 1996a:fig. 6 (identified as “Samian”).



*Rims with ridged necks:*

- 497** South Ionian (Milesian) transport amphora. Rim and ridged neck. 3JSh. ED rim 15.5; H 10.4; Th rim 1.3; Th wall 0.85.

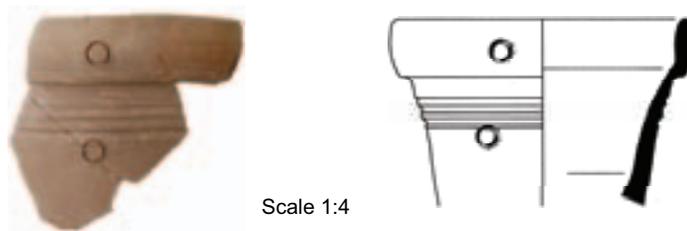
Medium coarse, gritty, micaceous pinkish-gray clay (7.5YR 6/2) with reddish-yellow core, small to medium white and black grits, some erupting to surface. Thickened rim folded outward. Cylindrical neck with four ridges below rim. On rim a circle incised before firing (D 1.1); another on neck overlapping lowest ridge. Possible traces of whitish slip on outer rim and inner surface—very worn.

A78/95.50.57.L256.(2)

From pre-604 quarry fill.

For incised O-shaped incisions on sixth-century and later amphoras, see Greene et al. 2008:693–94, n. 34.

*Previous publication:* Waldbaum in press:pl. 14.3.7.3; 2002b:58, fig. 91.



- 498** South Ionian (Milesian) transport amphora. Rim sherd with part of neck. ED 13.5; H 9.5; Th rim 1.1; Th wall 0.8.

Very micaceous clay with small to medium white grits, some erupting to surface; occasional small black grits. Yellowish-red core (5YR 5/8), dark gray inner surface (5YR 4/1), reddish-gray outer surface (5YR 5/2). Thickened, rounded rim, folded (?) outward. Straight cylindrical neck with three grooves/two ridges below rim. Strong wheel ridges on int. Petrographic analysis: Sample A9, Category 13, Samo-Milesian? (Master 2001:59, 138–41); however, based on its shape, this sherd is probably from Miletos.

A78/95.50.48.L452.(53)

From pre-604 quarry fill.

*Previous publication:*  
Waldbaum 2002b:58, fig. 9 r.



- 499** South Ionian (Milesian) transport amphora. Rim sherd with part of neck. ED rim 16.0; H 5.65; Th rim 1.0; Th neck wall 0.65.

Light reddish-brown (5YR 6/4) clay with reddish-gray (5YR 5/2) core. Many fine micaceous inclusions; some small to medium white and black grits. Thickened, rounded rim; horizontal groove in neck above break.

A78/95.50.47.L285.(2)

From pre-604 construction fill.

(No photograph.)



Scale 1:4

*Rim with neck ridges and painted bands:*

- 500** South Ionian (Milesian) transport amphora. Rim sherds with part of neck. 2JSh. ED rim 16.0; H 4.6; Th rim 1.1; Th wall 0.7.

Medium coarse, pinkish-gray (7.5YR 6/2) clay with light reddish-brown core (5YR 6/4). Many fine micaceous inclusions; small white and black grits, some erupting to surface. Thickened, rounded rim, upper part of neck with remains of a ridge below rim. Traces of black horizontal bands on int. of rim and upper neck.

A78/95.50.57.L256.(1)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

*Rims with painted bands:*

- 501** South Ionian (Milesian) transport amphora. Rim sherd with part of neck. ED rim 14.5; H 2.9; Th rim 1.0.

Highly micaceous, yellowish-red (5YR 5/6) clay with occasional small to medium white and black grits. Light brownish-gray (2.5Y 6/2) surface on int. Thickened rim folded outward; upper part of cylindrical neck. Ext.: horizontal bands of worn black paint on upper part of rim, lip, and upper neck.

A78/95.50.48.L452.(55)

From pre-604 quarry fill.



Scale 1:4

- 502** South Ionian (Milesian) transport amphora. Rim sherd with part of neck. ED rim 13.0; H 4.4; Th rim 0.8; Th neck wall 0.4.

Coarse, micaceous, yellowish-red (5YR 5/6) clay with some small to large white and black grits; some pits and voids. Surface of clay pinkish gray (7.5YR 6/2). Thickened rim folded outward; rounded lip; and a bit of cylindrical neck. Horizontal bands of worn black paint on upper and lower edges of rim.

A78/95.50.48.L452.(54)

From pre-604 quarry fill.



Scale 1:4

*Neck not preserved; no paint:*

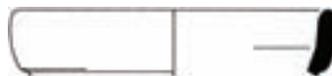
- 503** South Ionian (Milesian) transport amphora. Rim sherd. ED rim 16.0; PH 3.65; PW 6.1; Th rim 1.05; H rim 3.3.

Medium, yellowish-red clay (5YR 5/6) with many fine micaceous inclusions; small black and white grits and some voids. Thickened, rounded, somewhat convex rim with small amount of neck preserved. Faint wheel ridges int. and ext.

A55/94.50.48.L439.B68.(11)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

*Transport amphorai from Samos (nos. 504–6):*

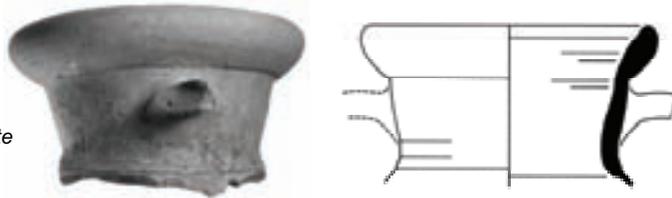
- 504** South Ionian (Samian) transport amphora. Part of rim, neck, and handle root. 2JSh. ED rim 15.0; H 8.2; Th rim 1.5.

Well-levigated, yellowish-red clay (5YR 5/6) with pinkish-gray core (5YR 6/2); many very fine micaceous inclusions; small white grits; some small voids. Thickened, rounded rim, rolled and tilted outward. Short, cylindrical, slightly convex neck. Handle root below rim. Ridges at join with shoulder. Finger marks around handle root; some smeared daubs of clay on rim and neck; wheel ridges on int. Petrographic analysis: Sample A10, Category 19, “petrographically unidentified”—too well levigated for petrographic analysis (Master 2001:58, 155 fig. 2.9.10).

A78/95.50.48.L452.(52)

From pre-604 quarry fill.

*black-and-white  
photograph*



Scale 1:4

- 505** South Ionian (Samian) transport amphora. Rim sherd with part of neck. ED rim 13.5; H 7.0; Th rim 1.7; Th wall 0.8.

Micaceous, medium coarse, brown clay (7.5YR 5/4) with reddish-brown (5YR 5/4) ext. surface. Many fine micaceous inclusions, many small to medium white and black grits; some voids. Thickened rim rolled outward. Wheel ridges on int. Edge of handle root(?) at left edge of sherd (traces of finger marks). Slightly convex neck tapers downward, projecting join to shoulder.

A78/95.50.48.L452.(56)

From pre-604 quarry fill.



Scale 1:4

- 506** South Ionian (Samian) transport amphora. Rim sherd with part of neck. ED rim 14.0; H 3.6; Th rim 1.5; Th wall 0.6.

Medium, light reddish-brown (5YR 6/3) clay with light brown (7.5YR 6/4) surface. Many fine micaceous inclusions; small white grits, some erupting to surface. Short, thickened, rounded rim; upper part of cylindrical neck.

A78/95.50.48.L452.(124)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

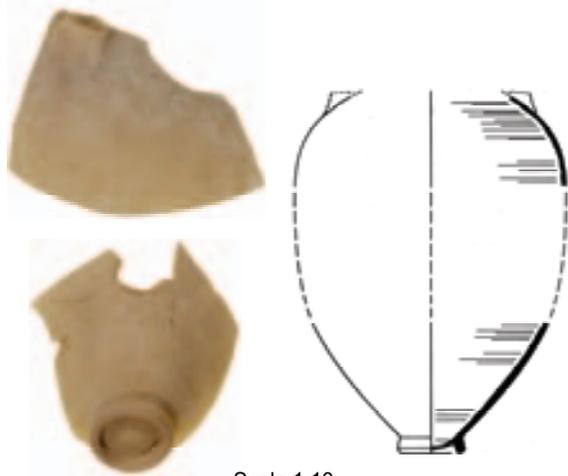
*South Ionian (“Samo-Milesian” in general) transport amphorai (nos. 507–16):*

- 507** South Ionian (“Samo-Milesian”) transport amphora. SJSh. Partly restored: toe to shoulder. PH mid body to toe: 17.5; ext. D toe 8.5; int. D 7.5; Th wall 0.9.

Medium coarse, brown (7.5YR 5/4) clay with somewhat redder core. Many fine to small micaceous inclusions and some small to large white and black grits. Pronounced wheel ridges on int. Int.: surface encrusted with whitish substance. Low, reverse conical double-beveled ring foot, lightly rounded resting surface; convex underside. Body tapers to toe, swells out and slopes in toward neck. Other nonjoining sherds include handle stump on shoulder, and possibly the rim. Foot type suggests Milesian (see Dupont in Cook and Dupont 1998:174, fig. 23.8j–m). Petrographic analysis on toe: D. Master, pers. comm. 2001.

A78/95.50.47.L285.(1)

From pre-604 quarry fill.



Scale 1:10

## Toes:

- 508** South Ionian (“Samo-Milesian”) transport amphora. Toe. PH 3.1; ext. D 5.9; int. D 3.6.

Low, ring foot, somewhat flared with slightly beveled outer edge, rounded resting surface, convex underside; slight nipple in center of underside. Medium, yellowish-red (5YR 5/6) clay with occasional fine micaceous inclusions, some small white and black grits; one large void in top surface, some small ones. Possibly Samian (see Dupont in Cook and Dupont 1998:fig. 23.6b). Petrographic analysis: Category 13 or 14? (Master, pers. comm. 2001).

A89/96.50.49.L451.B121.(23)

From pre-604 quarry fill.



Scale 1:4



- 509** South Ionian (“Samo-Milesian”) transport amphora. Toe. PH 2.7; ext. D 8.5; int. D 6.5.

Low, wide ring foot with rounded resting surface; beveled outer edge; convex underside; thin floor (broken through). Medium, brown (7.5YR 5/4) clay with many fine micaceous inclusions; some small to large white and crystalline grits; some erupting to surface. Possibly Milesian (see Dupont in Cook and Dupont 1998:174, fig. 23.8j–m). Petrographic analysis: Category 13 or 14? (Master, pers. comm. 2001).

A78/95.50.48.L452.(65)

From pre-604 quarry fill.



Scale 1:4



- 510** South Ionian (“Samo-Milesian”) transport amphora. Toe. PH 3.7; ext. D 8.5; int. D 6.0.

Low, conical ring foot with beveled outer edge; flat resting surface; pronounced nipple on underside; thick floor. Medium, light reddish-brown (5YR 6/4) clay with light brown (7.5YR 6/4) outer surface (slip?). Some fine micaceous inclusions, small white and black grits. Petrographic analysis: Category 13 or 14 (Master, pers. comm. 2001).

A89/96.50.49.L451.B54.(11)

From pre-604 quarry fill.



Scale 1:4



- 511** South Ionian (“Samo-Milesian”) transport amphora. Toe. D toe 7.0; PH 5.8; Th wall 1.1.

Medium, reddish-yellow (5YR 6/6) clay with many fine micaceous inclusions; some small to medium white grits; some erupting to surface; some voids. Tapered lower wall. Ring base with double beveled outer edge, highly convex underside. Wheel ridges on int. Remains of red (10R 4/6) pigment on int., along one broken edge, and dripping down side to underside. Reused as inkwell or paint pot. Possibly Milesian (see Dupont in Cook and Dupont 1998:fig. 23.8j–m for Milesian double-beveled amphora feet).

A89/96.50.49.L453.B173.(24)

From pre-604 quarry fill.



Scale 1:4



- 512** South Ionian (“Samo-Milesian”) transport amphora. Toe. 2JSh. ED toe 8.5; PH 3.7; Th foot 1.3; Th wall 0.75; Th floor 0.3.

Medium coarse, red (2.5YR 5/6) clay with pinkish-gray (7.5YR 6/2) surface. Many fine micaceous inclusions; some small to medium white grits, some erupting to surface; gritty texture. Lower wall tapers downward; floor thins to center; somewhat convex on underside. Reverse conical, double-beveled foot; slight ridge on inner edge of resting surface. Possibly Milesian (see Dupont in Cook and Dupont 1998:174, fig. 23.8j–m and Kalaitzoglou 2008:423, pl. 137 no. 608 “imitation Samian”).

A78/95.50.48.L452.(66)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4



- 513** South Ionian (“Samo-Milesian”) transport amphora. Toe. ED toe 6.0; PH 7.8; Th foot 1.3; Th wall 1.4.

Medium coarse, light brown (7.5YR 6/4) clay with grayer core. Fine micaceous inclusions; small to large white grits; many voids and pock marks. Tapering lower body; reverse conical, hollow, double-beveled foot. Resting surface apparently flattened but much worn. Possibly Milesian (see Dupont in Cook and Dupont 1998:174, fig. 23.8j–m).

A89/96.50.49.L449.B22.(13)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

*Analyzed body sherds from South Ionian (“Samo-Milesian”) transport amphorai (see figure 10.6 after cat. no. 560):*

- 514** South Ionian (“Samo-Milesian”) transport amphora. Body sherd. Th 0.8.

Micaceous, light brown clay (7.5YR 6/4) with some small black grits. Petrographic analysis: Sample A8, Category 14, clusters with no. **495/B9**; similar to Category 13 but differs in color (Master 2001:91, 138–42).

A72/92.50.58.L262.FG11.B163 not registered

From 604 destruction debris.

- 515** South Ionian (“Samo-Milesian”) transport amphora. Body sherd. Th 0.7.

Very micaceous, pinkish-gray clay (7.5YR 7–6/2) with grayish-brown outer surface (2.5Y 5/2). Occasional small white grits. Petrographic analysis: Sample A7, Category 13, Samo-Milesian? (Master 2001:52, 138–41).

A55/94.50.48.L444.B40 not registered

From pre-604 quarry fill.

- 516** South Ionian (“Samo-Milesian”) transport amphora. Body sherd. Th 1.3.

Coarse, micaceous pink clay (7.5YR 7/4) with gray core; small to medium white and black grits. Porous surface. Petrographic analysis: Sample A6, Category 13, Samo-Milesian? (Master 2001:79, 138–41).

A89/96.50.49.L449.B2 not registered

From pre-604 quarry fill.

**Transport amphorai from Chios (nos. 517–21).** Six specimens are attributed to Chios: one nearly complete vessel, one rim, two bases (toes), a handle, and an uncatalogued body sherd. The nearly complete vessel (no. **517**), the rim (no. **519**), and one of the toes (no. **520**) were analyzed petrographically, confirming their Chian origin (Master 2001:145–46, Category 17, and pers. comm. 2001; see Whitbread 1995:135–53 and Dupont in Cook and Dupont 1998:146–51 for further description and analyses of Chian amphorai).

Clay textures of the Chian amphorai range from medium to coarse and colors range from yellowish red (5YR 5/6) to light brown (7.5YR 6/4) to strong brown (7.5YR 4/6). All are micaceous and contain other inclusions as well.

Two Chian amphorai came from 604 B.C. deposits: no. **517**, a nearly complete amphora, and no. **518**, a base. One rim (no. **519**), one toe, and 2 body sherds came from the pre-604 quarry fill. The nearly complete example, with its worn, very pale brown slip

(possibly faded or discolored from the bright white characteristic of early Chian amphorai) and pattern of thick vertical and horizontal red lines, with horizontal S-curves on the shoulders, is a textbook example of a late seventh-century Chian amphora (Cook and Dupont 1998:146, fig. 23.1b, c; Dupont 1982:194–96). The white slip and red paint on the rim of no. **519** and on the uncatalogued body sherd [3739], and the red paint on the foot of no. **518**, are early Chian characteristics.

Late seventh-century Chian amphorai were widely distributed. In the eastern Mediterranean they are found on Chios (Cook and Dupont 1998:146; Anderson 1954:136 nos. 17–21, 169, pl. 7a nos. 17–19); on Thasos (Bernard 1964:137–39, fig. 50); in North Africa at Tocra (Hayes 1966:139, pl. 90 no. 1414; 1973:62, fig. 25, pl. 32 no. 2258); in northern Egypt at Naucratis (Petrie 1886:pl. 16.4) and at Migdol, where there are parallels with Oren’s “Type B,” which he dates in the early sixth century (Oren 1984:24, figs. 24.1, 33–34). Oren (1984:25, 39 n. 13) also

notes the presence of unpublished Chian amphorai at Naukratis and Defenneh, but since they are not illustrated and he does not state the type, it is not clear whether they provide parallels for the Ashkelon example. Chian amphorai are also found on Cyprus (Calvet and Yon 1977:18, pl. 10. 99–106; 1978:49, pl. 23 fig. 5c) and possibly at Tarsus (Hanfmann

1963:326, pl. 108 nos. 1620, 1621). Bernard (1964: 138 n. 12) refers to one at Al Mina, but it cannot be identified from the source cited. In the Black Sea area, some have been found at Istros/Histria (Lambrino 1938:100–6, esp. figs. 63–65). There are a few examples at Tall Sūkās (1973:72 nos. 322–24) but otherwise there is little in Syria, Phoenicia, or Israel.

*Chian transport amphorai from 604 use phase or destruction debris:*

**517** Chian transport amphora. NCplt. H 60; MD body 39.5; D rim 15.5; Th rim 1.85; D neck 15.0; H neck 3.9; H foot 2.0; D foot 10.0; W resting surface 1.3; W handle 4.35; Th handle 1.9; Th wall 0.8–1.1.

Medium, yellowish-red clay (5YR 5/6). Fine micaceous inclusions with many small to large white grits, some erupting to surface, as well as some small to medium black grits and some voids. Thickened rim, angled sharply inward where it meets the neck. Short cylindrical neck, sloping shoulder. Body has high center of gravity, widest at join with shoulder, tapering to toe. Barako (2008:446) determined capacity at 34.70 liters. Dent in one side of shoulder where something leaned on it before or during firing. Broad, vertical strap handles joining at neck and shoulder. Low ring foot with slightly rounded resting surface; beveled lower outer edge. Underside convex. Worn slip over all—very pale brown (10YR 7/3). Horizontal and vertical streaky red (2.5YR 5/6) to dusky red (2.5YR 3/2) to dark reddish-gray bands. Horizontal bands: (1) across rim and upper neck; (2) lower neck/join with shoulder; (3 and 4) lower shoulder (pair); (5) widest diameter; (6 and 7) lower belly; (8) lower body/join with foot and outer foot. Vertical bands: down outer handles and continuing through horizontal bands 3, 4, 5, 6. On shoulders: horizontal S-curves (one on each side). Cf. Dupont in Cook and Dupont 1998:fig. 23.1c, “second half of the seventh century.” Petrographic analysis: Category 17, Chios (Master 2001:117, 145–46).

A73/98.50.67.L61.FG37.B57+(1)

From 604 destruction debris in plastered installation (see chapter 3, p. 35 and figure 3.5).

*Previous publication:* Waldbaum in press:pl. 14.3.7.1; 2002b:fig. 5; Barako 2008:446 no. 16.



- 518** Chian transport amphora. Base sherd. D foot 10.25; H foot 2.2; W resting surface 1.5; PH 2.9; Th floor 0.4.

Medium, strong brown clay (7.5YR 4/6) with many fine micaceous inclusions and occasional small to large white grits. Broad, high, double-beveled ring foot, flat resting surface. Floor thin and concave; convex on underside. Red (2.5YR 4/6) stripe around ext. foot above bevel. Cf. Dupont in Cook and Dupont 1998:fig. 23.1d for broad Chian amphora foot “end of 7th-beginning of the 6th century.”

A55/94.50.58.L330.B64.(2)

From 604 use phase (West Street).



Scale 1:4

*Chian transport amphorai from pre-604 quarry fill:*

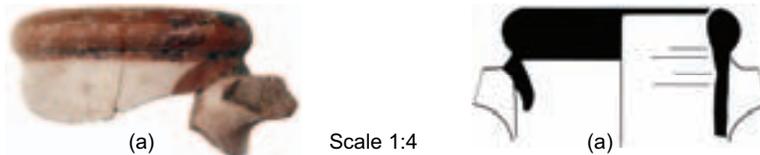
- 519** Chian transport amphora. Rim sherds and body sherds. SJSh and NJSh. (a) D rim 10.5, H 7.7, Th rim 1.8, Th wall 0.7; (b, c—body sherds) Th 0.6, Th wall 0.75.

Micaceous, light brown clay (7.5YR 6/4) with numerous small to large white grits, some erupting to surface; inner surface rough and pitted; some black grits as well. (a) Rim and handle stump: SJSh. Thickened rim rolled outward. Neck slightly convex. Handles attached just under rim. (b, c) Body sherds: worn int. Ext.: thin white slip (10YR 8/2). Red paint (2.5YR 4/6) on rim and upper neck, around handle roots, and in wave lines and loops on body. Foot found with this belongs to another vessel; more like an oinochoe than an amphora foot (see above, no. 420). Petrographic analysis: Sample A11, Category 17, Chios (Master 2001:50, 145–46).

A55/94.50.48.L439.B47+52+65+69.(3). Rim and handle in B65 and B69 and 3 body sherds in B47 and B52.

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.7.2; Stager 1996a: 67\*, fig. 5; 1996b:60 top left.



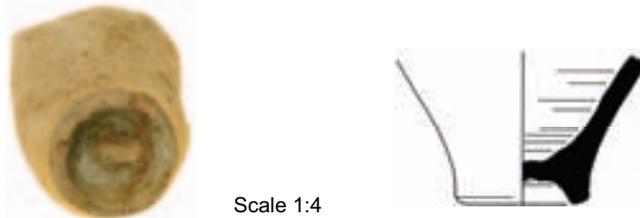
Scale 1:4

- 520** Chian transport amphora. Toe. PH 7.9; ext. D toe 6.9; int. D 5.2; Th wall 0.9.

Narrow, high ring foot with rounded resting surface. Slightly convex underside, thick floor. Lower body tapers directly into foot. Coarse brown (7.5YR 5/4) clay with grayish-brown core (10YR 5/2); outer surface light gray (10YR 7/2). Occasional fine to small micaceous inclusions, many small white grits; some black ones. Small voids on surface. Petrographic analysis: Chian (Master, pers. comm. 2001). The shape looks very unlike the examples in Cook and Dupont 1998:fig. 23.1a–d.

A78/95.50.48.L452.(250)

From pre-604 quarry fill.



Scale 1:4

- 521** Chian(?) transport amphora. Body sherd with part of handle. PH 8.5; W handle 2.9; Th handle 1.45; Th wall 0.65.

Medium, yellowish-red core (5YR 5/8) with strong brown under surfaces (7.5YR 4/6). Fine sparse micaceous inclusions; many small white grits. Lower part of handle with part of shoulder wall attached. Wheel ridges on int. wall. Ovoid section with depression in center of ext. Slipped very pale brown (10YR 7/3) with vertical dark reddish-gray (5YR 4/2) band on ext. Very worn. Vertical stripe down center of handle suggests Chian but this is far from certain.

A78/95.50.48.L452.(256)

From pre-604 quarry fill.



Scale 1:4

**Uncatalogued Chian(?) white-slipped transport amphora body sherd with remains of red spirals:**

[3739] A80/97.50.48.L453.B8.(72); from pre-604 quarry fill.

**Northeast Aegean transport amphorai from Lesbos or northwestern Anatolia (nos. 522–27).** Fragments of 6 amphorai probably originated in the northeast Aegean. No. **522** came from a 604 B.C. context in Grid 38. The rest came from the pre-604 quarry fill in Grid 50. Master did petrographic analysis on four of them (nos. **522**, **523/A13**, **526**, **527/A4**). Both nos. **523/A13** and **527/A4** are coarse amphorai that belong to Master's Category 16, which is characterized by the inclusion of andesite that "requires an environment dominated by acid-intermediate igneous rocks . . . Several places within the Aegean have this type of formation, but the largest area is a band including Lesbos and the bulk of northwestern Anatolia" (Master 2001:144–45). No. **522** is petrographically different from the other two and was placed in Master's Category 18. It is characterized by trachyte inclusions but is still traced to the same northeast Aegean region (Master 2001:40, 146–47, 155 fig. 2.9.8). Barako (2008:445 no. 15), citing Clinkenbeard (1982), classifies it as Lesbian (this amphora was not known to me at the time I assembled this catalogue and I include here only Master's remarks; the description of no. **522** below is based on Barako 2008:445 no. 15). No. **526** is a black burnished and slipped handle with round section that seems to come from the north (Master, pers. comm. 2001). No. **524**, a rim, and no. **525**, a foot, were not analyzed but are classified with the northeast Aegean material on the basis of form.

There are a number of problems with a specifically Lesbian origin for nos. **523/A13** and **527/A4**. The Lesbian amphora series is thought to begin in the seventh century and examples are found at sites ranging from Athens to Egypt and the Black Sea (Clinkenbeard 1982:248–49; see also Whitbread 1995:154–55; Dupont in Cook and Dupont 1998:156–62), which fits the chronological and distributional profile of the Ashkelon Greek imports. Fantalkin and Tal have recently identified a fragment of a Lesbian amphora from Stratum IIIB at Tell Qudadi which they attribute to "no later than the end of the 8th to the

beginning of the 7th centuries BCE," making it, if true, "the earliest example of the Lesbian amphorae found so far" (Fantalkin and Tal 2009:198). One example has even been found at Meşad Hāshavyahu (Naveh 1962a:104, fig. 6.4; Fantalkin 2001:94, 95 fig. 34.2, 103). However, our no. **523** lacks the cylindrical handles and distinctive "rat-tail" extensions of the lower ends of the handles characteristic of Lesbian amphorai (see Clinkenbeard 1982: 250, pl. 72a). Lesbian amphorai are also generally gray, though some are reddish, as ours are (5YR 6/4, 10R 6–5/6), and they have obvious cores, as ours do (Clinkenbeard 1982:250–51, 253). Both Clinkenbeard (1982: 264–65) and Dupont (1982:201–3) comment on the coarseness of the fabric. The shape of Ashkelon no. **523**, and especially the handles, is perhaps closest to Clinkenbeard's Shape B, a table amphora with flat base and flattened handles without the "rat-tail" (Clinkenbeard 1982:258–59, pl. 69.c, d). Dupont, however, points out that these are not distributed much beyond Lesbos itself (Cook and Dupont 1998: 159–60). Furthermore, the Ashkelon example is not a table amphora but a much larger vessel. The base of the Ashkelon example is missing and cannot be compared. Whitbread, who did petrographic analyses on several Lesbian amphorai, does not mention andesite as a component, though he suggests that a wide range of composition is possible among Lesbian amphorai based on the varied geology of the island of Lesbos/Mytelene (Whitbread 1995:154–64). As for amphora no. **522**, it is difficult, without having seen it, to give a definitive opinion, but the body and foot shapes as drawn resemble more the examples of the late sixth century than those of the seventh (cf. Dupont in Cook and Dupont 1998:fig. 23.4.a [second half of seventh century] and fig. 23.4.c [third quarter of sixth century]; see also Clinkenbeard 1986:353, 359, fig. 2 no. 1, "ca. 500 B.C."), and the same caveats regarding the color and absence of "rat-tail" extension from the handle listed above for the Category 16 amphorai apply here.

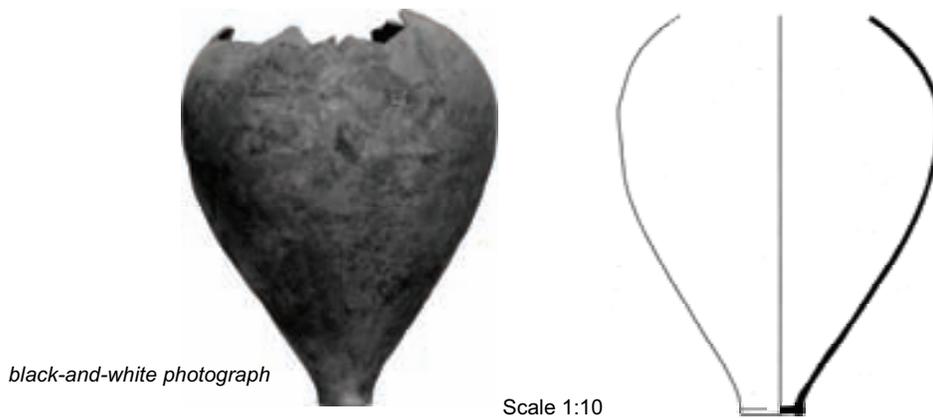
**522** Northeast Aegean transport amphora. Partly restored: shoulder, body and toe. PH 54.5; H. toe 2.3; MD 42.1; D toe 7.1.

Coarse, hard, light yellowish-brown clay (2.5Y 6/3) with red (10R 5/6) core. Many fine micaceous inclusions and some small white grits. Rounded shoulders and bulging upper body with high center of gravity, tapering to flattened hollow toe with recessed underside. Surface marked with closely spaced, regular and slightly diagonal, light scrape marks over most of body. Int.: vertically dragged finger impressions along shoulder region. Barako estimates the capacity of this vessel at ca. 43.09 liters. Petrographic analysis: Category 18, Northwest Anatolia—possibly Lesbos (Master 2001:40, 146–47).

A55/94.38.84.L371.(1)

From 604 destruction debris in alley.

Previous publication: Barako 2008:445, no. 15.



- 523** Northeast Aegean transport amphora. Partly restored: rim, neck, handles, upper body. PH 39.5; ED rim 18.0; Th rim 2.2; Th neck wall 0.8; Th body wall 1.2; W handle 4.95.

Coarse, gritty, light reddish-brown (5YR 6/4) surface with light gray (5YR 7/1) core. Many fine micaceous inclusions, small to large white, red, brown, and black grits, many erupting to surface; voids, many pits and chaff marks on surface. Thickened, rounded rim with sharp edge at junction to neck. Tall cylindrical neck, curving into rounded sloping shoulder. Wide vertical neck handles. Strong wheel ridges on int. neck; shallower on int. body. Petrographic analysis: Sample A13, Category 16, Northeast Aegean/Northwest Anatolia (Master 2001:84; 144–45).

A89/96.50.49.L453.B46.(3)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.7.11; 2002b:58, fig. 10.



- 524** Northeast Aegean(?) transport amphora. Rim sherd with part of neck. ED rim 12.0; H 4.0; Th rim 1.3; Th wall 0.5.

Medium, light reddish-brown (5YR 6/4) clay with many fine micaceous inclusions; small to medium white grits; a few brown and black grits; some voids. Short, thickened rounded rim, flattened on upper surface; upper part of cylindrical neck. Rim shape is similar to that of no. **523** but smaller, suggesting a northeast Aegean origin, but this is not certain.

A89/96.50.49.L449.B4.(3)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

- 525** Northeast Aegean transport amphora. Lower body and toe sherd. PH 8.6; D lower body 5.0.

Medium, light brown (7.5YR 6/4) clay with grayish-brown core (2.5Y5.2). Many fine micaceous inclusions; occasional small to large white grits; some voids. Ext.: very worn. Lower part of tapering body; low ring base with flat resting surface. Underside fairly flat. Cf. Dupont 2005:fig. 14b, Lesbian amphora base from Histria, last quarter seventh century.

A78/95.50.48.L452.(64)

From pre-604 quarry fill.



Scale 1:4



- 526** Northeast Aegean transport amphora. Handle sherd. PL 6.4; D 2.6.

Dark gray (5YR 5/1) to reddish-gray (5YR 4/2) clay with darker gray core. Fine to small micaceous inclusions; some small white inclusions; some pits and voids. Upper part of handle and attachment to neck. Round in section. Surface: black slip; burnished. Petrographic analysis: northern Aegean, possibly Lesbos (Master, pers. comm. 2001).

A89/96.50.48.L457.(3)

From pre-604 quarry fill.



Scale 1:4



- 527** Northeast Aegean transport amphora. Body sherd. Th 1.2.

Coarse, light red to red clay (10R 6–5/6) with wide dark gray core (2.5YR N4/). Fine micaceous inclusions and many small black and white grits. Clay light and friable. Petrographic analysis: Sample A4, Category 16, Northeast Aegean/Northwest Anatolia (Master 2001:60, 144–45).

A89/96.50.48.L453.B7 not registered

From pre-604 quarry fill.

(No drawing; for photograph see figure 10.6, Sample A4/527, after cat. no. 560.)

### Transport amphorai of unknown provenance (nos. 528–48):

#### *Transport amphora (provenance unknown) rims:*

- 528** Transport amphora (provenance unknown). Rim sherd. ED rim 12–13; Th rim 1.4; H rim 1.9; PH 3.2; Th wall 0.9.

Coarse, yellowish-brown clay (10YR 5/4). Fine sparse micaceous inclusions with many small to large white and black grits. Short, thickened, rounded rim with irregular diameter. Not much of wall preserved. M. Kerschner (pers. comm. May 2003) suggested that this belongs to a type common in Ephesos and the Middle Ionian region around Colophon and Teos. It may belong to a South Ionian group that has not yet been localized.

A78/95.50.58.LF318.(45)

From pre-604 quarry fill.



Scale 1:4



- 529** Transport amphora (provenance unknown). Small amphora rim sherd. ED rim 11.5; Th rim 0.9; Th wall 0.4; PH 2.6; H rim 1.75.

Medium, light brown clay (7.5YR 6/4) with fine sparse micaceous inclusions and occasional small to large white and dark grits, and some voids. Rim folded outward. Wall below flares as it descends.

A89/96.50.48.L462.B6.(3)

From pre-604 quarry fill.



Scale 1:4



- 530** Transport amphora (provenance unknown). Rim sherd. ED rim 15.0; PH 8.0; Th rim 2.0; Th neck wall 1.1.

Coarse, red (2.5YR 5/6) clay with gray core. Many micaceous inclusions; small white and dark grits; some pits and voids. Roughly made, rounded, thickened rim rolled or folded outward. Strong wheel ridges and light grooves on int.; extra wads of clay adhering to inner rim. Slightly convex neck.

A78/95.50.48.L452.(248)

From pre-604 quarry fill.



Scale 1:4

- 531** Amphora or krater? Rim sherd. ED rim 25.5; Th rim 1.1; H rim 1.3; PH 3.0; Th wall 0.55.

Coarse, yellowish-red clay (5YR 4/6) turning browner near inner surface. Many fine micaceous inclusions and occasional small to medium white grits. Gritty texture. Burnished int. and ext. Short thickened rim, rounded on top; groove in lower ext. Wall below rim thinner and flares outward as it descends. Ext.: slipped dark grayish brown (10YR 4/2). The shape, color, and treatment are unusual for Greek. Rim diameter is very wide for an amphora but narrow for a krater.

A78/95.50.48.L454.(12)

From pre-604 quarry fill.



Scale 1:4

- 532** Amphora? Krater? Stamnos? (Stance uncertain.) Rim sherd. ED 17 or 27, depending on stance; PH 10.2; Th rim 1.9; Th "neck" 0.9; H rim 4.4.

Medium, light brown (7.5YR 6/4) clay with very fine micaceous inclusions and some small white, brown and black grits. Surface is very pale brown (10YR 7/4) to light yellowish brown (10YR 6/4). Thickened, rounded rim curved inward (or outward) straightening and thinning to narrow ridge above "neck." Worn black paint over whole ext. of rim. "Neck" reserved. Rim is heavier than the usual amphora rim and tilts much more inward (or outward) than the norm. The thickened rim with ridge below it and the black paint across the rim and top of "neck" resemble those of Attic "à la brosse" and SOS amphorai (see, e.g., Kalaitzoglou 2008:232–34, 424, pl. 139 nos. 613, 614 imports to Assesos) but neither of the suggested stances is correct for this type. Kalaitzoglou (2008:235–38, 424–25, pl. 140 nos. 615–19) also publishes a few "neckless stamnoi Type A" in most of which the top of the decorated rim tilts inward and the body slopes directly outward from the lower rim, similar to our "alternative 1." While no two of the published Assesos examples are alike, none have rims with the same thickened and rounded form as the Ashkelon piece. Kalaitzoglou (2008:236 n. 1124) refers to more numerous examples of these from Kalabaktepe at Miletos but these are as yet unpublished.

A78/95.50.48.L452.(57)

From pre-604 construction fill.

Two alternative stances are shown:



alternative 1



Scale 1:4



alternative 2

*Transport amphora (provenance unknown) neck sherds:*

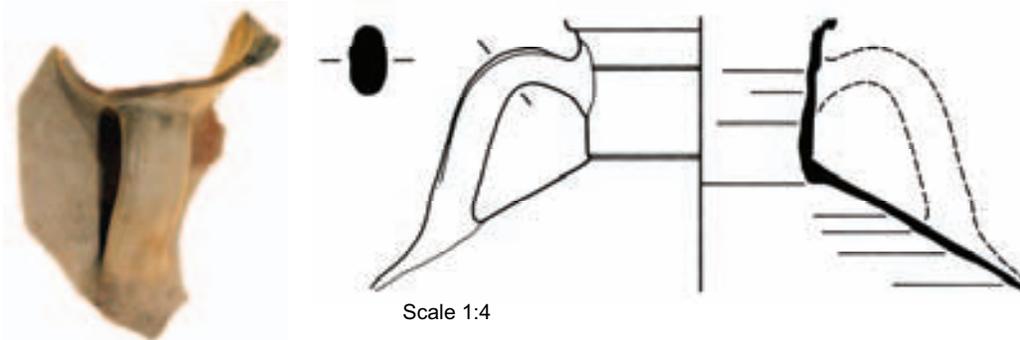
- 533** Transport amphora (provenance unknown). Neck, handle, shoulder. 2JSh. PH ca. 15.0; W handle 3.8; Th handle 2.2; Th neck 0.75; Th wall 0.5.

Yellowish-red (5YR 4/6) clay with dark gray core. Many fine micaceous inclusions; some small to large white grits; some erupting to surface. Lower part of thin rim steps in to upper neck; upper neck steps in to short cylindrical lower neck. Ridge at join to shoulder. Diagonal neck handle attaches across step in upper neck and to upper shoulder. Strong wheel ridges inside neck. Smudges of red pigment on lower neck and upper shoulder.

A78/95.50.58.LF318.(5)

From pre-604 quarry fill.

533



534 Transport amphora (provenance unknown). Neck sherd. PH 6.02; Th neck wall 0.9; W 13.3.

Medium coarse, yellowish-red (5YR 5/6) clay with some fine micaceous inclusions; fine to medium white and dark grits; some voids. Lower neck with join to shoulder. Surface: very worn pink (7.5YR 8/4) slip; wide dark reddish-brown (5YR 3/2) painted band around base of neck; trace of same color on shoulder (indiscernible pattern).

A55/94.50.57.L259.B111.(1)

From pre-604 quarry fill.

(No photograph.)

Scale 1:4



**Uncatalogued transport amphora (provenance unknown) neck sherd from pre-604 quarry fill (qty. 1):**

[3767] A89/96.50.49.L453 not registered

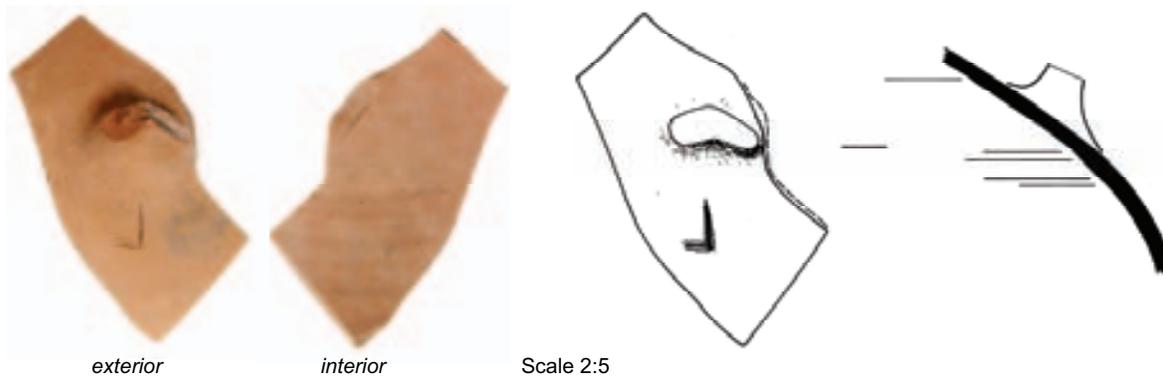
*Transport amphora (provenance unknown) shoulders:*

535 Transport amphora (provenance unknown). Shoulder sherd with handle stump. H 11.5; W 5.4; Th 0.5.

Micaceous pink clay (7.5YR 7/4) with numerous fine to medium white grits, some erupting to surface, and some black. Shoulder with stump of flattened, ovoid handle. Pronounced wheel ridges on int. At base of handle, thumb print. Under handle, a potter's mark, incised before firing (*lambda* or *gamma*?).

A78/95.50.57.L256.(4)

From pre-604 quarry fill.

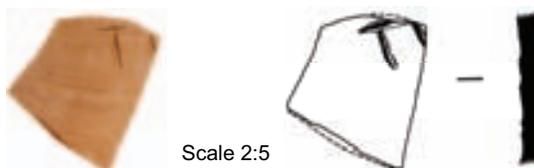


536 Transport amphora (provenance unknown). Shoulder sherd. H 5.4; W 4.3; Th 0.8.

Micaceous clay fired unevenly; very pale brown (7.5YR 7/3) outer half of section; light brown (7.5YR 6/4) inner half. Very fine micaceous inclusions, small to medium white grits, some voids. Strong wheel ridges on int. Possibly part of the shoulder. Unslipped. Most of Greek letter *pi* preserved at angle to wheel marks.

A78/95.50.57.L256.(3)

From pre-604 quarry fill.



- 537 Transport amphora (provenance unknown). Shoulder sherd. H 10.0; W 10.8; Th 0.55.

Red (2.5YR 5/6) clay with grayish-brown outer surface. Many fine micaceous inclusions; occasional small to large white grits, some erupting to surface; few voids. Wheel ridges on int. Curved shoulder. Black linear pattern on ext.

A80/97.50.49.L453.B4.(22)

From pre-604 quarry fill.



Scale 1:4



**Uncatalogued transport amphora (provenance unknown) shoulder sherds from pre-604 quarry fill (qty. 2):**

[4089] A78/95.50.48.L452 not registered

[3866] A78/95.50.57.L256 not registered

*Transport amphora (provenance unknown) handles:*

- 538 Transport amphora (provenance unknown). Handle. H 8.0; W 3.1; Th 1.5.

Strong brown (7.5YR 4/6) clay with many small micaceous inclusions and some small white grits; some small voids. Vertical handle curving over to meet neck. Rim and shoulder attachments preserved. Signs of finger smoothing at both ends.

A89/96.50.49.L451.B113.(22)

From pre-604 quarry fill.



Scale 1:4



- 539 Transport amphora (provenance unknown). Handle. W 3.8; Th 1.2.

Top of strongly curved vertical handle with neck attachment. Finger smoothing around attachment. Medium coarse, pink (7.5YR 7/4) clay with some small micaceous, white, and brown inclusions; some voids.

A78/95.50.48.L452.(59)

From pre-604 quarry fill.



Scale 1:4



- 540 Transport amphora (provenance unknown). Handle. H 10.7; W 2.8; Th 1.5.

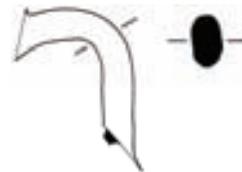
Medium, brown (7.5YR 5/4) clay with many fine to small micaceous inclusions; some small white and black grits; some voids. Whole vertical handle with attachment to neck and shoulder. Finger smoothing at base.

A78/95.50.48.L452.(62)

From pre-604 quarry fill.



Scale 1:4



- 541 Transport amphora (provenance unknown). Handle. PH 11.0; W 3.35; Th 1.6.

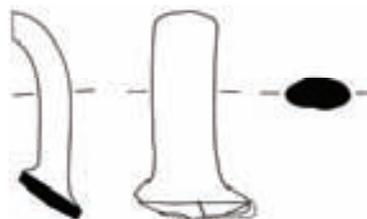
Light brown (7.5YR 6/4) clay with many fine to small micaceous inclusions. Lower part of flat neck handle with start of curve to neck. Part of shoulder attachment preserved. Potter's mark on shoulder attachment incised before firing: horizontal line across base of handle; two (incomplete) diagonals pendent from it (possible *lambda* or *gamma*—cannot tell if it is inscription or decoration). Finger smoothing around base of handle.

A78/95.50.48.L452.(60)

From pre-604 quarry fill.



Scale 1:4



- 542** Transport amphora (provenance unknown). Handle. PH 9.1; W handle 3.4; Th handle 1.7; Th wall 0.5.

Medium-fine, strong brown clay (7.5YR 4/6) with many fine micaceous inclusions, occasional small to very large (0.7 × 0.7) white grits; some small voids. Tall handle with part of shoulder wall attached at lower end. Upper end missing. Amygdaloid section with low ridge in center of inner and outer surface. Wheel ridges on int. wall.

A55/94.50.57.L259.(2)

From pre-604 quarry fill.



Scale 1:4

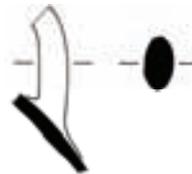
- 543** Transport amphora (provenance unknown). Handle. PH 9.3; W 2.8; Th handle 1.4; Th wall 0.6.

Vertical handle broken at top. Shoulder attachment preserved. Medium coarse, reddish-brown (5YR 6/4) clay with many fine micaceous inclusions and many small to medium white and black grits, some erupting to surface. Surface slipped pinkish gray (5YR 6/2).

A78/95.50.48.L452.(63)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

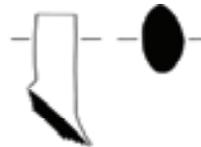
- 544** Transport amphora (provenance unknown). Handle. H 7.5; W 3.6; Th 2.1.

Medium, yellowish-red (5YR 5/6) clay with many fine micaceous inclusions. Lower part of vertical handle with part of attachment to shoulder. Some finger smoothing.

A89/96.50.49.L451.B102.(21)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

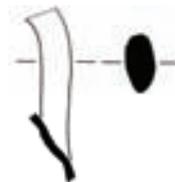
- 545** Transport amphora (provenance unknown). Handle. H 9.9; W 2.9; Th 1.5.

Medium coarse, brown (7.5YR 5/4) clay with many fine micaceous inclusions and some small white grits; a few voids. Lower part of a vertical strap handle with attachment to shoulder. Underside heavily charred. Pick mark on shoulder.

A78/95.50.48.L452.(120)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

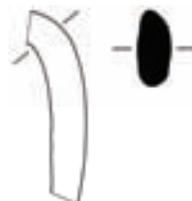
- 546** Transport amphora (provenance unknown). Handle. H 10.4; W 4.0; Th 1.8.

Medium coarse, light brown (7.5YR 6/4) clay with grayer core; fine micaceous inclusions; many small to medium white, black and brown grits. Flat, strap handle; top and bottom ends missing; shallow vertical grooves in outer surface.

A78/95.50.48.L452.(58)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

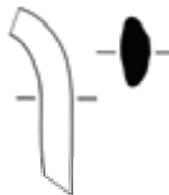
547 Transport amphora (provenance unknown). Handle. H 10.0; W 3.6; Th 1.5.

Medium coarse, light brown (7.5YR 6/4) clay with many fine micaceous inclusions; some small white grits. Lower part of flat strap handle with start of curve to neck.

A78/95.50.58.LF318.(6)

From pre-604 quarry fill.

(No photograph.)



Scale 1:4

**Uncatalogued transport amphora (provenance unknown) handle sherds from pre-604 quarry fill (qty. 2):**

[3748] A89/96.50.48 not registered

[3749] A78/95.50.48.L454 not registered

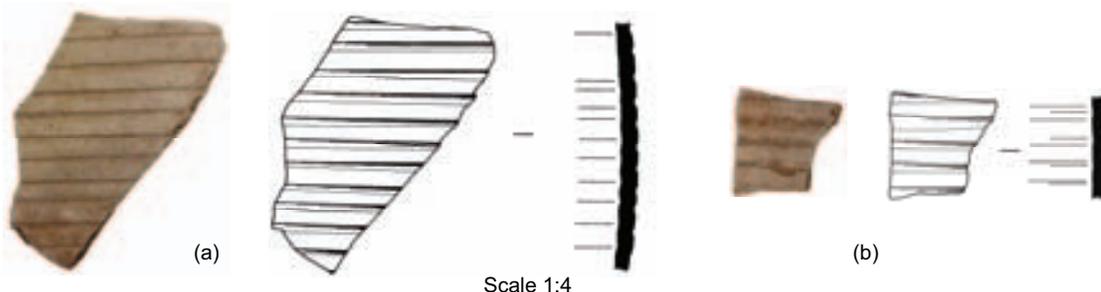
*Transport amphora (provenance unknown) body sherds:*

548 Body sherds. 2NJS. (a) PH 13.7, PW 8.9, Th 0.95; (b) PH 5.7, PW 5.5, Th 0.8.

Reddish-brown (5YR 5/4) clay with light gray surface (10YR 7/2). Some micaceous inclusions; occasional small to large white grits; some erupting to surface. Flattened horizontal ridges along whole surface. The ridged surface is highly unusual for a Greek amphora.

A78/95.50.48.L452.(67)

From pre-604 quarry fill.



**Uncatalogued transport amphora (provenance unknown) body sherds from 604 use phase or destruction debris (qty. 11):**

Most are undecorated; some have horizontal stripes and bands.

[3761] A73/93.38.64.LF801.FG48.B43 not registered; from 604 use phase (Building 776 Room 801 beaten earth floor).

[3762] A73/93.38.64.LF785.FG89.B28 not registered; from 604 destr. debris on floor in Building 776 Room 801.

[3770] A72/92.50.48.L393 not registered

[3771] A72/92.50.48.L393 not registered

[3781] A73/93.50.49.L389 not registered

[3782] A72/92.50.57.L217.B243 not registered; wide horizontal band between narrow stripes.

[3783] A73/93.50.57.L234 not registered

[3787] A72/92.50.58.L262.FG34.B115 not registered

[3788] A72/92.50.58.L262.FG33.B114 not registered

[3789] A72/92.50.58.L262.FG33.B114 not registered

[3790] A55/94.50.58.L330.B64 not registered; two horizontal black stripes.

**Uncatalogued transport amphora (provenance unknown) body sherds from pre-604 quarry fill (qty. 117):**

Most are undecorated; some have horizontal stripes and bands.

[3798] A78/95.50.46.L100 not registered

[3799] A78/95.50.46.L100 not registered

[3768] A78/95.50.47.L285 not registered

[3855] A78/95.50.47.L285 not registered

[3772] A72/92.50.48.L415 not registered;

two thin horizontal stripes.

[3750] A55/94.50.48.L439.B67 not registered;  
black slipped.

[3773] A55/94.50.48.L439.B48 not registered

[3774] A55/94.50.48.L439 not registered

[3775] A55/94.50.48.L439.B27 not registered

[3776] A55/94.50.48.L439.B68 not registered

- [3777] A55/94.50.48.L444 not registered  
 [3778] A55/94.50.48.L444.B16 not registered  
 [3779] A55/94.50.48.L444.B13 not registered  
 [3780] A55/94.50.48.L444 not registered  
 [3752] A78/95.50.48.L451 not registered;  
 one black horizontal stripe.  
 [3791] A78/95.50.48.L452 not registered  
 [3792] A78/95.50.48.L452 not registered  
 [3793] A78/95.50.48.L452 not registered  
 [3794] A78/95.50.48.L452 not registered  
 [3795] A78/95.50.48.L452 not registered  
 [3796] A78/95.50.48.L452 not registered  
 [3806] A78/95.50.48.L452 not registered  
 [3807] A78/95.50.48.L452 not registered  
 [3808] A78/95.50.48.L452 not registered  
 [3809] A78/95.50.48.L452 not registered  
 [3810] A78/95.50.48.L452 not registered  
 [3811] A78/95.50.48.L452 not registered  
 [3812] A89/96.50.48.L452.B21 not registered  
 [3813] A78/95.50.48.L452 not registered  
 [3814] A78/95.50.48.L452 not registered  
 [3815] A78/95.50.48.L452 not registered  
 [3816] A78/95.50.48.L452 not registered  
 [3817] A78/95.50.48.L452 not registered  
 [3818] A78/95.50.48.L452 not registered  
 [3759] A78/95.50.48.L453 not registered;  
 one black horizontal line.  
 [3760] A80/97.50.48.L453.(69);  
 two narrow dark brown horizontal lines.  
 [3819] A89/96.50.48.L453.B7 not registered  
 [3820] A89/96.50.48.L453.B7 not registered  
 [3821] A78/95.50.48.L453 not registered  
 [3822] A78/95.50.48.L453 not registered  
 [3823] A78/95.50.48.L453 not registered  
 [3824] A78/95.50.48.L453.B7 not registered  
 [3825] A80/97.50.48.L453.(63)  
 [3826] A78/95.50.48.L453 not registered  
 [3827] A89/96.50.48.L453.B2 not registered  
 [3828] A78/95.50.48.L453 not registered  
 [3829] A78/95.50.48.L453 not registered  
 [3830] A78/95.50.48.L453.B5 not registered  
 [3831] A78/95.50.48.L453 not registered  
 [3832] A89/96.50.48.L453.B9 not registered  
 [3833] A89/96.50.48.L453.B9 not registered  
 [3834] A78/95.50.48.L453 not registered  
 [3835] A78/95.50.48.L453 not registered  
 [3836] A89/96.50.48.L453.B53 not registered  
 [3837] A89/96.50.48.L453.B53 not registered  
 [3838] A89/96.50.48.L453 not registered  
 [3839] A89/96.50.48.L453.B7 not registered  
 [3840] A78/95.50.48.L453 not registered  
 [3841] A78/95.50.48.L453 not registered  
 [3842] A78/95.50.48.L453 not registered  
 [3843] A78/95.50.48.L453 not registered  
 [3844] A89/96.50.48.L453.B12 not registered  
 [3845] A78/95.50.48.L453 not registered  
 [3846] A78/95.50.48.L453 not registered  
 [3847] A78/95.50.48.L453 not registered  
 [3848] A89/96.50.48.L453 not registered  
 [3849] A78/95.50.48.L453 not registered  
 [3850] A78/95.50.48.L453 not registered  
 [3851] A89/96.50.48.L453 not registered  
 [3852] A89/96.50.48.L453.B6 not registered  
 [3797] A78/95.50.48.L454 not registered  
 [3804] A78/95.50.48.L461 not registered  
 [3805] A78/95.50.48.L462 not registered  
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 [3801] A78/95.50.48.L462 not registered  
 [3802] A78/95.50.48.L462 not registered  
 [3803] A89/96.50.48.L462.B20 not registered  
 [3859] A89/96.50.48.L462.B6 not registered  
 [3769] A89/96.50.49.L449 not registered  
 [3853] A89/96.50.49.L449.B8 not registered  
 [3854] A89/96.50.49.L449.B8 not registered  
 [3856] A89/96.50.49.L449.B3 not registered  
 [3857] A89/96.50.49.L449.B8 not registered  
 [3860] A89/96.50.49.L449.B14 not registered  
 [3764] A89/96.50.49.L451 not registered  
 [3858] A89/96.50.49.L451.B19 not registered  
 [3861] A78/95.50.57.L256 not registered  
 [3862] A78/95.50.57.L256 not registered  
 [3863] A78/95.50.57.L256 not registered  
 [3864] A78/95.50.57.L256 not registered  
 [3865] A78/95.50.57.L256 not registered  
 [3867] A78/95.50.57.L256 not registered  
 [3868] A78/95.50.57.L256 not registered  
 [3869] A78/95.50.57.L256 not registered  
 [3870] A78/95.50.57.L256 not registered  
 [3765] A78/95.50.57.L256 not registered;  
 dark red band and stripe.  
 [3784] A55/94.50.57.L259.B112 not registered  
 [3785] A55/94.50.57.L259 not registered  
 [3786] A55/94.50.57.L259 not registered  
 [3766] A78/95.50.58.LF318 not registered;  
 two red lines.  
 [3871] A78/95.50.58.LF318 not registered  
 [3872] A78/95.50.58.LF318 not registered;  
 broad red band.  
 [3873] A78/95.50.58.LF318 not registered  
 [3874] A78/95.50.58.LF318 not registered  
 [3875] A78/95.50.58.LF318 not registered  
 [3876] A78/95.50.58.LF318 not registered  
 [3877] A78/95.50.58.LF318 not registered  
 [3878] A78/95.50.58.LF318 not registered  
 [3879] A78/95.50.58.LF318 not registered  
 [3880] A78/95.50.58.LF318 not registered  
 [3881] A78/95.50.58.LF318 not registered  
 [3882] A78/95.50.58.LF318 not registered  
 [3883] A78/95.50.58.LF318 not registered  
 [3884] A78/95.50.58.LF318 not registered  
 [3885] A78/95.50.58.LF318 not registered  
 [3886] A78/95.50.58.LF318 not registered  
 [3887] A78/95.50.58.LF318 not registered

## HYDRIAI (nos. 549–60)

Parts of 8 hydriai were found along with 14 sherds from closed vessels that could be from either hydriai or amphorai and will be counted with the hydriai. Kalaitzoglou (2008:216–17) comments on the difficulty of distinguishing between hydria and amphora sherds. Hydriai and amphorai are similar in rim and neck shapes but hydriai differ in having only one vertical handle attached to the neck and in having two horizontal loop handles on the widest part of the body. Of the certain hydria fragments at Ashkelon, one is a large, partly restored section of the body with the base of the neck and some of the handles preserved (no. **549**); one is a preserved rim and neck with vertical handle (no. **550**); one is a rim fragment (no. **551**); 4 are handles (nos. **553**, **554**, and 2 uncatalogued handles: [4022], [4023]); and one is a body sherd. Of the uncertain examples, 11 are body sherds, one is a rim, and 2 are shoulders. They are tentatively classed with hydriai rather than amphorai because of their decoration. Only one came from a 604 deposit (no. **558/A1**, an unregistered analyzed body sherd from Grid 50); the rest came from the pre-604 fills.

Clay colors range from red (2.5YR 5/6) to yellowish red (5YR 5/6, 5YR 5/8) to reddish yellow (5YR 6/6, 7.5YR 6/6, 7.5YR 6/8) to pink (7.5YR 7/4) to brown (7.5YR 5/4), strong brown (7.5YR 4/6, 7.5YR 5/6), and yellowish brown (10YR 5/4). Most are of a medium texture, though two handles are coarse. The same two handles (nos. **554** and uncatalogued handle [4023]) are the only ones without mica. The rest are micaceous with additional white and sometimes dark grits.

All are decorated with linear or “waveline” patterns. In some, the painted lines were laid over a slip; in others the slip was omitted. In technique and decoration these pieces are related to some of the amphorai discussed above, also attributed either to Chios or to the Samo-Milesian region. In his initial discussion of East Greek pottery found at Tarsus, Hanfmann classified this ware as “Waveline Ware” and presented its distribution as known up to 1956 (Hanfmann 1956:176–82). He was of the opinion that it was locally made at more than one center, including Samos, Smyrna, and Rhodes, as well as farther afield, and that it lasted from the late eighth century into the fifth century B.C. (Hanfmann 1956:179–80). It is used for “common” pottery including amphorai, hydriai, and kraters. Examples of waveline ware have been found in a kiln at Kinet Höyük, suggesting that at least some of it was locally produced (Hodos 2000:148).

Five samples were analyzed petrographically (nos. **549/A14**, **550/A12**, **558/A1**, **559/A2**, **560/A3**)—one

from the best preserved piece (no. **549**), one from a well-preserved rim-and-neck fragment (no. **550**); the rest from small body sherds. Superficially, the decoration on no. **549** resembles that of the Chian amphora no. **517**, but according to Master, all of the tested hydria fragments belong to his “Samo-Milesian” Category 13 and cluster together with several of the amphorai, “Wild Goat” and other oinochoai, stemmed dishes, and “Ionian” cups (Master 2001:138–41 and chapter 4 in the present volume). On the basis of parallels with hydriai found at Assesos, many of the Ashkelon pieces are likely to hail from Miletos.

In the Aegean, hydriai were found (and probably made) at Miletos (see Kalaitzoglou 2008:216–17 for discussion with references) and at nearby Assesos, where remains of at least 40 hydriai were found in the 608 B.C. destruction layers (Kalaitzoglou 2008:213–23, 416–20, pls. 121–28, nos. 554–91). They are common on Samos (e.g., Kopcke 1968:266–68, fig. 17, pl. 103.1, 2 [end of the seventh century?]; Isler 1978b:82, figs. 43–44, 49–50; Furtwängler 1980:218, pl. 56.1, fig. 20 no. III/41), and are found also on Chios, where some are slipped and some are not (e.g., Boardman 1967:137, 140 nos. 508–20, esp. fig. 88 no. 508 and fig. 86 no. 509, both from Period III [seventh century] contexts), and possibly at Ephesos (Kerschner 1997:122–23, pl. 4, no. 27). They appear in North Africa at Tocra in late seventh-century deposits (Hayes 1966:70, pl. 48 no. 843, “perhaps Samian”; pl. 49 no. 846, 137–39, no. 1421 possibly Chian); at Cyrene (Schaus 1985:52, pl. 16 no. 280); and in northern Egypt possibly at Defenneh (Petrie 1888:63, pl. 32.5. Petrie says this piece has two handles but the drawing shows horizontal loop handles on the belly characteristic of hydriai, while the neck is broken and presumably missing the third handle). Very similar hydriai were also found among the Greek pottery at the Iberian sites of Huelva and Cerro del Villar, where at least some of them were identified as Samian (Aubert 2007:449, 450, 454 fig. 5a, b). Tarsus is an important findspot in Cilicia (Hanfmann 1956:176–82; 1963:324, 326–7, pl. 108 no. 1624), but some are also found at Mersin (Barnett 1939–40:122, pl. 51.1; Hanfmann 1956:178, 181 fig. 20). In Syria, examples of waveline ware, possibly including hydriai, are known at Tall Sūkās (Ploug 1973:23–27, pl. 4 both slipped and unslipped), and Lehmann identified a previously unpublished and unstratified hydria at Al Mina (Lehmann 1996:pl. 94, G25a/2 and see Hanfmann 1956:178). I know of no others from Israel or Phoenicia.

*Samo-Milesian(?) hydriai:*

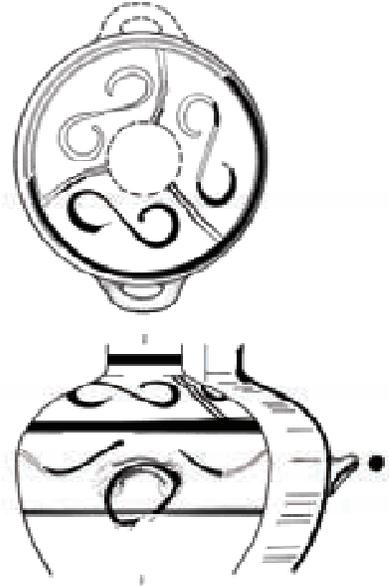
- 549** Hydria. Partly restored section. SJSh+SNJSh. PH 29.5; ED neck at base 10; Th neck 0.85; D shoulder 33; widest D 34; Th body 0.7.

Partly restored: lower neck, body, one side handle; several dissociated sherds including neck handle, side handle, shoulder with double loop. Medium to medium coarse, yellowish-red clay (5YR 5/6) with many fine micaceous inclusions, occasional small to medium white and dark grits, some erupting to surface. Ext.: surface slipped light brown (7.5YR 6/4). Linear decoration in dark reddish-brown paint (5YR 3/3). Wide band at base of neck; remains of two of original three horizontal reverse spirals on shoulder separated by parallel vertical wavy lines (remains of three pairs preserved). Below is a wide band with one narrow band above it and one below. Horizontal wavy lines in belly-handle zone, straight parallel horizontal lines below. Belly handle striped across outer edge, with stripe coming down at roots to form a loop below. Very similar: Kalaitzoglou 2008:pls. 121–23, nos. 554–56. Petrographic analysis: Sample A14, Category 13, Samo-Milesian (Master 2001:70, 138–41).

A89/96.50.48.L453.B9.(6+97)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.7.13.



Scale 1:10

- 550** Hydria. Rim and neck with vertical neck handle. H 9.4; D 14.2; W handle 3.6; Th rim 1.2; Th wall 0.7; Th handle 1.1.

Very micaceous, medium, brown clay (7.5YR 5/4) with gray core; fine micaceous inclusions; small white grits; some pits and voids. Thickened rim rolled outward. Shape more closely resembles that of Milesian than Samian amphorai (above). Cylindrical neck somewhat tapered toward shoulder. Shoulder angles outward rather sharply. A single amygdaloid handle stump on one side of neck. Red paint (10R 4/6): horizontal band on top and bottom of outer rim, the lower one overlapping top of neck; paint around handle root, stripe on top of handle, two narrow wavy bands around center of neck between bands; wide band on lower neck overlapping top of shoulder. Cf. Kalaitzoglou 2008:pl. 125 nos. 559, 561. Petrographic analysis: Sample A12, Category 13, Samo-Milesian (Master 2001:108, 138–41).

A78/95.50.58.LF318.(4)

From pre-604 quarry fill.

*Previous publication:* Waldbaum in press:pl. 14.3.7.14; 2002b:58, fig. 6.



Scale 1:4

- 551** Hydria. Rim sherd. ED rim 17.5; PH 7.35; Th rim 0.9; H rim/lip 2.9; Th neck 0.75.

Medium, strong brown clay (7.5YR 4/6). Many fine to small micaceous inclusions; occasional small white grits. Some voids. Tall, thickened convex rim; cylindrical neck with single handle root, thickening as it descends. Worn, yellowish-red paint on rim, on upper part of neck under rim, and around handle root. Rest of neck reserved. Wheel ridges on int. A55/94.50.48.L439.(17). Pre-604 quarry fill.



Scale 1:4

- 552** Hydria or amphora. Rim sherd. ED rim 10.5; H 5.8; Th rim 0.9; Th neck 0.5.

Highly micaceous, yellowish-red (5YR 5/6) clay with occasional small white and black grits. Thickened, rounded rim curved somewhat inward; slightly convex neck. Top of rim to upper neck painted red (2.5YR 4/6) discoloring to black over top of lip. Remains of a red, horizontal wavy line on neck.

A78/95.50.48.L452.(97)

From pre-604 quarry fill.



Scale 1:4

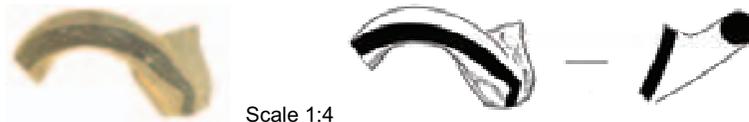
*Hydria handle sherds:*

- 553** Hydria. Handle sherd. PW handle 8.6; D handle 1.8; Th wall 0.85.

Medium coarse, yellowish-brown clay (10YR 5/4) with gray core, small to medium white grits. Most of a horizontal loop handle from side of hydria. Section of wall attached. Ext.: surface slipped light brownish gray (10YR 6/2). Irregular band of black paint from handle root along upper outer side of handle.

A80/97.50.47.L313.(4)

From pre-604 quarry fill.



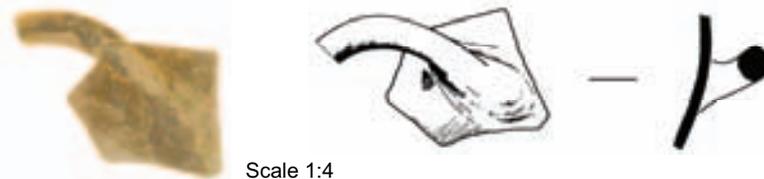
Scale 1:4

- 554** Hydria. Handle sherd. PL handle 8.8; D handle 1.6; Th wall 0.6.

Medium, reddish-yellow clay (7.5YR 6/6) with gray core. Many fine micaceous inclusions; occasional small to large white grits, some erupting to surface. Some small dark grits. Part of horizontal loop handle from side of hydria with part of wall attached. No visible decoration. Encrusted with greenish accretion.

A78/95.50.48.L452.(249)

From pre-604 quarry fill.



Scale 1:4

**Uncatalogued hydria horizontal loop handle sherds from pre-604 quarry fill (qty. 2):**

[4022] A89/96.50.49.L451.(26)

[4023] A78/95.50.48.L452.(95)

*Possible hydria shoulder or body sherds:*

- 555** Hydria or amphora. Shoulder sherd. PH 5.35; PW 11.0; Th 0.6.

Coarse, strong brown clay (7.5YR 5/6). Many fine micaceous inclusions and many small white and dark grits, some erupting to surface. Inner surface pitted. Ext. surface slipped white (10YR 8/2) with parts of two red curving lines (2.5YR 4/6) or two parts of one S-curve. Surface dirty with incrustation. Chian?

A80/97.50.48.L453.B6.(72)

From pre-604 quarry fill.



Scale 1:4

**556** Hydria? Shoulder sherd. PH 5.85; PW 6.8; Th 0.65.

Medium, yellowish-red clay (5YR 6/6) with brown core (7.5YR 5/4). Many fine micaceous inclusions; occasional small to medium white and dark grits, some erupting to surface. Ext.: slipped light yellowish brown (10YR 6/4). Two crossing reddish-brown lines (5YR 4/3).

A89/96.50.48.L462 not registered

From pre-604 quarry fill.

(No drawing.)



Scale 1:4

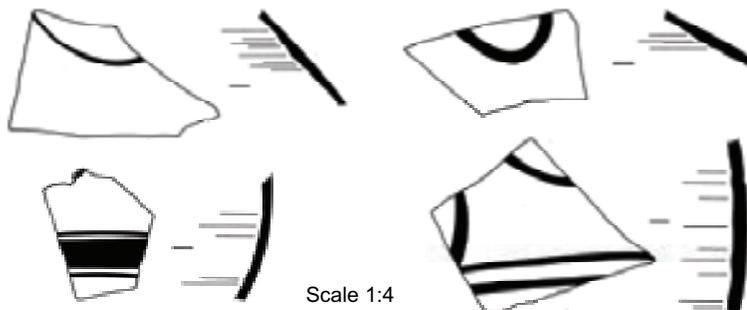
**557** Hydria? SJSh and SNJSh possibly from same vessel. Lower neck, shoulder and body sherds.

Micaceous clay. Patterns of horizontal bands, lines, and spirals in red to dark red paint similar to more complete examples above. See Kalaitzoglou 2008:pls. 127–28 for shoulder and lower body patterns.

A78/95.50.57.L256 not registered

From pre-604 quarry fill.

(No photographs.)



Scale 1:4

*Analyzed hydria or amphora body sherds (see figure 10.6 after cat. no. 560):*

**558** Hydria or amphora. Body sherd. Th 0.6.

Micaceous reddish-yellow clay (7.5YR 6/8) with some small white grits, some voids. Yellowish-red paint (5YR 5/6). Horizontal waveline across sherd. Petrographic analysis: Sample A1, Category 13, Samo-Milesian (Master 2001:44, 138–41).

A72/92.50.48.L393.B349 not registered

From 604 destruction debris in courtyard.

**559** Hydria or amphora. Body sherd. Th 0.5.

Very micaceous pink clay (7.5YR 7/4) with gray core; some voids and pitting. Red paint (2.5YR 4/6) on ext.: narrow horizontal band above wider band; below: two verticals and part of a horizontal intersecting. Petrographic analysis: Sample A2, Category 13, Samo-Milesian? (Master 2001:54, 138–41).

A78/95.50.48.L452 not registered

From pre-604 quarry fill.

**560** Hydria or amphora. Body sherd. Th 0.5.

Very micaceous pink clay (7.5YR 7/4) with some voids. Brown paint (7.5YR 5/4). Remains of two narrow curved vertical lines. Petrographic analysis: Sample A3, Category 13, Samo-Milesian? (Master 2001: 89, 138–41).

A78/95.50.57.L256 not registered

From pre-604 quarry fill.



Figure 10.5: Hydria or amphora body sherds subjected to petrographic analysis (Samples A1–A8)

**Uncatalogued hydria body sherds with waveline decoration from pre-604 quarry fill (qty. 8):**

[3753] A78/95.50.48.L452 not registered

[3754] A78/95.50.48.L452 not registered

[3755] A78/95.50.48.L452 not registered

[3756] A78/95.50.48.L452.B63.(116)

[3757] A78/95.50.48.L452 not registered

[3758] A78/95.50.48.L452 not registered

[3763] A78/95.50.48.L461 not registered

[4113] A89/96.50.48.L462 not registered

APPENDIX A: SEVENTH-CENTURY GREEK POTTERY FOUND AT ASHKELON BY W. J. PHYTHIAN-ADAMS,  
NOW IN THE ROCKEFELLER MUSEUM IN JERUSALEM

In his 1921 excavation at Ashkelon, W. J. Phythian-Adams uncovered several East Greek sherds comparable in shape, decoration, and style to those found by the Leon Levy Expedition. Although the contexts of these sherds were not telling and they could not be used for dating purposes, it seemed best to include them here in the interest of completing the record of what has been found at the site. Phythian-Adams deposited the sherds in the Palestine Archaeological

Museum (PAM), now the Rockefeller Museum, and published several of them in his 1923 report on his work (Phythian-Adams 1923). A few were published in early discussions of Greek pottery in the Levant, including Iliffe 1932 and Clairmont 1955. A number remained unpublished until now, and several of the sherds that were published were misidentified by earlier scholars, who studied them at a time when these wares were less well understood.

“IONIAN” CUPS

**A-1** Type 4 “Ionian” cup. Rim sherd. ED rim 18.0; H 7.4; Th rim 0.3.

Very micaceous, fine, light brown clay. Sharply offset rim, convex bowl. Ext.: reddish-brown paint over rim and upper body. Lower body reserved. Int.: solid reddish brown (2.5YR 5/4). Burned patch on int. and ext. Dull surface. Corresponds to Ashkelon Type 4 in the catalogue above.

Rockefeller Museum P1864

Found in Phythian-Adams’s 1921 excavation in “2nd stratum” (so marked on sherd). Previously unpublished.

(No drawing.)



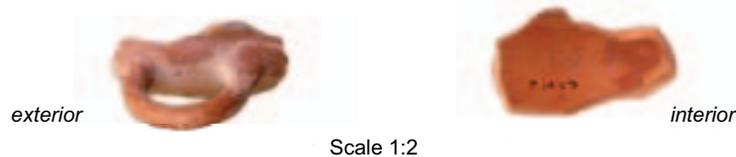
**A-2** “Ionian” cup. Handle sherd. H 2.75; L handle 2+; Th handle 0.5; Th wall 0.2.

Micaceous, fine, light reddish-brown clay. Horizontal loop handle and part of thin, fine wall with join to rim. Int.: painted solid reddish brown (5YR 5/4); ext.: reddish brown on handle, around handle root, and join to rim. Rest reserved.

Rockefeller Museum P1953

Found in Phythian-Adams’s 1921 excavation in “top stratum” (so marked on sherd). Previously unpublished.

(No drawing.)



**A-3** Type 5 “Ionian” cup. Base sherd. D foot 5.8; PH 1.8; Th wall 0.3.

Fine, micaceous, light reddish-brown clay (5YR 6/4). Short, convex ring foot with wide resting surface. Convex wall. Resting surface, underside, and outer edge of foot reserved. Similar to Ashkelon Type 5 in catalogue above; cf. nos. **232**, **233**, and **234**.

Rockefeller Museum P1972.

Found in Phythian-Adams’s 1921 excavation in “Stratum δ 6.” Previously unpublished.

(No drawing or photograph.)

In addition to these three “Ionian” cups, there are two small, thin sherds pictured in Phythian-Adams 1923:pl. 4.4, 5 and described on p. 83 as black with white bands with red band between them. Although I did not see these sherds, they look very much like Ashkelon “Ionian” Cup Type 1 (above). Both are from Phythian-Adams’s Level β.

## STEMMED DISHES

**A-4** Stemmed dish. Rim sherd. ED rim 23.0; Th. 0.7.

Coarse, very micaceous, reddish-brown (5YR 5/4) clay. Slightly concave bowl with broad, flat, everted rim. Ext.: remains of three narrow red bands against a reserved ground. Int. rim: small, solid square with vertical lines to either side, horizontal line above and below. Within bowl: bands of dusky red (2.5YR 3/2), p (2.5R 4/2), r (2.5YR 3/6). More open design toward center not well preserved.

Rockefeller Museum P1843

Found in Phythian-Adams's 1921 excavation in "second stratum" (so marked on sherd). Previously unpublished.

(No drawing.)

**A-5** Milesian Archaic Id (MWG II) stemmed dish. Rim sherd. ED rim 25.0; Th. 1.25; W. rim 1.8.

Medium coarse, very micaceous, very pale brown (10YR 7/4–8/4) clay. Flat, projecting rim, bowl concave on int. Ext.: three narrow, reddish-brown (5YR 4/4–6) bands against reserved ground, one at join of rim and bowl. Int.: light brown slip with patterns in darker paint. Rim: four narrow, reddish-brown horizontal bands; wider, dark brown (5YR 3/2) bands at outer edge of bowl; narrow added p stripe over innermost band. Within: a duck or goose protome facing r. and various filling ornaments: dotted concentric circle, pendent segmented triangle, dotted cross, pendent rays, etc. Inner border of main field has more bands similar to outer ones. One large, irregular hole in surface (blown in kiln?); one slit-like hole.

Rockefeller Museum P1831

Found in Phythian-Adams's 1921 excavation in Stratum "γ 5."

*Previous publication:* Phythian-Adams 1923:83, pl. 4.17; *Palestine Museum, Jerusalem Bulletin* No. 4 1927:pl. 7.6; Iliffe 1932:17, pl. 5a.1; Clairmont 1955:104 no. 44. Cf. Kalaitzoglou 2008:pl. 56 no. 336 from Assesos.

(No drawing.)



## OINOCHOAI

**A-6** Milesian Archaic Id (MWG II) oinochoe. Upper-body sherd. PH 5.1; PW 6.4; Th 0.7.

Medium, very micaceous, light yellowish-brown (10YR 6/4) clay. Heavy wheel ridges on unpainted int. Ext.: sphinx head and part of wing to r.; to l. part of a dotted concentric circle ornament in very dark gray (10YR 3/1) on light brown (10YR 7/4) slip. Similar to oinochoe no. 307 above.

Rockefeller Museum P1836

Found in Phythian-Adams's 1921 excavation in Stratum "δ 4."

*Previous publication:* Phythian-Adams 1923:83, pl. 4.14;

*Palestine Museum, Jerusalem Bulletin* No. 4 1927:pl. 7.2.

(No drawing.)



**A-7** Milesian Archaic Id (MWG II) oinochoe. Base sherd. ED foot 9.0; PH 6.5; Th wall 0.7.

Medium, very micaceous, light reddish-brown (5YR 6/4) clay with darker core. Flaring foot with beveled edge, broad, flat resting surface. Lower body flares up and out from base. Int. and underside unpainted. Ext.: slipped very pale brown (10YR 7/3). Ext. foot, join with body, and lotus chain painted yellowish red (5YR 4/6). The shape of the lotus blossoms is most similar to those on nos. **354, 355, 360** in catalogue above.

Rockefeller Museum P1833+P1905

Found in Phythian-Adams's 1921 excavation in Stratum "δ 4."

*Previous publication:* Phythian-Adams 1923:83, pl. 4.1; *Palestine Museum, Jerusalem Bulletin* No. 4 1927:pl. 7.4 (upside down); Iliffe 1932:17, pl. 5a.5; Clairmont 1955:106 no. 72. Both Iliffe and Clairmont refer to this piece as a deinos and Clairmont classes it as Fikellura, which it most certainly is not.

(No drawing.)



Scale 1:2

## JUG

**A-8** Jug. Shoulder sherd. PH 8.4; Th 0.4.

Fine, very micaceous, light brown (7.5YR 6/4) clay. Curving shoulder and upper body of small, thin, closed, globular vessel. Int.: unpainted. Ext.: reddish horizontal stripe and narrow dark brown horizontal band at base of neck; wavy line on shoulder; streaky reddish-brown bands on reserved surface.

Rockefeller Museum P1841

Found in Phythian-Adams's 1921 excavation; stratum unknown. Previously unpublished.

(No drawing.)



*black-and-white photograph*

Scale 1:2

## KRATER?

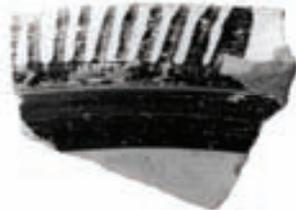
**A-9** Krater? Rim sherd. ED rim 32.0; PH 5.5; W rim 2.1.

Medium, micaceous, light reddish-brown (5YR 6/3) clay. Broad, flat, everted rim; fairly straight wall. Pale brown (10YR 7/3) slip over all. On rim, over slip: a pattern of short, yellowish-red (5YR 4/6) to dark brown (5YR 3/2) strokes. Ext.: streaked yellowish red (5YR 4/6) with some narrow, dark brown stripes. Darker band on int. and under rim on int.

Rockefeller Museum P18—[illegible]

Found in Phythian-Adams's 1921 excavation. Previously unpublished.

(No drawing.)



*black-and-white photographs*

*top of rim*



*interior*

Scale 1:2

## AMPHORAI

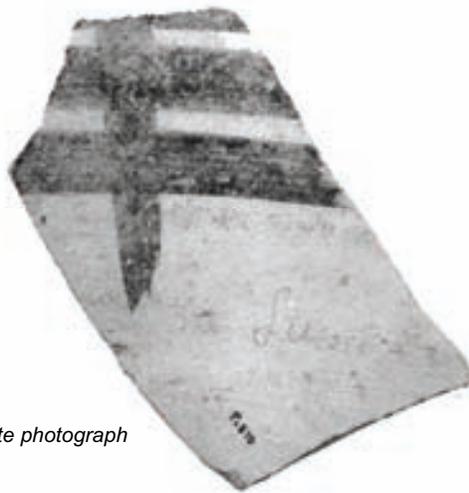
**A-10** Chian(?) amphora. Body sherd. H 12.4; W 8.0; Th 1.0.

Coarse, pale brown clay with many white inclusions, some erupting to surface. Ext.: very pale brown slip (10YR 7/3) with painted black lines: three horizontal, one vertical cutting through horizontals.

Rockefeller Museum P1870

Found in Phythian-Adams's 1921 excavation. Previously unpublished.

(No drawing.)



*black-and-white photograph*

Scale 1:2

**A-11** Amphora neck sherd. H 6.9; W 6.3; Th 1.2.

Medium, micaceous, light yellowish-brown (10YR 6.4) clay with occasional white grits. Apparently cylindrical neck with part of slope to shoulder. Streaky grayish black slip over ext. Int. unpainted.

Rockefeller Museum P1893

Found in Phythian-Adams's excavation in Stratum "δ 1" (so marked on sherd). Previously unpublished.

(No photograph or drawing.)

**A-12** Amphora toe sherd. ED foot 13.5; H 4.0.

Medium, light brown (7.5YR 6/4) clay with medium-sized white inclusions. High, flaring foot with convex underside. Int. and resting surface unpainted. Ext. foot covered with finely striped (streaked?) paint ranging from dark brown to brown (7.5YR 4/2-4/7).

Rockefeller Museum P1964

Found in Phythian-Adams's 1921 excavation. Previously unpublished.

(No photograph or drawing.)

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*Note:* The pottery in Appendix A is published here by permission of the Israel Antiquities Authority.  
All photographs in Appendix A were taken by Jane Waldbaum.

## APPENDIX B: CONCORDANCE OF GREEK POTTERY BY FINDSPOT

<i>Grid</i>	<i>Square</i>	<i>Layer/Feature</i>	<i>Quantity, Type, and Catalogue Numbers</i>
38	64	unknown	1 Ionian cup (uncatalogued)
38	64	L61	1 cooking pot (uncatalogued) 25 Ionian cups (nos. <b>195, 227–29, 231–35, 248</b> ; 15 uncatalogued) 1 oinochoe (uncatalogued)
38	64	L764	3 Ionian cups (3 uncatalogued)
38	64	LF776	1 oinochoe (uncatalogued)
38	64	LF785	1 amphora (uncatalogued) 2 Ionian cups (nos. <b>190, 201</b> )
38	64	LF799	1 Ionian cup (uncatalogued)
38	64	LF801	1 amphora (uncatalogued) 4 Ionian cups (4 uncatalogued) 1 plain jug (uncatalogued)
38	64	LF802	2 Ionian cups (2 uncatalogued)
38	65	L1	1 Ionian cup (no. <b>230</b> )
38	73	LF380	1 Ionian cup (uncatalogued)
38	74	L464	1 Ionian cup (uncatalogued)
38	74	L482	1 Ionian cup (uncatalogued)
38	74	LF229	1 oinochoe (no. <b>406</b> )
38	74	LF355	1 Ionian cup (no. <b>58</b> )
38	74	LF429	1 Ionian cup (uncatalogued) 1 oinochoe (uncatalogued)
38	83	L320	1 Ionian cup (uncatalogued)
38	84	unknown	1 Ionian cup (uncatalogued)
38	84	L299	6 Ionian cups (nos. <b>196, 104, 105</b> ; 3 uncatalogued)
38	84	L371	1 amphora (no. <b>522</b> )
38	84	LF312	2 Ionian cups (2 uncatalogued)
38	84	L385	1 Ionian cup (uncatalogued)
38	94	L206	1 Ionian cup (uncatalogued)
38	94	LF207	1 Ionian cup (uncatalogued)
38	94	LF210	1 Ionian cup (uncatalogued)
50	46	L61	2 Ionian cups (2 uncatalogued)
50	46	LF83	1 cooking pot (uncatalogued)
50	46	L100	2 amphorai (2 uncatalogued) 2 Ionian cups (no. <b>154</b> ; 1 uncatalogued) 1 oinochoe (uncatalogued)
50	47	L134	1 Ionian cup (uncatalogued)
50	47	L175	1 krater (no. <b>440</b> )
50	47	L192	1 oinochoe (no. <b>404</b> )
50	47	L281	1 oinochoe (no. <b>301</b> )
50	47	L285	4 amphorai (nos. <b>499, 507</b> ; 2 uncatalogued) 1 cooking pot (uncatalogued) 10 Ionian cups (nos. <b>141, 236</b> ; 8 uncatalogued) 8 oinochoai (nos. <b>304, 323, 346, 362, 370</b> ; 3 uncatalogued) 1 stemmed/footed dish (no. <b>278</b> )
50	47	L302	1 Corinthian aryballos (no. <b>13</b> )
50	47	L310	1 Ionian cup (uncatalogued)
50	47	L313	1 hydria (no. <b>553</b> )
50	48	unknown	1 amphora (uncatalogued) 1 cooking pot (uncatalogued)
50	48	LF151	1 oinochoe (no. <b>403</b> )
50	48	L347	1 Ionian cup (uncatalogued)

<i>Grid</i>	<i>Square</i>	<i>Layer/Feature</i>	<i>Quantity, Type, and Catalogue Numbers</i>
50	48	L381	1 Corinthian olpe (no. <b>4</b> )
50	48	LF383	3 Ionian cups (3 uncatalogued)
50	48	L384	1 cooking pot (uncatalogued) 10 Ionian cups (nos. <b>188, 246</b> ; 8 uncatalogued) 2 oinochoai (nos. <b>400, 401</b> )
50	48	L388	1 Corinthian olpe (no. <b>1</b> )
50	48	L389	1 oinochoe (no. <b>405</b> )
50	48	L392	1 cooking pot (uncatalogued) 2 Ionian cups (no. <b>64</b> ; 1 uncatalogued) 2 oinochoai (no. <b>377</b> ; 1 uncatalogued)
50	48	L393	2 amphorai (2 uncatalogued) 2 cooking pots (no. <b>443</b> ; 1 uncatalogued) 1 Corinthian aryballos (no. <b>12</b> ) 1 hydria? (no. <b>558</b> ) 24 Ionian cups (nos. <b>106–8, 197, 198</b> ; 19 uncatalogued) 5 oinochoai (nos. <b>287, 290</b> ; 3 uncatalogued)
50	48	L398	28 cooking pots (nos. <b>441, 487</b> ; 26 uncatalogued) 2 Ionian cups (2 uncatalogued)
50	48	L405	8 Ionian cups (8 uncatalogued) 4 oinochoai (nos. <b>320, 412</b> ; 2 uncatalogued)
50	48	L408	1 cooking pot (uncatalogued)
50	48	L415	1 amphora (uncatalogued) 1 bird bowl (uncatalogued) 1 Ionian cup (no. <b>109</b> )
50	48	L430	3 Ionian cups (3 uncatalogued)
50	48	LF431	1 Ionian cup (uncatalogued) 2 oinochoai (2 uncatalogued)
50	48	L439	7 amphorai (nos. <b>503, 519</b> ; 5 uncatalogued) 7 cooking pots (no. <b>444</b> ; 6 uncatalogued) 1 hydria (no. <b>551</b> ) 20 Ionian cups (nos. <b>100, 210, 219, 220</b> ; 16 uncatalogued) 5 oinochoai (nos. <b>321, 356, 387, 420</b> ; 1 uncatalogued) 1 stemmed/footed dish (no. <b>276</b> )
50	48	L444	6 amphorai (no. <b>515</b> ; 5 uncatalogued) 8 cooking pots (8 uncatalogued) 14 Ionian cups (nos. <b>134, 140, 203, 253</b> ; 10 uncatalogued) 8 oinochoai (nos. <b>295, 357, 385, 392, 422</b> ; 3 uncatalogued)
50	48	L448	1 oinochoe (no. <b>303</b> )
50	48	L449	1 Corinthian olpe? (no. <b>6</b> )
50	48	L451	1 amphora (uncatalogued) 3 Ionian cups (nos. <b>52, 61</b> ; uncatalogued)
50	48	L452	40 amphorai (nos. <b>498, 501, 502, 504–6, 509, 512, 520, 521, 525, 530, 532, 539–41, 543, 545, 546, 548</b> ; 20 uncatalogued) 3 bird bowls (no. <b>21</b> ; 2 uncatalogued) 35 cooking pots (nos. <b>446–48, 451, 452, 456, 457, 462–66, 468, 471, 474, 476–78, 480, 482, 483, 485, 488</b> ; 12 uncatalogued) 3 Corinthian aryballoi (nos. <b>14, 16</b> ; 1 uncatalogued) 6 flat-based jugs (nos. <b>430, 433, 434, 436</b> ; 2 uncatalogued) 10 hydriai (nos. <b>552, 554, 559</b> ; 7 uncatalogued) 282 Ionian cups (nos. <b>36–38, 40–48, 53, 62, 63, 68, 78, 94–98, 121–26, 137, 139, 142–47, 155–58, 163, 165–67, 176, 177, 181, 191, 205, 206, 208, 212, 213, 215, 225, 226, 242, 247, 249</b> ; 223 uncatalogued)

<i>Grid</i>	<i>Square</i>	<i>Layer/Feature</i>	<i>Quantity, Type, and Catalogue Numbers</i>
50	48	L452	2 kantharoi (nos. <b>255, 257</b> ) 1 krater (no. <b>437</b> ) 2 miscellaneous bowls (no. <b>32</b> ; 1 uncatalogued) 74 oinochoai (nos. <b>291, 296, 297, 300, 308, 311–13, 315, 319, 322, 325–29, 331, 334, 337, 340–45, 349, 350, 352–55, 358, 360, 361, 364, 369, 373, 375, 376, 378–80, 384, 386, 389–91, 394, 413, 414, 418, 423</b> ; 22 uncatalogued) 4 rosette bowls (nos. <b>25, 26, 28, 29</b> ) 4 stemmed/footed dishes (nos. <b>263, 272, 280, 281</b> )
50	48	L453	38 amphorai (no. <b>527</b> ; 37 uncatalogued) 1 bird bowl (no. <b>20</b> ) 19 cooking pots (nos. <b>453, 461, 472, 475, 479, 489</b> ; 13 uncatalogued) 2 Corinthian alabastra (nos. <b>8, 11</b> ) 1 flat-based jug (uncatalogued) 2 hydriai (nos. <b>549, 555</b> ) 66 Ionian cups (nos. <b>50, 51, 55, 60, 69, 70, 72, 87, 99, 127–29, 164, 178–80, 204, 207, 221, 223, 224</b> ; 45 uncatalogued) 17 oinochoai (nos. <b>307, 332, 336, 359, 374, 381, 383, 396, 410, 419, 424, 425</b> ; 5 uncat.) 1 rosette bowl (no. <b>24</b> ) 6 stemmed/footed dishes (nos. <b>259, 260, 277, 271, 279</b> ; 1 uncatalogued)
50	48	L454	2 amphorai (no. <b>531</b> ; 1 uncatalogued) 5 cooking pots (no. <b>458</b> ; 4 uncatalogued) 1 Corinthian aryballos (no. <b>15</b> ) 1 Corinthian olpe? (no. <b>5</b> ) 7 Ionian cups (nos. <b>56, 71, 76, 222</b> ; 3 uncatalogued) 1 mortarium (no. <b>495</b> ) 5 oinochoai (nos. <b>294, 309, 397</b> ; 2 uncatalogued) 1 stemmed/footed dish (no. <b>273</b> )
50	48	L457	1 amphora (no. <b>526</b> )
50	48	L461	1 amphora (uncatalogued) 1 cooking pot (no. <b>490</b> ) 1 hydria (uncatalogued) 14 Ionian cups (nos. <b>118, 135, 202, 250</b> ; 10 uncatalogued) 2 kantharoi (nos. <b>254, 256</b> ) 1 miscellaneous bowl (uncatalogued) 3 oinochoai (nos. <b>305, 348</b> ; 1 uncatalogued) 1 plain jug (uncatalogued)
50	48	L462	7 amphorai (no. <b>529</b> ; 6 uncatalogued) 1 bird bowl (no. <b>22</b> ) 2 hydria (no. <b>556</b> ; 1 uncatalogued) 20 Ionian cups (nos. <b>77, 133, 168, 183, 187, 237</b> ; 15 uncatalogued) 1 miscellaneous bowl (no. <b>31</b> ) 14 oinochoai (nos. <b>293, 302, 318, 351, 363, 366, 372, 388</b> ; 6 uncatalogued)
50	48	L464	1 Ionian cup (uncatalogued)
50	48	L465	1 Ionian cup (uncatalogued) 1 oinochoe (uncatalogued)
50	49	unknown	1 cooking pot (uncatalogued)
50	49	L240	1 stemmed/footed dish (no. <b>270</b> )
50	49	L271	1 Ionian cup (no. <b>189</b> )
50	49	L280	1 Ionian cup (no. <b>103</b> )
50	49	L306	1 krater (no. <b>439</b> )
50	49	L353	1 amphora (no. <b>496</b> ) 1 Ionian cup (uncatalogued)

<i>Grid</i>	<i>Square</i>	<i>Layer/Feature</i>	<i>Quantity, Type, and Catalogue Numbers</i>
50	49	L368	2 cooking pots (2 uncatalogued)
50	49	LF373	4 Ionian cups (no. <b>116</b> ; 3 uncatalogued) 1 plain jug (no. <b>427</b> )
50	49	L374	1 oinochoe (uncatalogued)
50	49	L375	1 Ionian cup (uncatalogued)
50	49	L384	2 Ionian cups (2 uncatalogued)
50	49	L386	1 cooking pot (uncatalogued)
50	49	LF388	2 Ionian cups (2 uncatalogued)
50	49	L389	1 amphora (uncatalogued) 1 cooking pot (uncatalogued) 1 Corinthian olpe (no. <b>3</b> ) 7 Ionian cups (7 uncatalogued) 1 oinochoe (uncatalogued) 1 plain jug (no. <b>426</b> )
50	49	L392	2 Ionian cups (2 uncatalogued)
50	49	LF393	1 Ionian cup (uncatalogued)
50	49	L413	1 oinochoe (no. <b>395</b> )
50	49	L418	1 bird bowl (no. <b>18</b> )
50	49	L420	2 cooking pots (2 uncatalogued) 2 Ionian cups (2 uncatalogued)
50	49	L421	1 Ionian cup (uncatalogued)
50	49	LF423	8 Ionian cups (no. <b>199</b> ; 7 uncatalogued)
50	49	F435	1 Ionian cup (uncatalogued)
50	49	L436	1 Corinthian alabastron (no. <b>10</b> )
50	49	L439	1 Ionian cup (uncatalogued)
50	49	L440	1 Corinthian alabastron (no. <b>7</b> ) 1 Corinthian olpe (no. <b>2</b> )
50	49	L444	1 Ionian cup (uncatalogued)
50	49	L449	9 amphorai (nos. <b>513, 516, 524</b> ; 6 uncatalogued) 1 bird bowl (no. <b>19</b> ) 4 cooking pots (no. <b>449</b> ; 3 uncatalogued) 20 Ionian cups (nos. <b>57, 66, 136, 214, 245</b> ; 15 uncatalogued) 4 oinochoai (nos. <b>314, 367</b> ; 2 uncatalogued) 1 stemmed/footed dish (no. <b>282</b> )
50	49	L451	6 amphorai (nos. <b>508, 510, 538, 544</b> ; 2 uncatalogued) 11 cooking pots (nos. <b>454, 455, 473, 492</b> ; 7 uncatalogued) 3 flat-based jugs (nos. <b>431, 432</b> ; 1 uncatalogued) 1 hydria (uncatalogued) 51 Ionian cups (nos. <b>49, 79, 90, 91, 148–51, 159, 169–71, 185, 211, 217, 238, 251</b> ; 34 uncatalogued) 7 oinochoai (nos. <b>299, 415</b> ; 5 uncatalogued) 1 plain jug (uncatalogued) 1 skyphos (no. <b>17</b> ) 2 stemmed/footed dishes (nos. <b>261, 266</b> )
50	49	L453	4 amphorai (nos. <b>511, 523, 537</b> ; 1 uncatalogued) 4 cooking pots (nos. <b>469, 484</b> ; 2 uncatalogued) 2 flat-based jugs (no. <b>435</b> ; 1 uncatalogued) 14 Ionian cups (nos. <b>73, 74, 75, 92, 93, 152, 184, 216</b> ; 6 uncatalogued) 1 krater (no. <b>438</b> ) 1 miscellaneous bowl (no. <b>30</b> ) 2 oinochoai (no. <b>338</b> ; 1 uncatalogued) 1 rosette bowl (no. <b>27</b> )

<i>Grid</i>	<i>Square</i>	<i>Layer/Feature</i>	<i>Quantity, Type, and Catalogue Numbers</i>
50	49	L453 <i>cont'd</i>	4 stemmed/footed dishes (nos. <b>264, 265, 262, 283</b> )
50	49	L454	1 Ionian cup (no. <b>194</b> )
50	57	L134	6 Ionian cups (nos. <b>110–12</b> ; 3 uncatalogued)
50	57	L196	1 Ionian cup (uncatalogued)
50	57	L203	1 oinochoe (no. <b>402</b> )
50	57	L206	2 Ionian cups (2 uncatalogued) 1 oinochoe (uncatalogued)
50	57	LF212	1 Ionian cup (no. <b>65</b> )
50	57	L217	1 amphora (uncatalogued)
50	57	LF221	1 Ionian cup (uncatalogued)
50	57	L234	1 amphora (uncatalogued) 2 Ionian cups (2 uncatalogued) 1 oinochoe (uncatalogued)
50	57	L240	5 Ionian cups (nos. <b>119, 120</b> ; 3 uncatalogued) 1 plain jug (no. <b>429</b> )
50	57	L245	1 stemmed/footed dish (no. <b>275</b> )
50	57	L248	3 Ionian cups (no. <b>67</b> ; 2 uncatalogued) 1 oinochoe (no. <b>330</b> ) 1 stemmed/footed dish (no. <b>274</b> )
50	57	L256	15 amphorai (nos. <b>497, 500, 535, 536</b> ; 11 uncatalogued) 11 cooking pots (nos. <b>450, 470, 481, 491</b> ; 7 uncatalogued) 1 Corinthian alabastron (no. <b>9</b> ) 2 flat-based jugs (2 uncatalogued) 2 hydriai (nos. <b>557, 560</b> ) 69 Ionian cups (nos. <b>80–82, 86, 130, 131, 138, 160, 161, 172, 182, 186, 218, 240, 252</b> ; 54 uncatalogued) 10 oinochoai (nos. <b>306, 317, 324, 335, 339, 347, 368, 398</b> ; 2 uncatalogued)
50	57	L258	1 cooking pot (uncatalogued)
50	57	L259	5 amphorai (nos. <b>534, 542</b> ; 3 uncatalogued) 5 cooking pots (no. <b>494</b> ; 4 uncatalogued) 5 Ionian cups (5 uncatalogued) 2 oinochoai (2 uncatalogued)
50	57	L274	2 Ionian cups (nos. <b>59, 173</b> ) 1 oinochoe (no. <b>292</b> )
50	58	F16	1 oinochoe (no. <b>408</b> )
50	58	L44	1 Ionian cup (no. <b>244</b> )
50	58	L173	1 stemmed/footed dish (no. <b>269</b> )
50	58	F181	1 oinochoe (no. <b>409</b> )
50	58	L199	1 Ionian cup (no. <b>102</b> )
50	58	LF252	2 Ionian cups (no. <b>200</b> ; 1 uncatalogued) 1 oinochoe (uncatalogued)
50	58	LF260	1 oinochoe (uncatalogued)
50	58	L262	4 amphorai (no. <b>514</b> ; 3 uncatalogued) 13 cooking pots (no. <b>442</b> ; 12 uncatalogued) 1 flat-based jug (uncatalogued) 20 Ionian cups (nos. <b>33, 34, 113–15, 117</b> ; 14 uncatalogued) 10 oinochoai (nos. <b>284, 286, 288, 421</b> ; 6 uncatalogued) 1 plain jug (uncatalogued)
50	58	L264	1 cooking pot (uncatalogued) 1 oinochoe (uncatalogued)
50	58	L274	1 Ionian cup (no. <b>174</b> ) 4 oinochoai (nos. <b>289, 411, 417</b> ; 1 uncatalogued)

<i>Grid</i>	<i>Square</i>	<i>Layer/Feature</i>	<i>Quantity, Type, and Catalogue Numbers</i>
50	58	L275	1 oinochoe (no. <b>285</b> )
50	58	L290	1 Ionian cup (uncatalogued)
50	58	L302	1 stemmed/footed dish (no. <b>258</b> )
50	58	LF318	21 amphorai (nos. <b>528, 533, 547</b> ; 18 uncatalogued)
			16 cooking pots (nos. <b>445, 459, 460, 467, 486, 493</b> ; 10 uncatalogued)
			2 flat-based jugs (2 uncatalogued)
			1 hydria (no. <b>550</b> )
			35 Ionian cups (nos. <b>35, 39, 54, 83, 84, 88, 101, 153, 162, 175, 209, 239, 241, 243</b> ; 21 uncatalogued)
			16 oinochoai (nos. <b>298, 310, 316, 333, 365, 371, 382, 393, 399</b> ; 7 uncatalogued)
			1 plain jug (no. <b>428</b> )
			1 stemmed/footed dish (uncatalogued)
50	58	L330	2 amphorai (no. <b>518</b> ; 1 uncatalogued)
50	58	L396	1 cooking pot (uncatalogued)
			8 Ionian cups (nos. <b>85, 89, 132, 192, 193</b> ; 3 uncatalogued)
			2 oinochoai (no. <b>416</b> ; 1 uncatalogued)
50	67	L61	1 amphora (no. <b>517</b> )
50	68	L310	1 stemmed/footed dish (no. <b>268</b> )
50	68	L346	1 bird bowl (no. <b>23</b> )
Surface finds			1 oinochoe (no. <b>407</b> )
			1 stemmed/footed dish (no. <b>267</b> )

## PART THREE

### OTHER ARTIFACTS



## 11. SEALS AND SEAL IMPRESSIONS

by Othmar Keel

THIS CHAPTER contains a catalogue of the glyptic material found in layers related to the destruction of Ashkelon in 604 B.C. The material consists of the following types of stamp seals and sealings: 21 scarabs, 2 scaraboids, 1 conoid, 4 bullae, and 1 item that is probably a scarab but whose original shape is unclear because it is badly broken.

The high proportion of scarabs is surprising. The 21 scarabs comprise 72 percent of the 29 items in the corpus, and perhaps even 76 percent, if the broken item is actually a scarab. Indeed, if we count the 4 bullae, which were very probably made by scarabs, then scarabs and scarab impressions comprise 90 percent of the corpus (26 of 29 items).

This preponderance of scarabs is odd because, in the seventh century B.C., many other types of seal-amulets were fashionable, especially scaraboids and conoids. These other types are almost nonexistent in the glyptic material from the 604 B.C. destruction level at Ashkelon. This may be an indication that Egyptian influence was predominant.

The shape and iconography of most of the scarabs (catalogue nos. 4, 6, 7, 8, 10, 16, 17, 18, 27) is typical of the Twenty-sixth Dynasty (664–525 B.C.). With respect to shape, it is characteristic of this group that a double line separates the pronotum from the elytra whereas only a single line separates the two elytra (see nos. 4, 7, 10, 16, 18, 22). Seen from above, the forelegs are clearly visible on both sides of the relatively small head of the scarab beetle. The hair of the legs is indicated by small parallel lines.

Typical of the iconography of the Twenty-sixth Dynasty are falcons (nos. 7, 8, 10, 16, 27); recumbent sphinxes (nos. 4, 8, 18), often with a horizontal *ꜥnh*-sign above their backs (nos. 6, 18); the royal name *Mn-kꜣ(w)-rꜥ*, “Mycerinos” (nos. 4, 7, 10); squatting anthropomorphic figures (nos. 16, 17); and the *hz*-vase (nos. 6, 27).

The fact that these scarabs were found in contexts dated to 604 B.C. shows that the typical Twenty-sixth Dynasty scarab types came into use during the first half of the dynasty. Their presence in Ashkelon can be interpreted as evidence of strong Egyptian influence during the last half of the seventh century B.C.

It is not strictly proven that all of the types in this first group were produced only during the Twenty-sixth Dynasty. The production of some types may have begun a bit earlier, although their floruit was most likely in the first half of the Twenty-sixth Dynasty.

In contrast to the typical Twenty-sixth Dynasty characteristics of the majority of the scarabs found in 604 B.C. destruction layers at Ashkelon, there are a few scarabs that were quite likely in use already during the Twenty-fifth Dynasty (728–656 B.C.). To this group belong catalogue no. 1 (blue paste scarab), no. 5 (“Khonsu” scarab), and no. 21 (Phoenician-style). In this category we must also include the two scaraboids: catalogue no. 2, depicting the Phoenician-style falcon-headed sphinx; and no. 23, depicting an Egyptian cat.

Two, and perhaps as many as four, of the scarabs must be regarded, not as seventh-century products, but as heirlooms or survivals from previous, relatively recent, centuries (cf. Keel 1995:§692–694). The highly schematized falcon of catalogue no. 19 and the winged sun disk of no. 20 are typical of scarabs of the ninth and eighth centuries B.C. (Twenty-second Dynasty). The motifs of nos. 13 and 24 reflect age-old traditions; for stylistic and other reasons they, too, can probably be assigned to the Twenty-second Dynasty (945–713 B.C.).

Two of the scarabs (nos. 9 and 11) are typical of the Nineteenth Dynasty (thirteenth century B.C.), as dated parallels clearly show. The oldest heirloom is no. 15, which probably dates to the reign of Thutmosis III. When Ashkelon was destroyed in 604 B.C., this scarab was already eight hundred years old.

More problematic than survivals and heirlooms are intrusions, that is, items which are more recent than the layer in which they were found (cf. Keel 1995: §691). Nos. 12 and 25, which are typical of the Persian period, appear to belong in this category.

### Acknowledgments:

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Table 11.1: Seals and Seal Impressions from Contexts Dated to the Seventh Century B.C. at Ashkelon

<i>Catalogue No.</i>	<i>Type</i>	<i>Period</i>	<i>Findspot</i>
1	Scarab	26th Dyn.	Grid 38 Square 84 Fine-grid 54 Layer 492 Feature 492
2	Scaraboid	8th–7th cent. B.C.	Grid 38 Square 74 Fine-grid 92
3	Scarab(?)	25th–26th Dyn.	Grid 38 Square 84 Fine-grid 54 Layer 312 Feature 312
4	Scarab	26th Dyn.	Grid 38 Square 84 Fine-grid 64 Layer 312 Feature 312
5	Scarab	25th–26th Dyn.	Grid 38 Square 84 Layer 317
6	Scarab	26th Dyn.	Grid 38 Square 84 Fine-grid 52 Layer 401
7	Scarab	25th–26th Dyn.	Grid 38 Square 84 Fine-grid 35 Layer 413 Feature 413
8	Scarab	Early 26th Dyn.	Grid 38 Square 93 Layer 157
9	Scarab	Late 18th–20th Dyn.	Grid 50 Square 47 Layer 306
10	Scarab	25th–26th Dyn.	Grid 50 Square 48 Fine-grid 8 Layer 405
11	Scarab	Probably 22nd Dyn.	Grid 50 Square 48 Layer 421 Feature 421
12	Scarab	Probably Persian	Grid 50 Square 48 Layer 452
13	Scarab	Probably 22nd Dyn.	Grid 50 Square 48 Layer 452
14	Scarab	Probably 19th–20th Dyn.	Grid 50 Square 48 Layer 452
15	Scarab	18th Dyn.	Grid 50 Square 48 Layer 496 Feature 496
16	Scarab	26th Dyn.	Grid 50 Square 49 Fine-grid 19 Layer 436
17	Scarab	26th Dyn.	Grid 50 Square 49 Fine-grid 15 Layer 441 Feature 441
18	Scarab	25th–26th Dyn.	Grid 50 Square 49 Layer 453
19	Scarab	22nd Dyn.	Grid 50 Square 56 Layer 205
20	Scarab	22nd Dyn.	Grid 50 Square 57 Layer 256
21	Scarab	25th–26th Dyn.	Grid 50 Square 58 Layer 316
22	Scarab	25th–26th Dyn.	Grid 50 Square 67 Layer 42
23	Scaraboid	25th–26th Dyn.	Grid 50 Square 67 Layer 76
24	Scarab	Probably 22nd Dyn.	Grid 50 Square 67 Fine-grid 37 Layer 76
25	Conoid	Probably Persian	Grid 38 Square 84 Fine-grid 51 Layer 299
26	Bulla	Uncertain	Grid 38 Square 94 Fine-grid 24 Layer 206
27	Bulla	26th Dyn.	Grid 38 Square 75 Layer 4
28	Bulla	22nd Dyn.	Grid 38 Square 75 Fine-grid 81 Layer 29
29	Bulla	25th–26th Dyn.	Grid 50 Square 48 Layer 393

### Catalogue of Seals and Seal Impressions from Contexts Dated to the Seventh Century B.C. at Ashkelon

The tripartite code that describes the head, back, and side of a scarab (e.g., B2/0/e9) follows the classification system of Tufnell 1984:31–38 and Keel 1995:§§74–114. A capitalized letter followed by a number (e.g., M16) refers to a sign in the “List of Hieroglyphic Signs” in Gardiner 1957. If not otherwise indicated, the object was pierced longitudinally to create a stringing hole. All of the drawings were done by Ulrike Zurkinden-Kolberg.

#### Catalogue no. 1

Registration no.: 43031  
 Findspot: Grid 38 Square 84 Fine-grid 54 Layer 492 Feature 492  
 Year excavated: 1993  
 Dimensions: 12 × 8 × 5 mm  
 Material: Blue paste.  
 Preservation: Head and back are badly worn.  
 Description: Scarab (side d5). Linear engraving.  
*Base:* Horus falcon (Keel 1995:§§442, 450, 454, 467, 556) with a crown or unidentified sign above its head. In front of it is a vertical sign, which may be the remnant of a uraeus (Keel 1995:§522). Below the falcon is a *nb* (Keel 1995:§458) and behind it is an *ꜥnh* (S34; Keel 1995:§449).  
 Period: 26th Dynasty (664–525 B.C.).  
 Bibliography: Unpublished.  
 Parallels: Similar Horus-falcons with different signs, all on scarabs made of blue paste, have been found at Achzib (Keel 1997:Achsib 123), Arad (Keel 1997:Arad 23), Naukratis (Petrie 1886:pl. 37:57), Kition (Clerc et al. 1976:56f., no. 523), and Perachora (Pendlebury and James 1962:506, no. 610).



Blue paste scarab depicting a Horus falcon (cat. no. 1, reg. no. 43031; scale 2:1)

#### Catalogue no. 2

Registration no.: 42502  
 Findspot: Grid 38 Square 74 Fine-grid 92  
 Year excavated: 1993  
 Dimensions: 12.4 × 9.4 × 3.9 mm  
 Material: Dark blue lapis lazuli (Keel 1995:§380).  
 Preservation: Damaged on the right side at the end of the perforation.  
 Description: Scaraboid (Type II; Keel 1995:§135). Very flat and therefore not clearly distinguished from oval single-sided piece (Keel 1995:§209). Typical of Phoenician workshops of 7th cent. B.C. Hollowed-out engraving.  
*Base:* In a horizontal arrangement, a recumbent falcon-headed sphinx (griffin) turned to the left, with wings whose feathers are delicately indicated. On its head is a sun disk. Its forelegs hold an *ꜥnh* (S34; Keel 1995:§449; Keel 1997:Akko 108). Behind the sphinx is a flower with three petals.  
 Period: 8th–7th centuries B.C.  
 Bibliography: Unpublished.  
 Parallels: A lapis lazuli scaraboid with a similar creature was found at Tell el-*ʿ*Ajjul (Keel 1997:Tell el-*ʿ*Ağul 323). A very similar recumbent griffin with sun disk above its head and a flower in front of it is the Hebrew name seal of *yḥzq* (Avigad and Sass 1997:no. 193, cf. also no. 143; Gubel 1985:97).



Lapis lazuli scaraboid depicting a Phoenician-style falcon-headed sphinx (cat. no. 2, reg. no. 42502; scale 2:1)

**Catalogue no. 3**

Registration no.: 44911  
 Findspot: Grid 38 Square 84 Fine-grid 54 Layer 312 Feature 312  
 Year excavated: 1994  
 Dimensions: 12.1 × 8.5 × 4 mm  
 Material: Enstatite (Keel 1995:§§386–90).  
 Preservation: Fragmentary. Back is broken away. Base is broken into two pieces.  
 Description: Scarab(?). Linear and hollowed-out engraving.  
*Base:* In a horizontal arrangement, a human figure with one arm hanging down behind the body and the other arm raised, chasing a quadruped with a large horn, probably an ibex.  
 Period: 25th–26th Dynasties (728–525 B.C.) or slightly earlier.  
 Bibliography: Unpublished.  
 Parallels: Exact parallels have been found at Perachora in Greece (Pendlebury and James 1962:510–11, nos. D691–92). Quite close are three late 8th-/early 7th-century scarabs from Tarquinia and Cuma in Italy (Hölbl 1979:2:55f., no. 257 and p. 199, nos. 928–29). In these three cases, the human figure holds something in his outstretched hand. Other parallels have been found at Tanis (Cairo JdE 87890, unpublished), Achzib (Keel 1997:Achsib 157; man in front of the animal), and Naukratis (Gardner 1888:pl. 18:46; animal is not an ibex).



Piece of a fragmentary scarab(?) depicting a human figure and an ibex (cat. no. 3, reg. no. 44911; scale 2:1)

**Catalogue no. 4**

Registration no.: 44910  
 Findspot: Grid 38 Square 84 Fine-grid 64 Layer 312 Feature 312  
 Year excavated: 1994  
 Dimensions: 14.5 × 10.2 × 6.6 mm  
 Material: Composite (Keel 1995:§§392–402).  
 Preservation: Broken. Several pieces of the rim are missing.  
 Description: Scarab. Hollowed-out engraving.  
*Base:* In a horizontal arrangement: on the right, a squatting sphinx with upright wing; on the left, an oval or cartouche (Keel 1995:§462) with the proper name of the sixth king of the Fourth Dynasty, *Mn-kꜣ(w)-rꜥ*, “Mycerinos” (Keel 1995:§§625, 660). In contrast to the writing of the name during the Fourth Dynasty, the name is not written with three *kꜣ* but with just one and is therefore quite similar in appearance to the famous and widely used throne name of Thutmose III, *Mn-hpr-rꜥ* (see B. Jaeger in Hornung and Staehelin 1976:47).  
 Remarks: The name *Mn-kꜣ(w)-rꜥ* appears often on scarabs of the Twenty-sixth Dynasty (see nos. 7 and 10 below; Keel 1997:Achsib 52, 53, 130; Keel 2010:Tell el-Far'a-Süd 360f. [= Petrie 1930: pl. 43:518–19; Rowe 1936:nos. 883, 885, etc.]). The popularity of the name on scarabs of the Twenty-sixth Dynasty may also be related to the fact that the Mycerinos complex in Giza was restored at this time (Leclant 1969:252).  
 Period: 26th Dynasty (664–525 B.C.).  
 Bibliography: Unpublished.  
 Parallels: For the squatting sphinx, see Keel 1997:Aschdod 17. For the combination of a squatting hybrid creature and *Mn-kꜣ(w)-rꜥ* in a cartouche, see Vercoutter 1945: no. 16, and particularly no. 18, from Carthage.



Scarab bearing the name of the king *Mn-kꜣ(w)-rꜥ*, “Mycerinos” (cat. no. 4, reg. no. 44910; scale 2:1)

**Catalogue no. 5**

- Registration no.: 45440  
 Findspot: Grid 38 Square 84 Layer 317  
 Year excavated: 1995  
 Dimensions: 12 × 8.3 × 5.6 mm  
 Material: Gray enstatite (Keel 1995:§§386–90) with whitish-yellow coating.  
 Preservation: Head partly broken off. Ledge of the plinth in the upper part slightly worn.  
 Description: Scarab. Linear and hollowed-out engraving.  
*Base: Hnsw k: <i>, “Khonsu <is my> vitality.”*  
 Remarks: For references to Khonsu on scarabs, see Keel 1997:Achsib 4, Aschkelon 32. For their dating, see De Salvia 1993:nos. 491:4 and 662:13 (750–725 B.C.). For the historical background of the flourishing of the cult of Khonsu during this period, see Bernett and Keel 1998:90, n. 398 and p. 161, figs. 119a–121.  
 Period: 25th–26th Dynasties (728–525 B.C.).  
 Bibliography: Keel 1997:Aschkelon 98.



Scarab bearing the name of the god Khonsu (cat. no. 5, reg. no. 45440; scale 2:1)

**Catalogue no. 6**

- Registration no.: 45198  
 Findspot: Grid 38 Square 84 Fine-grid 52 Layer 401  
 Year excavated: 1994  
 Dimensions: 11.5 × 7.3 × 5.6 mm  
 Material: Composite (Keel 1995:§§392–402).  
 Preservation: Intact.  
 Description: Scarab (?/I/d6). Hollowed-out engraving.  
*Base: A squatting baboon. In front of it is a hz-vase (W14; Keel 1995:§455); below it is a nb (V30; Keel 1995:§458).*  
 Period: 26th Dynasty (664–525 B.C.).  
 Bibliography: Unpublished.  
 Parallels: The squatting baboon is one of the representations of the god Thoth and is quite often found on scarabs of the Nineteenth–Twentieth Dynasties (e.g., Keel 1997:Tell el-*c*Ağul 303, Aschkelon 77; Keel 2010:Der el-Balah 48, Tell el-Far<sup>a</sup>-Süd 140, 564 [= Petrie 1930:pl. 12:173; Starkey and Harding 1932:pl. 52:134]). The *hz*-vase combined with the representation of a deity occurs occasionally beginning in the Eighteenth Dynasty (e.g., Kühne and Salje 1996:138f. no. 81 from Kamid el-Loz). It is, however, typical of scarabs of the Twenty-sixth Dynasty. For parallels with Thoth as baboon, see Clerc et al. 1991:7, no. T.142:42 from Amathus (7th–6th cent. B.C.); De Salvia 1993:775, no. 166 from Pithekoussai, with many parallels; Matouk 1977:388 no. 801. For parallels with other deities, see Keel 1997:Akko 188; Vercoutter 1945:nos. 63, 205, 257 from Carthage. The inscription is usually read: “Praised by the divinity X” (Keel 1997:Akko 178; Kühne and Salje 1996:139 [Kamid el-Loz]), as in Hebrew *brk*, Greek *εὐλογέω*, and Latin *benedicere*. The Egyptian *hz<i>* should, however, be understood as “to praise” when said by humans and “to bless” when said by deities. In the present case, the meaning would be “(the bearer is/may be) blessed by Thoth, the Lord.”



Scarab depicting a squatting baboon that represents the god Thoth (cat. no. 6, reg. no. 45198; scale 2:1)

**Catalogue no. 7**

Registration no.: 45321

Findspot: Grid 38 Square 84 Fine-grid 35 Layer 413 Feature 413

Year excavated: 1995

Dimensions: 14.7 × 10.2 × 7.3 mm

Material: White composite (Keel 1995:§§392–402) with traces of greenish glaze in the depressions.

Preservation: Intact.

Description: Scarab (A1/pronotum-line II, elytra-line I/d5). HOLLOWED-OUT ENGRAVING WITH HATCHING.

*Base:* Standing falcon (Keel 1995:§§442, 450, 454, 467, 556) with a double crown (Keel 1995:§556).In front of it is a blossom(?). Behind it is the name *Mn-kꜣ(w)-rꜥ*, “Mycerinos” (Keel 1995:§§625, 660).

Period: 25th–26th Dynasties (728–525 B.C.).

Bibliography: Keel 1997:Aschkelon 93.

Parallels: For the falcon, see no. 1 above. For the name of the king, see no. 4. For the combination of the elements “Mycerinos” and “falcon,” see Vercoutter 1945:nos. 14, 15, 371–74, 378, 379 (from Carthage), although there the falcon never wears the double crown but holds the “whip.”



Scarab depicting a standing falcon with double crown (cat. no. 7, reg. no. 45321; scale 2:1)

**Catalogue no. 8**

Registration no.: 43740

Findspot: Grid 38 Square 93 Layer 157

Year excavated: 1993

Dimensions: 19.1 × 13.5 × 8.7 mm

Material: Whitish-yellow composite (Keel 1995:§§392–402).

Preservation: Ledge of the plinth is slightly worn.

Description: Scarab (D8/vlv/d9). Deep hollowed-out engraving with hatching.

*Base:* The base is divided by a winged sun disk in two parts (cf. Keel 1997:Achsib 46, Akko 106, 194, 222, with parallels). In the upper part is a falcon (Keel 1995:§§442, 450, 454, 467, 556f.)and a clump of papyrus (Vercoutter 1945:117, nos. 90, 91). In the lower part is a recumbent sphinx with a horizontal *ꜥnh* (S34; Keel 1995:§449) above its back (cf. Keel 1997:Achsib 28, 83).At the bottom is a *nb* sign (V30; Keel 1995:§458) that serves as an exergue.

Period: Early 26th Dynasty (664–ca. 600 B.C.).

Bibliography: Keel 1997:Aschkelon 86.

Parallels: A very close parallel is Keel 1997:Akko 222.



Scarab depicting a winged sun disk, falcon, and papyrus (cat. no. 8, reg. no. 43740; scale 2:1)

**Catalogue no. 9**

Registration no.: 47373

Findspot: Grid 50 Square 47 Layer 306

Year excavated: 1996

Dimensions: 13.3 × 10 × 5.7 mm

Material: Light-gray enstatite (Keel 1995:§§386–90) with traces of white coating.

Preservation: Head and back very worn. A small piece at the lower end of the perforation is broken.

Description: Scarab (side is a coarse d10). Hollowed-out engraving.

*Base:* Horizontally arranged *Īmn-r̄*, the name of the god “Amun-Re” (Keel 1995:§642f), with additional *i* (M17, flowering reed; Keel 1995:§456) or *šwt* (H6, ostrich feather; Keel 1995:§462) to the left.

Period: Late 18th–20th Dynasties (ca. 1350–1070 B.C.) or even later.

Bibliography: Keel 1997:Aschkelon 106.

Parallels: For the combination of *Īmn-r̄* with additional *i* or *šwt*, see Keel 1997:Afek 45; Tell el-*ʿ*Ağul 299 (with parallels); Keel 2010:Der el-Balaḥ 58; Tell el-Far<sup>c</sup>-a-Süd 273, 670, 699 (= Petrie 1930:pl. 33:372; Starkey and Harding 1932:pl. 53:246, 55:280); Tufnell et al. 1958:pl. 39f.:361, 373 (from Lachish).

Scarab bearing the name of the god Amun-Re (cat. no. 9, reg. no. 47373; scale 2:1)

**Catalogue no. 10**

Registration no.: 41086

Findspot: Grid 50 Square 48 Fine-grid 8 Layer 405

Year excavated: 1992

Dimensions: 17.2 × 11.5 × 7.9 mm

Material: Enstatite(?) (Keel 1995:§§386–90) with remains of greenish glaze.

Preservation: Broken. The right side of the base and the upper end are missing.

Description: Scarab (B2/pronotum-line II, elytra-line I/d5). Hollowed-out engraving.

*Base:* The surface of the base is divided into three registers by two double lines. The upper register is partly destroyed; it seems to have shown a winged sun disk (Keel 1995:§450). The lower register has a *nb* (Keel 1995:§458). The middle register is further divided by a vertical line into a broader upright rectangle on the right that contains a falcon (Keel 1995:§§442, 450, 454, 467, 556) and a smaller rectangle on the left with *Mn-k̄(w)-r̄*, “Mycerinos” (Keel 1995:§§625, 660).

Period: 25th–26th Dynasties (728–525 B.C.); most probably early 26th Dynasty (664–ca. 600 B.C.).

Bibliography: Unpublished.

Parallels: Matouk 1971:205, no. 13 is almost identical. Similar design schemes, in terms of the combination of motifs, can be seen in Keel 1997:Achsib 130; Hall 1913:no. 41 (Amathus); Giveon 1985:144f., no. 18 (Amrit). Instead of the semicircle behind the falcon, whose meaning is unclear, the Achzib scarab shows a winged uraeus and the Amathus scarab shows a combination of “whip” and *ḥnh* (S34; Keel 1995:§449). For the falcon, see further no. 1 above. For the name *Mn-k̄(w)-r̄*, see no. 4 above. A falcon with an unclear sign behind it is found on a scarab from Amathus (Clerc 1991:12 no. T. 228:17.2).Scarab depicting a falcon and bearing the name of the king *Mn-k̄(w)-r̄*, “Mycerinos” (cat. no. 10, reg. no. 41086; scale 2:1)

**Catalogue no. 11**

Registration no.: 44782

Findspot: Grid 50 Square 48 Layer 421 Feature 421

Year excavated: 1994

Dimensions: 18.7 × 12.8 × 8.4 mm

Material: Enstatite (Keel 1995:§§386–90) with a white coating and remnants of light blue-green glaze.

Preservation: Ledge of the plinth worn. Small pieces of the plinth chipped off.

Description: Scarab (A1/I/e11). Hollowed-out engraving.

*Base:* In an overall vertical arrangement, in the center is a horizontally arranged *Mn-hpr-r<sup>c</sup>*, the throne name of Thutmose III (Keel 1995:§§634, 650, 663); *mn* is written with a complementary *n*. Above it is a debased *ntr nfr*, “the good god,” or “the god incarnate” (Lichtheim 1997:22f.), flanked by two summarily written *nb t:wi*, “lord of the two lands.” Below the horizontally arranged *Mn-hpr-r<sup>c</sup>* is *tut Imn*, “image of Amun” (for the latter element, see Jaeger 1982; Keel 1995:§232f.).

Period: Probably 22nd Dynasty (945–713 B.C.) or somewhat earlier.

Bibliography: Keel 1997:Aschkelon 90.

Parallels: Exact parallels are Hall 1913:no. 708; Quibell 1898:pl. 30:13 (Ramesseum), with *Imn-r<sup>c</sup>* instead of *Imn* only. A similar scarab is Seger 1972:fig. 30 from Gezer (= Seger and Lance 1988:pl. 28:15).

Scarab bearing the throne name of Thutmose III (cat. no. 11, reg. no. 44782; scale 2:1)

**Catalogue no. 12**

Registration no.: 45407

Findspot: Grid 50 Square 48 Layer 452

Year excavated: 1995

Dimensions: 16.2 × 12.4 × 8.1 mm

Material: Enstatite (Keel 1995:§§386–90) with a white coating.

Preservation: Intact.

Description: Scarab (head in shape of inverted triangle/I/e11). Coarse linear engraving.

*Base:* Column of signs: *hr(?)* (D2) or cartouche (V10; Keel 1995:§462), *mn* (Y5; Keel 1995:§457), *hpr* (R4; Keel 1995:§455). Horizontal dash. The last two signs are flanked by two vertical dashes characteristic of this type of decoration. No border line.

Period: Probably Persian period, end of sixth to fourth century B.C. Maybe it is earlier, or else it is an intrusion in its late seventh-century B.C. find context (see Keel 1995:§691f).

Bibliography: Keel 1997:Aschkelon 97.

Parallels: A similarly enigmatic sequence of signs is found on: Keel 1997:Aschkelon 35; <sup>c</sup>Atlit 14, 17; Keel 2010:Tell el-Far<sup>c</sup>a-Süd 214 (= Petrie 1930:pl. 29:260); Brandl 1985:290–92, pl. 59:6 (from Yafit). For an interpretation, see Keel 1997:Aschkelon 35.

Probable Persian-period scarab (cat. no. 12, reg. no. 45407; scale 2:1)

**Catalogue no. 13**

Registration no.: 45359

Findspot: Grid 50 Square 48 Layer 452

Year excavated: 1995

Dimensions: 16.1 × 11 × 5.9 mm

Material: Remnants of white coating in the depressions.

Preservation: Strongly worn.

Description: Scarab (D-head/0/d5). Looks like a scaraboid at first glance. Linear engraving.

*Base:* From top to bottom: a highly schematized winged disk (Keel 1995:§450)—although the disk itself is not drawn—with a pendant uraeus (Keel 1995:§522f) on each side; a clump of papyrus with three buds (Keel 1995:§432); a pair of Udjat-eyes (Keel 1995:§443f; Tufnell 1984: pl. 13:1589–1615); and a horizontal double-S scroll (Keel 1995:§464).

Period: Probably 22nd Dynasty (945–713 B.C.).

Bibliography: Keel 1997:Aschkelon 96.

Parallels: The delicate, linear papyrus clump (cf. Keel 1997:Arad 23), the pendant wings of the disk, and the heavily schematized uraei (cf. Keel 1997:Aschkelon 87, with further parallels) show that this item does not belong to the Middle Bronze Age IIB period but is a product of later times. To pinpoint the period is difficult, but a Twenty-second Dynasty date is likely.



Scarab depicting a schematized winged disk and a pair of Udjat-eyes (cat. no. 13, reg. no. 45359; scale 2:1)

**Catalogue no. 14**

Registration no.: 45693

Findspot: Grid 50 Square 48 Layer 452

Year excavated: 1995

Dimensions: 19.2 × 14.2 × 4.5 mm

Material: Yellowish composite (Keel 1995:§§392–402) with remnants of blue-green glaze in the depressions.

Preservation: Only about 40 percent of the original base is preserved.

Description: Scarab. Hollowed-out engraving.

*Base:* The signs that remain can, with some difficulty, be read as *mri n P[th]*, “beloved of P[tah].”

Period: The extant parts do not allow a reliable date. Probably 19th–20th Dynasties (1292–1075 B.C.).

Bibliography: Keel 1997:Aschkelon 99.



Scarab fragment bearing the name of the god Ptah (cat. no. 14, reg. no. 45693; scale 2:1)

**Catalogue no. 15**

Registration no.: 50394

Findspot: Grid 50 Square 48 Layer 496 Feature 496

Year excavated: 1997

Dimensions: 14.7 × 10.5 × 6.6 mm

Material: White composite (Keel 1995:§§392–402).

Preservation: Very worn.

Description: Scarab (A1/vIv/d5). Linear and hollowed-out engraving.

*Base:* The following inscription can be restored on the basis of parallels: on top, *ntr nfr nb t3wi*, “the good (incarnate) god, lord of the two lands” (see no. 11 above); *Mn-hpr-r<*, throne name of Thutmose III (Keel 1995:§§634, 650, 663), within a horizontally arranged cartouche (Keel 1995: §462); below it is the additional formula of the royal protocol of Thutmose III, *h<w m w3st*, “the one who appears at Thebes” (see Jaeger 1982:§24, 1093–96, with figs. 407–408).

Period: 18th Dynasty (1539/30–1292 B.C.), possibly contemporary with the reign of Thutmose III (1479–1426).

Bibliography: Unpublished.



Scarab bearing the throne name of Thutmose III (cat. no. 15, reg. no. 50394; scale 2:1)

**Catalogue no. 16**

Registration no.: 44415

Findspot: Grid 50 Square 49 Fine-grid 19 Layer 436

Year excavated: 1994

Dimensions: 12 × 9 × 6 mm

Material: Gray enstatite (Keel 1995:§§386–90) with white coating.

Preservation: Base partly broken off on both narrower sides. End of the perforation below the head is damaged.

Description: Scarab (A1/pronotum-line II, elytra-line I/d9). Sharp-cornered hollowed-out engraving with hatching.

*Base:* Horizontally arranged falcon (Keel 1995:§§442, 450, 454, 467, 556) and crouching anthropomorphic lion-headed deity, probably Sekhmet with a blossom on her knees (cf. Keel 1997:Achsib 38, 53; Clerc 1991:35 no. T.297:5.2; Vercoutter 1945:nos. 235, 257). Behind the crouching Sekhmet is possibly a *nb* (V30; Keel 1995:§458).

Period: 26th Dynasty (664–525 B.C.).

Bibliography: Keel 1997:Aschkelon 88.

Parallels: For the combination of the falcon and Sekhmet, see Vercoutter 1945:nos. 459, 470.



Scarab depicting a falcon and a lion-headed deity, probably Sekhmet (cat. no. 16, reg. no. 44415; scale 2:1)

**Catalogue no. 17**

Registration no.: 44697

Findspot: Grid 50 Square 49 Fine-grid 15 Layer 441 Feature 441

Year excavated: 1994

Dimensions: 12 × 8 × 5.8 mm

Material: Enstatite (Keel 1995:§§386–90) with white coating.

Preservation: Ledge of the plinth slightly damaged.

Description: Scarab (A6/1/d5). Hollowed-out engraving.

*Base:* Crouching king with the red crown (Keel 1995:§452) and a tassel on the back of his neck, as can be observed on depictions of Ptah (see Clerc 1991:32, no. T.289:26). In front of him is the hieroglyph *z*, “protection” (Keel 1995:§465).

Period: 26th Dynasty (664–525 B.C.).

Bibliography: Keel 1997:Aschkelon 89.



Scarab depicting a falcon and a lion-headed deity, probably Sekhmet (cat. no. 17, reg. no. 44697; scale 2:1)

**Catalogue no. 18**

Registration no.: 47054

Findspot: Grid 50 Square 49 Layer 453

Year excavated: 1996

Dimensions: 14 × 10 × 6.7 mm

Material: Whitish composite (Keel 1995:§§392–402) with remnants of glaze.

Preservation: Intact.

Description: Scarab (B2/1/d5). Hollowed-out engraving.

*Base:* Horizontally arranged recumbent human-headed and bearded sphinx. Above its back is a horizontal *ꜥnh* (S34; Keel 1995:§449).

Period: 25th–26th Dynasties (728–525 B.C.) or slightly earlier (cf. Keel 1997:Achsib 29).

Bibliography: Keel 1997:Aschkelon 105.

Parallels: Keel 1997:Achsib 83 (with parallels).



Scarab depicting a recumbent human-headed and bearded sphinx (cat. no. 18, reg. no. 47054; scale 2:1)

**Catalogue no. 19**

Registration no.: 45004

Findspot: Grid 50 Square 56 Layer 205

Year excavated: 1994

Dimensions: 15 × 10.5 × 7.3 mm

Material: Yellowish-brown enstatite (Keel 1995:§§386–90) with remnants of white and blue glaze in depressions.

Preservation: Ledge of the plinth heavily worn.

Description: Scarab (B2/1/e11). Hollowed-out engraving.

Base: *Mn-hpr-r*, the throne name of Thutmosis III (Keel 1995:§§634, 650, 663) in an incomplete oval (Keel 1995:§462). On the left is a falcon with protectively outspread wings.

Period: 22nd Dynasty (945–713 B.C.) or somewhat later.

Bibliography: Keel 1997:Aschkelon 92.

Parallels: A stylized falcon protecting the throne name of Thutmosis III can be seen on: Keel 1997:AcSib 63; Egger and Keel 2006:Tall Deir <sup>c</sup>Alla no. 6; Clerc 1991:23 no. T. 240:74 (Amathus). The highly stylized falcons are typical of the Twenty-second Dynasty; e.g., Keel 2010:Bet-Schemesch 14 (= Rowe 1936: no. 855); Tufnell et al. 1953:pl. 43:44 (Lachish); Keel 1994:59f., 94f., and plates 12–14 (nos. 1–16).



Scarab depicting a stylized falcon protecting the throne name of Thutmosis III (cat. no. 19, reg. no. 45004; scale 2:1)

**Catalogue no. 20**

Registration no.: 44180

Findspot: Grid 50 Square 57 Layer 256

Year excavated: 1994

Dimensions: 18.8 × 13.5 × 7.3 mm

Material: Enstatite (Keel 1995:§§386–90) with grayish-white coating. Remnants of brownish-red “glaze” in the depressions.

Preservation: Ledge of the plinth slightly damaged.

Description: Scarab (B2/0/e11). Linear and hollowed-out engraving.

Base: The plinth is divided by a double line into two parts. Above is a very schematic winged sun disk with two pendant uraei (see Keel 1997:Akko 51, 52, with parallels). Below is a *nfr* (Keel 1995:§459) flanked by red crowns (Keel 1995:§452). The red crowns are cut in an archaizing manner (see Keel 2010:Tell el-Far<sup>c</sup>a-Süd 580, 689 = Starkey and Harding 1932:pls. 52:150, 55:268). No border line.

Period: 22nd Dynasty (945–713 B.C.).

Bibliography: Keel 1997:Aschkelon 87.



Scarab depicting a schematic winged sun disk and two red crowns flanking a *nfr* (cat. no. 20, reg. no. 44180; scale 2:1)

**Catalogue no. 21**

Registration no.: 44793

Findspot: Grid 50 Square 58 Layer 316

Year excavated: 1994

Dimensions: 11.7 × 9 × 6.3 mm

Material: Yellowish glass (Keel 1995:§396f) with a partly preserved silvery coating.

Preservation: Intact.

Description: Scarab (A6/I/e9a). Hollowed-out engraving.

*Base:* The decoration of the base is difficult to trace. It seems to show a figure with a long dress seated on a throne, in the act of blessing with raised arms. In front of the seated figure is a thymiaterion(?).

Above it is a sun disk(?).

Period: 25th–26th Dynasties (728–525 B.C.).

Bibliography: Keel 1997:Aschkelon 91.

Parallels: Figures on a throne are frequent in Phoenician glyptic art; see Keel 1997:Achsib 22, Aschdod 44 (with parallels); Clerc et al. 1976:85, no. 995 (from Kition); Gubel 1987:esp. pl. 37:140.



Scarab depicting a figure with a long dress seated on a throne (cat. no. 21, reg. no. 44793; scale 2:1)

**Catalogue no. 22**

Registration no.: 48732

Findspot: Grid 50 Square 67 Layer 42

Year excavated: 1997

Dimensions: 14.6 × 11.5 × 7.4 mm

Material: Composite (Keel 1995:§§392–402).

Preservation: Intact.

Description: Scarab (A1/pronotum-line II, elytra-line I/d5). Hollowed-out engraving with hatching.

*Base:* In a horizontal arrangement, a striding lion. Above its back is a sun disk. Behind the lion is an indecipherable sign. In front of it is a *i* (M17; Keel 1995:§456) or *šwt* (H6; Keel 1995:§462).

Period: 25th–26th Dynasties (728–525 B.C.).

Bibliography: Unpublished.

Parallels: Petrie 1886:pl. 37:37 (Naukratis); Vercoutter 1945:no. 120 (Carthage); Pendlebury and James 1962:502–4, fig. 36:515–18, 520, 523–26 (Perachora).



Scarab depicting a striding lion with a sun disk above its back (cat. no. 22, reg. no. 48732; scale 2:1)

**Catalogue no. 23**

Registration no.: 50980

Findspot: Grid 50 Square 67 Layer 76

Year excavated: 1997

Dimensions: 11.7 × 8.9 × 4.4 mm

Material: Blue composite (Keel 1995:§400f).

Preservation: Worn.

Description: Scaraboid (Type II; Keel 1995:§135).

*Base:* Crouching cat (*miw*, E13). Above its back is a disk. In front of it is a vertical stroke, maybe a flowering reed (*i*, M17; Keel 1995:§456). Below it is a *nb* (V30; Keel 1995:§458).

Period: 25th–26th Dynasty (728–525 B.C.).

Bibliography: Unpublished.

Parallels:

Very similar are Keel 1997:Achsib 47; Cowie 2004:212, no. 35; Pendlebury and James 1962:499f., fig. 35:467–71 (Perachora). Supporters of Amun cryptograms (Keel 1995:§§648–50) read the vertical stroke as *i*, the cat *miw* as *m*, and the disk as pupil of the eye *nw* = *n* (D12), respectively. Taken together with *nb*, which can be interpreted as *nb*i**, “my Lord,” the engraving on the base can be understood as “Amun (is) my Lord” (see Keel 1997:Achsib 47, with parallels). The cryptographic writing of Amun by *i*, *mm*, and a lion (*m*ʿ*i*) has a certain plausibility because in the story of Wenamun (II 24.34), for example, Amun is compared to a lion (see Keel and Uehlinger 1996:110–14). However, the cat is too closely related to the goddess Bastet to suggest a reading in relation to Amun. The sun disk is combined with many symbols (see no. 22 above) and the stroke in front of the cat is of uncertain significance. On the parallels found at Perachora, it is usually a Ma<sup>c</sup>at-feather.



Blue composite scaraboid depicting a crouching cat (cat. no. 23, reg. no. 50980; scale 2:1)

**Catalogue no. 24**

Registration no.: 50905

Findspot: Grid 50 Square 67 Fine-grid 37 Layer 76

Year excavated: 1997

Dimensions: 36.6 × 26.4 × 15 mm

Material: Gray enstatite (Keel 1995:§§ 386–90) with whitish coating; light brown in the depressions.

Preservation: Rim of the plinth partly damaged.

Description: Scarab (D4 with vertical strokes/pronotum-line I, elytra-line III/e11). HOLLOWED-OUT ENGRAVING.

*Base:* Scarab (*hpr*; Keel 1995:§516) with only four legs, flanked by two uraei (Keel 1995:§524).

No border line.

Period: Probably 22nd Dynasty (945–713 B.C.), renewing a tradition of the 19th–20th Dynasties (1292–1075 B.C.).

Bibliography: Unpublished.

Parallels:

The design scheme is found in the Middle Bronze Age IIB or IIC (see Ben-Tor 2007:pl. 97:1–13, 16), as well as in the Late Bronze Age IIB (Keel 2010:Bet-Schean 178; Dotan 11; Tell el-Far<sup>a</sup>-Süd 661, 693 [= Starkey and Harding 1932:pls. 53:236, 55:272]). Four-legged scarabs, however, are mainly found in the Twenty-second Dynasty (945–713 B.C.); see, e.g., Keel 1997:Akko 51; Achsib 142, 148.



Large scarab depicting a four-legged scarab beetle flanked by two uraei (cat. no. 24, reg. no. 50905; scale 1:2)

**Catalogue no. 25**

Registration no.: 43230

Findspot: Grid 38 Square 84 Fine-grid 51 Layer 299

Year excavated: 1993

Dimensions: 11.5 × 11 × 12.6 mm

Material: Soft blue composite (Keel 1995:§400f).

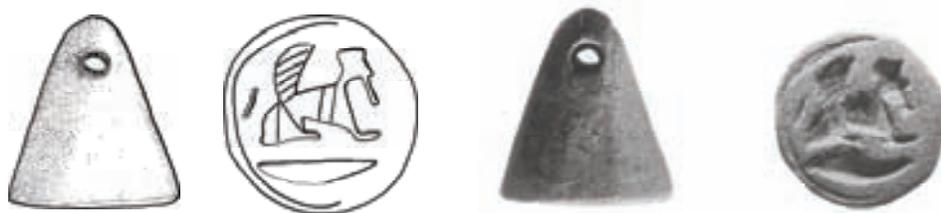
Preservation: Intact.

Description: Conoid (Type V; Keel 1995:§254f). Hollowed-out engraving with hatching.  
*Base*: Recumbent bearded sphinx with horn(?) and wings that are slightly bent forward.  
 Below it is a *nb* (V30; Keel 1995:§458).

Period: Probably Persian period (539–333 B.C.), and as such it may be an intrusion (see Keel 1995:§691f).

Bibliography: Keel 1997:Aschkelon 85.

Parallels: A similar hybrid creature, but crouching on its hind legs and beardless, is found on Keel 1997:Akko 211 (with parallels); cf. also Macalister 1912:2:295, fig. 437:11 (from Gezer).



Conoid depicting a recumbent bearded sphinx (cat. no. 25, reg. no. 43230; scale 2:1)

**Catalogue no. 26**

Registration no.: 40814

Findspot: Grid 38 Square 94 Fine-grid 24 Layer 206

Year excavated: 1992

Dimensions: 15.3 × 9 × 7.8 mm

Material: Gray clay, light brown at the surface.

Preservation: Fragmentary.

Description: Fragment of a bulla (Keel 1995:§§292–98). The seal that made the impression had a linear engraving.  
*Base*: Two complete concentric double circles with a dot in the center (Keel 1995:§489).  
 Remnants of two more concentric double circles. It seems that they were part of a border (Keel 1995:§492). Traces of the object framed by this border are visible, although not clear enough to identify.

Period: Uncertain.

Bibliography: Unpublished.

Period: Imitating models of the Middle Bronze Age IIB (Tufnell 1984:pl. 22:1983–86; Ben-Tor 2007: pl. 59:17–21; 87:2.9–10.33), this design can be found in the Nineteenth–Twentieth Dynasties and later in the Twenty-fifth–Twenty-sixth Dynasties (728–525 B.C.), as the parallels to Keel 1997:Achsib 34 demonstrate. Keel 2010:Dor 15 shows, however, that scarabs of the Middle Bronze Age IIB were used for sealing in much later periods.



Clay bulla fragment with impression of a seal depicting concentric circles (cat. no. 26, reg. no. 40814; scale 2:1)

**Catalogue no. 27**

Registration no.: 51379

Findspot: Grid 38 Square 75 Layer 4

Year excavated: 1997

Dimensions: 16.4 × 11.4 × 7.4 mm

Material: Clay.

Preservation: About half of the bulla seems to be preserved.

Description: Fragment of a bulla (Keel 1995:§§292–98). The seal that made the impression had a hollowed-out engraving.

*Base:* On the left is a falcon. Behind it is the upper part of a *hz*-vase (W14; Keel 1995:§455). Between the two signs is an unidentifiable sign, maybe a simplified version of the *z*-sign, “protection” (V17; Keel 1995:§465), although this would not be characteristic of this period.

Period: 26th Dynasty (664–525 B.C.).

Bibliography: Unpublished.

Parallels: For the combination of a symbol of a deity, in this case Horus, and the *hz*-vase, see no. 6 above.Clay bulla fragment with impression of a seal depicting a falcon and *hz*-vase (cat. no. 27, reg. no. 51379; scale 2:1)**Catalogue no. 28**

Registration no.: 48961

Findspot: Grid 38 Square 75 Fine-grid 81 Layer 29

Year excavated: 1997

Dimensions: 16.5 × 13.8 × 10.5 mm

Material: Clay.

Preservation: At least one-third of the bulla is broken away.

Description: Fragment of a bulla (Keel 1995:§§292–98). On the back are fingerprints and the impression of a cord.

The seal that made the impression had linear engraving.

*Base:* In a horizontal arrangement are *Mn-hpr-r*, the throne name of Thutmose III (Keel 1995:§§634, 650, 663), written in a cartouche (Keel 1995:§462), flanked by two stylized red crowns (Keel 1995:§452). 22nd Dynasty (945–713 B.C.).

Period:

Bibliography: Unpublished.

Parallels: Similar design schemes, with a cartouche containing the throne name of Thutmose III, are found on Keel 1997:Tell el-*A*ḡul 367, 549; Aschkelon 7; Keel 2010:Tell el-Far<sup>a</sup>-Süd 345 (= Petrie 1930: pl. 41:289).



Clay bulla fragment with impression of a seal bearing the throne name of Thutmose III (cat. no. 28, reg. no. 48961; scale 2:1)

**Catalogue no. 29**

Registration no.: 40815

Findspot: Grid 50 Square 48 Layer 393

Year excavated: 1992

Dimensions: 16.7 × 12.7 × 4.7 mm

Material: Clay (charred black).

Preservation: About half of the bulla seems to be preserved.

Description: Fragment of a bulla (Keel 1995:§§292–98).

*Base:* The upper half of the god Heh (cf. Keel 1997:Achsib 20; Tufnell et al. 1953:pl. 43:30 [Lachish]) with an elaborate crown consisting of horizontally extended ram-horns and five vertical elements, probably two uraei, two ostrich-feathers, and, in the center, a kind of white crown (Keel 1995: §453). This or a similar type of crown is quite typical of Horus as a child.

Period: 25th–26th Dynasties (728–525 B.C.).

Bibliography: Unpublished.

Parallels: Keel 1997:Akko 197; Petrie 1886:pl. 37:122 (Naukratis); Hölbl 1979:258, no. 1302 (Italy).



Clay bulla fragment with impression of a seal depicting the god Heh (cat. no. 29, reg. no. 40815; scale 2:1)



## 12. EGYPTIAN AMULETS\*

by Christian Herrmann

THE EXCAVATIONS of the Leon Levy Expedition to Ashkelon have brought to light a surprisingly large number of Egyptian amulets, totaling 151 in all. The number of Egyptian amulets found in recent years at other ancient sites on the Mediterranean coast of Israel is minuscule in comparison. This shows that Egypt exerted a strong cultural and religious influence in Ashkelon, which can probably be traced more precisely to the existence there of a temple of the Egyptian god Ptah and its related cult.

The 33 amulets published here were found in contexts dated to the Babylonian destruction of 604 B.C. and the immediately preceding building period. Several were found inside walls or incorporated into floors, indicating that they had gone out of use by the time of the construction of the buildings, unless they were intentionally incorporated into the buildings as magical objects, presumably to protect the inhabitants from evil.

### *Definition and Function*

An amulet is a small object that is believed to have magical power to protect its bearer and ward off evil; it shares some of its magical power with the bearer to bring good health and other benefits (see Herrmann 1994:2 for a more extensive discussion). Judging from the archaeological contexts in which they are found, amulets were worn by living persons, they were placed in tombs as possessions of the dead, and they were preserved as magical objects in a sanctuary—in the case of Ashkelon, probably in a public building in the marketplace.

During his or her lifetime, the owner of an amulet would have worn it as jewelry (*Lexikon der Ägyptologie* 5:668–69). This is shown by the fact that, contrary to the modern distinction between amulets and jewelry, the ancient Egyptians made no semantic distinction between them (Müller-Winkler 1987:20).

It is striking that a relatively large number of amulets have been found in temples (e.g., at Beth Shean and Lachish), in domestic shrines (Ashkelon), and in private rooms (Megiddo, Tell el-Far'a South, Tell Jemmeh, etc.), and that nearly all of them had bases which show that the object was used as a standing figure. The shape of the base is undoubtedly an imitation of the pedestals of statues of important gods (see

Lange and Hirmer 1985:pl. 201; Wildung and Grimm 1978:nos. 40, 66, 71; Brunner-Traut, Brunner, and Zick-Nissen 1984:no 63, among others), from which the amulets were probably copied. The fact that these amulets are copies of divine statues does not conflict with their use as small standing figures in temples, domestic shrines, or private homes.

Ulrich Hübler (1992:14) attributes to the amulets a completely profane function, suggesting that they served as playthings. He argues that “the first toy that children handled might well have been the amulets which parents and relatives had given them.” But even if children sometimes played with amulets, the primary reason their parents gave them these items was not to provide them with toys or trinkets but to protect the children from sickness, accidents, or anything else that might cause them harm.

For the description of individual amulets we must look to the Egyptological literature. One exception is an ostrakon from Samaria that mentions Bes as part of a personal name, *Qdbs*, “Bes has accomplished(?)” (Keel and Uehlinger 1992:232). However, in interpreting the meaning of individual amulet types, we must depend almost exclusively on Egyptian written sources.

The question of whether the owner of an amulet in Ashkelon hoped for the same effect from the amulet as was sought by an Egyptian amulet owner is debatable and must remain open (Müller-Karpe 1979:16). We can assume that residents of Ashkelon acquired amulets not only for aesthetic or stylistic reasons, but also with some idea of the religious or ideological significance of the object, about which they must have known as a result of the cultural exchanges that occurred between Egypt and Palestine.

On the other hand, the understanding of certain Egyptian motifs might well have been enriched by local religious practices and beliefs, or may even have been altered in a fundamental way. This happened later in Christian circles; for example, the church father Ambrose, in his *Expositio evangelii secundum Lucan* (X 113/ 1528 D), described Christ as *bonus scarabaeus*. In other words, Ambrose adopted the image of new life that was conveyed by the scarab and he transferred it to Christ, in connection with the hope for life after death (Hornung and Staehelin 1976:17).

\* This chapter was translated by Marcelle Robinson from the original German (Herrmann 2002:5–60, published in OBO 184).

### Material

Almost all of the amulets presented here are made of Egyptian faience. The manufacture of faience entailed a complicated technical process. First, a clay mold was made using an existing form. Moistened composite material was then pressed into the mold, which was fired at a high temperature. (For more about faience manufacture and the various methods involved, see Herrmann 1985:iv; 1994:27ff.). Amulets made of bone, metal, or semiprecious stone are also found occasionally at Ashkelon.

### Place of Manufacture

Despite the large number of amulets found at Ashkelon, we cannot assume that they were locally produced. So far, neither a workshop nor a large number of amulet molds have been found in the geographical region of ancient Palestine (see Herrmann 1994:35ff.). This is probably due to the fact that the technology needed to manufacture good-quality faience was quite complex and required not only extensive experience but also the necessary know-how, which in antiquity was above all the province of Egyptian faience factories. It is very likely that the amulets published in the present chapter reached Ashkelon by way of the commercial channels that existed at the time between Palestine and its neighbors.

### Period of Manufacture

The period of manufacture of each amulet was determined in light of the method, the style of the item, the nature of the material, and the amulet type (subject). The date assigned to an item spans the entire period during which the amulet was most likely to have been created. Whether a given piece was imported into Palestine during that period, or at a later time, often cannot be determined.

The dates reflect the archaeological periodization of Palestine used by Keel and Uehlinger (1992:17) and *The New Encyclopedia of Archaeological Excavations in the Holy Land* (Stern 1993:4:1529).

Table 12.1: Archaeological Periods in Palestine

	<i>Keel-Uehlinger 1992</i>	<i>Stern 1993</i>
Late Bronze Age IIB	1300–1150 B.C.	1300–1200 B.C.
Iron Age IA	1250–1100	1200–1150
Iron Age IB	1100–1000	1150–1000
Iron Age IIA	1000–900	1000–900
Iron Age IIB	925–720/700	900–700
Iron Age IIC	720/700–600	700–586
Iron Age III	600/587–450	
Persian Period	450–333	586–332*
Hellenistic Period		332–37
Roman Period		37 B.C.–A.D. 324

\*586–332 B.C. is “Babylonian and Persian Periods” in Stern 1993.

### Organization of the Catalogue

The amulet catalogue is divided into four sections: (1) anthropomorphic figures, (2) animals, (3) object amulets, and (4) fragments and miscellaneous. These four major categories include various types and variants. For the catalogue arrangement, the author relied wherever possible on the arrangement found in the *Egyptian Grammar* of Alan Gardiner (1957).

Each amulet is listed by its catalogue number followed by its excavation registration number and its findspot within a particular 100 × 100-m grid and the 10 × 10-m excavation square within that grid (and, in some cases, the 1 × 1-m “fine-grid” square within the 10 × 10-m square). The findspot is further defined by the depositional context (debris layer or architectural feature) in which the amulet was found. Each catalogue entry also includes a description, the method and period of manufacture, and bibliography.

Table 12.2: Egyptian Amulets from Seventh-century B.C. Ashkelon, Listed According to Amulet Type

<i>Catalogue No.</i>	<i>Amulet Type</i>	<i>Period of Manufacture</i>	<i>Findspot</i>
<b>Isis with Horus-child</b>			
1	Isis with Horus-child	Iron IIC	Grid 38 Square 64 Layer 58
2	Isis with Horus-child	Iron IIC	Grid 50 Square 57 Fine-grid 54 Layer 196
3	Isis with Horus-child	Iron IIA	Grid 38 Square 84 Layer 412 Feature 412
4	Isis with Horus-child	Iron IIC	Grid 38 Square 84 Fine-grid 54 Layer 386
<b>Shu</b>			
5	Shu	Iron IIC	Grid 38 Square 84 Fine-grid 35 Layer 297
6	Shu	Iron IIC	Grid 38 Square 84 Layer 401
<b>Bes</b>			
7	Bes	Iron IIC	Grid 50 Square 58 Fine-grid 33 Layer 262
8	Bes	Iron IIC	Grid 38 Square 84 Fine-grid 44 Layer 299 Grid 38 Square 84 Fine-grid 54 Layer 299 Grid 38 Square 84 Fine-grid 42 Layers 312, 401
9	Bes	Iron IIB	Grid 50 Square 48 Layer 414
10	Bes head	Iron IIB-C	Grid 50 Square 48 Layer 384
11	Bes head	Iron IIB-C	Grid 50 Square 48 Layer 453
<b>Ptahtek</b>			
12	Ptahtek	Iron IB	Grid 13 Square 84 Layer 401
13	Ptahtek	Iron IA-B	Grid 50 Square 57 Layer 256
14	Ptahtek	Iron IB-IIA	Grid 50 Square 58 Fine-grid 14 Layer 262
15	Ptahtek head	Iron IIB	Grid 38 Square 74 Layer 514
16	Winged Ptahtek	Iron IIB-C	Grid 50 Square 48 Fine-grid 4 Layer 405
17	Winged Ptahtek	Iron IIB-C	Grid 50 Square 57 Layer 218
<b>Udjat-eye</b>			
22	Udjat-eye	Iron IIB	Grid 50 Square 57 Layer 256
23	Udjat-eye	Iron IIB-C	Grid 50 Square 58 Fine-grid 14 Layer 262
24	Udjat-eye	Iron IIB-C	Grid 50 Square 58 Fine-grid 14 Layer 262
25	Udjat-eye	Iron IIB-C	Grid 50 Square 58 Fine-grid 13 Layer 262
26	Udjat-eye	Iron IIB-C	Grid 50 Square 49 Layer 440
27	Udjat-eye	Iron IIC	Grid 50 Square 57 Layer 218
<b>Miscellaneous types</b>			
18	Thoeris	Iron IIB	Grid 50 Square 58 Fine-grid 14 Layer 262
19	Pregnant sow	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262
20	Baboon	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262
21	Falcon	Iron IIC	Grid 50 Square 47 Layer 285
28	White crown	Iron IIC	Grid 38 Square 84 Layer 401
29	Papyrus stem	Iron IIC	Grid 38 Square 84 Fine-grid 52 Layer 401
30	Small temple	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262
31	Unidentified	Iron IIC	Grid 38 Square 84 Fine-grid 63 Layer 312
32	Bead	Iron IIC	Grid 38 Square 84 Layer 401
33	Sun disk	Iron IIC	Grid 50 Square 58 Layer 262

Table 12.3: Egyptian Amulets from Seventh-century B.C. Ashkelon, Listed According to Context

<i>Catalogue No.</i>	<i>Amulet Type</i>	<i>Period of Manufacture</i>	<i>Findspot</i>
<b>Amulets from miscellaneous contexts</b>			
1	Isis with Horus-child	Iron IIC	Grid 38 Square 64 Layer 58
2.	Isis with Horus-child	Iron IIC	Grid 50 Square 57 Fine-grid 54 Layer 196
3	Isis with Horus-child	Iron IIA	Grid 38 Square 84 Layer 412 Feature 412
4	Isis with Horus-child	Iron IIC	Grid 38 Square 84 Fine-grid 54 Layer 386
5	Shu	Iron IIC	Grid 38 Square 84 Fine-grid 35 Layer 297
9	Bes	Iron IIB	Grid 50 Square 48 Layer 414
10	Bes head	Iron IIB	Grid 50 Square 48 Layer 384
11	Bes head	Iron IIB–C	Grid 50 Square 48 Layer 453
15	Ptahtek head	Iron IIB	Grid 38 Square 74 Layer 514
16	Winged Ptahtek	Iron IIB–C	Grid 50 Square 48 Fine-grid 4 Layer 405
21	Falcon	Iron IIC	Grid 50 Square 47 Layer 285
26	Udjat-eye	Iron IIB–C	Grid 50 Square 49 Layer 440
<b>Amulets from Grid 38 Square 84 Layer 401 and related layers—the floor of a room in a house</b>			
6	Shu	Iron IIC	Grid 38 Square 84 Layer 401
8	Bes	Iron IIC	Grid 38 Square 84 Fine-grid 44 Layer 299 Grid 38 Square 84 Fine-grid 54 Layer 299 Grid 38 Square 84 Fine-grid 42 Layers 312, 401
12	Ptahtek	Iron IB	Grid 38 Square 84 Layer 401
28	White crown	Iron IIC	Grid 38 Square 84 Layer 401
29	Papyrus stem	Iron IIC	Grid 38 Square 84 Fine-grid 52 Layer 401
31	Unidentified	Iron IIC	Grid 38 Square 84 Fine-grid 63 Layer 312
32	Bead	Iron IIC	Grid 38 Square 84 Layer 401
<b>Amulets from Grid 50 Square 57 Layer 218—debris in the West Street of the marketplace</b>			
17	Winged Ptahtek	Iron IIB–C	Grid 50 Square 57 Layer 218
27	Udjat-eye	Iron IIC	Grid 50 Square 57 Layer 218
<b>Amulets from Grid 50 Square 57 Layer 256—debris filling the quarry beneath the marketplace</b>			
13	Ptahtek	Iron IA–B	Grid 50 Square 57 Layer 256
22	Udjat-eye	Iron IIB	Grid 50 Square 57 Layer 256
<b>Amulets from Grid 50 Square 58 Layer 262—debris in the South Street of the marketplace</b>			
7	Bes	Iron IIC	Grid 50 Square 58 Fine-grid 33 Layer 262
14	Ptahtek	Iron IB–IIA	Grid 50 Square 58 Fine-grid 14 Layer 262
18	Thoeris	Iron IIB	Grid 50 Square 58 Fine-grid 14 Layer 262
19	Pregnant sow	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262
20	Baboon	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262
23	Udjat-eye	Iron IIB–C	Grid 50 Square 58 Fine-grid 14 Layer 262
24	Udjat-eye	Iron IIB–C	Grid 50 Square 58 Fine-grid 14 Layer 262
25	Udjat-eye	Iron IIB–C	Grid 50 Square 58 Fine-grid 13 Layer 262
30	Small temple	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262
33	Solar disk	Iron IIC	Grid 50 Square 58 Layer 262

### Catalogue of Egyptian Amulets from Contexts Dated to the Seventh Century B.C. at Ashkelon

(All of the drawings are by Cathy S. Alexander. The scale varies and is indicated in each case.)

#### 1. ANTHROPOMORPHIC FIGURES

##### *Isis with Horus-child*

Isis is the sister and spouse of Osiris, the god of the dead, and she is the mother of Horus, the god of the sky. According to the Osiris myth, Osiris was murdered by his brother Seth. His wife Isis, lamenting the death of her husband, gathered his scattered remains, reassembled them with the help of her sister Nephthys, and breathed new life into him. From her relations with the resurrected Osiris came Horus, whom Isis hid and reared in the papyrus thickets of the Nile Delta so that he might later avenge his father and assume the throne of Egypt (Bonnet 1952:326ff.; *Lexikon der Ägyptologie* 3:186ff.).

The depiction of Isis in amulets was related to her life-giving and life-preserving qualities as mother of the god, as well as her ability to protect against every kind of danger and evil, which she demonstrated by secretly raising the Horus-child in the marshes of the Delta and protecting him from all evil powers.

For this reason, the divine mother with the suckling Horus-child was often represented in amulets that were intended, among other functions, to protect children from sickness and evil. Such amulets frequently carry inscriptions emphasizing their sure life-giving and protective properties; indeed, the inscriptions themselves were thought to possess their own strengthening powers. Thus, on the back of one example found at Beth Shean in 1931 is written: “(Spoken by) Isis, the Divine mother of the Lord: (I) give life and protection to the righteous” (translation based on Rowe 1936:272; Herrmann 1994:no. 21).

Amulet inscriptions occur in Palestine exclusively on anthropomorphic amulets, where they have a function akin to magical signs or sayings. The deities most often provided with inscriptions are Isis with the suckling Horus-child (nine examples from Palestine), Sekhmet or Bastet (five examples), Ptah (three examples), and Hatmehit (only two examples). Of the 196 Ptahtek figures that have been found in Palestine, only eight, all dating to the Iron Age IIC, are inscribed (with barely legible hieroglyphs), and four of these were found in Ashkelon. Ashkelon is, in fact, very well represented with amulet inscriptions. There is hardly an inscribed amulet type from Palestine that is not also represented at least once in Ashkelon (see Herrmann 1994:81f.).

In Palestine, Isis in amulet form appeared already in isolated instances in Late Bronze Age IIB (one example each in Ashkelon, Megiddo, and Sheik Zuweid). In Iron Age IB–IIA, she is represented by two examples found at Beth Shean. She enjoyed greater popularity in the Iron Age IIA–C (18 examples). Table 12.4 shows that amulets that depict Isis and the Horus-child were widely distributed throughout ancient Palestine.

In Palestine, Isis in amulet form appeared already in isolated instances in Late Bronze Age IIB (one example each in Ashkelon, Megiddo, and Sheik Zuweid). In Iron Age IB–IIA, she is represented by two examples found at Beth Shean. She enjoyed greater popularity in the Iron Age IIA–C (18 examples). Table 12.4 shows that amulets that depict Isis and the Horus-child were widely distributed throughout ancient Palestine.

Table 12.4: Egyptian Amulets That Depict Isis with the Horus-child

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Megiddo	Late Bronze IIB	(Nordburg) Level III	1
Sheik Zuweid	Late Bronze IIB	MT 243	1
Ashkelon*	Iron IB	Grid 38 Square 64 Layer 614 Feature 611 (context dated to Iron III–Persian)	1
Beth Shean	Iron IB–IIA	Room 1524 Level V	1
Beth Shean	Iron IB–IIA	Room 48 Level V	1
Tell el-Far‘ah South	Iron IIA	RL 382	1
Tell el-Far‘ah South	Iron IIA	Unknown	1
Tell el-‘Ajjul	Iron IIA	Surface find	1
Sheik Zuweid	Iron IIB	JM 348	1
Tell Jemmeh	Iron IIA	Unknown	1
Megiddo	Iron IIA	Surface find	1
Beth Shemesh	Iron IIA	SE-Grotto	1
<b>Ashkelon (cat. no. 3)</b>	Iron IIA	Grid 38 Square 84 Layer 412 Feature 412 (604 B.C.)	1
Lachish	Iron IIA–B	Tomb 218	1

Table 12.4: Egyptian Amulets That Depict Isis with the Horus-child (continued)

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell Jemmeh	Iron IIA–B	EF 189	1
Beth Shemesh	Iron IIA–B	Tomb 1	1
Ashkelon*	Iron IIB	Grid 38 Square 94 Layer 179 (Persian)	1
Sheik Zuweid	Iron IIB	JM 348	1
Sheik Zuweid	Iron IIB–C	HF 390	1
Lachish	Iron IIB–III	Tomb 1002	1
<b>Ashkelon (cat. no. 2)</b>	Iron IIC	Grid 50 Square 57 Fine-grid 54 Layer 196 (604 B.C.)	1
<b>Ashkelon (cat. no. 4)</b>	Iron IIC	Grid 38 Square 84 Fine-grid 54 Layer 386 (604 B.C.)	1
<b>Ashkelon (cat. no. 1)</b>	Iron IIC	Grid 38 Square 64 Layer 58 (604 B.C.)	1
Akko	Persian	Stratum IV E11 Layer 607 (4th cent. B.C.)	1
Ashkelon*	Persian	Unknown	2
Tell es-Safi	Persian	Unknown	1
<b>TOTAL:</b>	<b>Late Bronze IIB–Persian</b>		<b>24</b>

\* Not published here.

### Catalogue no. 1

Registration no.: 10843

Year excavated: 1986

Findspot: Grid 38 Square 64 Layer 58

Context: Wall constructed in the seventh century B.C. and destroyed by the Babylonians in 604 B.C.

Dimensions: 21 × 10 × 14 mm

Material: White composite with quite thin light-green glaze.

Method: Made with a mold then shaped by hand.

Preservation: Upper body of figure is broken off.

Description: *Front:* Figure sitting on a throne with a small child on its lap. The sides of the throne are flat.

*Back:* Flat. No support column and no inscription.

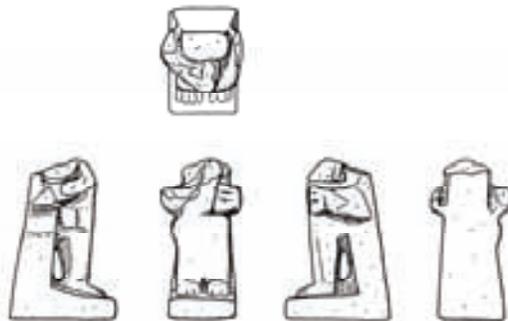
Period: Iron Age IIC

Bibliography: Herrmann 1994:no. 38; 2002:no. 1.

Parallels: *Egypt:* Petrie 1975:pl. 26:148h, j, k.

*Sardinia and ancient Italy:* Hölbl 1979:2:pl. 33; 1986:2:pl. 29–31.

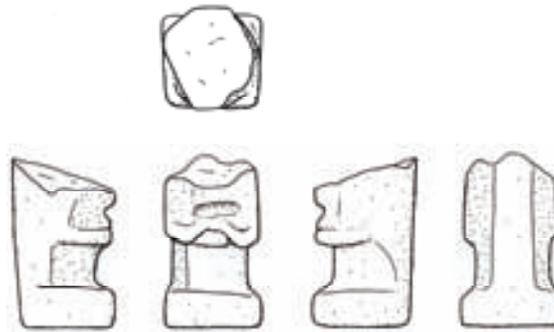
*Palestine:* Herrmann 1994:nos. 19–38; (as a statue) Iliffe 1936:64, pl. 31:4–5.



Isis with Horus-child (cat. no. 1, reg. no. 10843; scale 1:1)

**Catalogue no. 2**

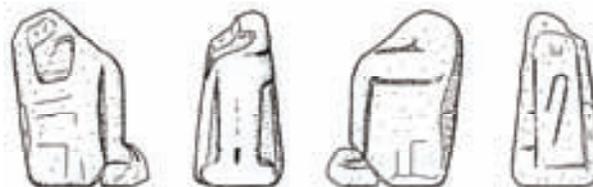
Registration no. 39569  
 Year excavated: 1992  
 Findspot: Grid 50 Square 57 Fine-grid 54 Layer 196  
 Context: 604 B.C. destruction of a building.  
*Other small finds:* a stone weight for a scale, 9 loomweights, and remains of a weaver's loom.  
 Dimensions:  $11 \times 6.2 \times 7$  mm  
 Material: White porous composite with quite thin light-green glaze.  
 Method: Made with a mold then shaped by hand.  
 Preservation: Upper body is broken off.  
 Description: *Front:* Figure sitting on a throne with a small child on its lap. The sides of the throne are flat.  
*Back:* Lightly indicated support beam on which no inscription is visible.  
 Period: Iron Age IIC  
 Bibliography: Herrmann 2002:no. 2.  
 Parallels: See catalogue no. 1.



Isis with Horus-child (cat. no. 2, reg. no. 39569; scale 2:1)

**Catalogue no. 3**

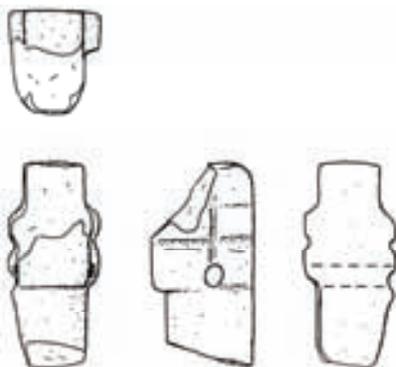
Registration no. 45689  
 Year excavated: 1995  
 Findspot: Grid 38 Square 84 Layer 412 Feature 412  
 Context: 604 B.C. destruction of storeroom filled with pottery vessels.  
*Other small finds:* conical/cylindrical bead.  
 Dimensions:  $24 \times 11 \times 15$  mm  
 Material: White porous composite with vestiges of quite thin light-green glaze.  
 Method: Probably made with a mold.  
 Preservation: Upper body is broken away. The broken-off feet have been reattached by the restorer.  
 Description: *Front:* Female figure with a long dress sitting on a god's throne, holding a small child on her lap.  
*Side:* The throne is characterized by vertical lines (throne of a god).  
*Back:* Support beam indicated by two vertical lines with an indecipherable inscription.  
 Period: Iron Age IIA  
 Bibliography: Herrmann 2002:no. 3.  
 Parallels: See catalogue no. 1.



Isis with Horus-child (cat. no. 3, reg. no. 45689; scale 1:1)

**Catalogue no. 4**

Registration no. 44542  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Fine-grid 54 Layer 386  
 Context: 604 B.C. destruction of a building.  
*Other small finds:* fragment of a faience bead, 7 pottery vessels, fragments of an alabaster vase.  
 Dimensions: 15 × 6 × 7 mm  
 Material: White porous composite with quite thin light green glaze.  
 Method: Probably made with a mold.  
 Preservation: Very bad; the extant portion of the head is broken into three pieces; body and base are missing.  
 Description: On the basis of existing forms, this must have been an Isis sitting on the throne holding a Horus child.  
 The attachment hole penetrates the object through the neck of the fragmented head.  
 Period: Iron Age IIC  
 Bibliography: Herrmann 2002:no. 4.  
 Parallels: See catalogue no. 1.



Isis with Horus-child (cat. no. 4, reg. no. 44542; scale 2:1)

*Shu (profile)*

Shu, the god of the atmosphere, to whom magical powers were also attributed, belongs to the Ennead (“Nine”) of Heliopolis. He emerged from Atum with his twin sister Tefnut. In the New Kingdom and later, Shu won increasing favour and became associated with Onuris, Chons, Horus, and Sopdu.

Shu is the creator of life and assists at its birth. One of his most important achievements is the separation of Heaven and Earth. He holds up the sky with his upraised arms. Iconographically, he is represented kneeling with upraised arms (Bonnet 1952:685–89; *Lexikon der Ägyptologie* 5:735–37).

Amulets that depict Shu may well have relied on his connection with the sun and moon (Bonnet 1952:

686–87) as well as his magical power (Hornung and Staehelin 1976:99). These associations indicate life-giving and regenerative attributes.

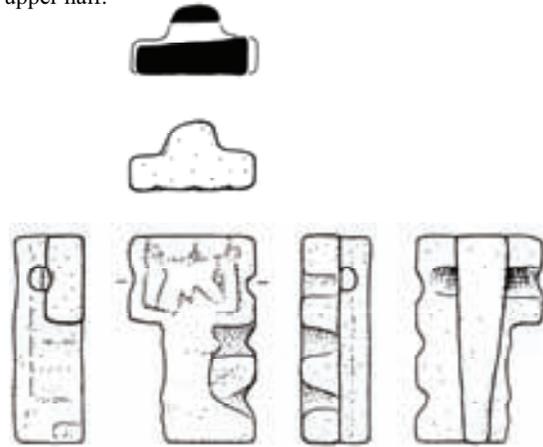
In ancient Palestine, Shu appeared in amulet form only in the Iron Age IIC and enjoyed a wide distribution on the Mediterranean coast (Atlit, Dor, and Ashkelon), only to disappear again in the Hellenistic period (table 12.5). This time span also coincides with the period in Egypt that was identified by Petrie (1975:37) as the period of the diffusion of this god in amulet form. The lateral profile representation, seen in the present cases, is very rare. Apart from the amulets found in Ashkelon, it is found only once, in Dor, from the Iron Age III–Persian period.

Table 12.5: Egyptian Amulets That Depict Shu

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Ashkelon (cat. no. 5)	Iron IIC	Grid 38 Square 84 Fine-grid 35 Layer 297 (604 B.C.)	1
Ashkelon (cat. no. 6)	Iron IIC	Grid 38 Square 84 Layer 401 (604 B.C.)	1
Dor	Iron III–Persian	Unknown	1
TOTAL:	Iron IIC–Persian		3

**Catalogue no. 5**

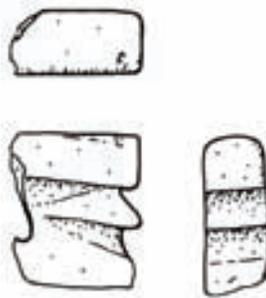
- Registration no.: 44607  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Fine-grid 35 Layer 297  
 Context: 604 B.C. destruction of a building.  
*Other small finds:* 17 loom weights, fragments of weaver's loom.
- Dimensions: 13.3 × 8 × 4.3 mm  
 Material: White porous composite with quite thin light green glaze.  
 Method: Made with a mold.  
 Description: *Front:* Profile of male figure kneeling on a base (the knee is added to the left leg) with a divided wig and upheld arms. It probably held the sun on its head.  
*Back:* Flat with prominent support beam that tapers off in a conical form towards the bottom. The attachment hole runs through the upper half.
- Period: Iron Age IIC  
 Bibliography: Herrmann 2002:no. 5.  
 Parallels: *Egypt:* Petrie 1975:pl. 30:167c, d.  
*Sardinia:* Hölbl 1986:2:pl. 36:1.  
*Palestine:* Herrmann 1994:no. 186.



Shu (cat. no. 5, reg. no. 44607; scale 2:1)

**Catalogue no. 6**

- Registration no.: 44913  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Layer 401  
 Context: Occupational debris on the floor of a room in a building destroyed in 604 B.C.  
*Other small finds:* iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198).  
 The following amulets also come from this context: head of Bes statuette (cat. no. 8), Ptahtek (cat. no. 12), white crown (cat. no. 28), papyrus stem (cat. no. 29), unidentified (cat. no. 31), faience bead (cat. no. 32).
- Dimensions: 10 × 8.5 × 4.5 mm  
 Material: Porous white composite with light-green thin glaze.  
 Method: Shaped by hand.  
 Preservation: The head and hands along the attachment hole are missing.  
 Description: *Front:* Profile view of squatting figure on a base, facing left, with attached leg and raised arm. The general composition indicates that this is a depiction of Shu in lateral representation.  
*Back:* Flat. The attachment hole penetrates the figure at a point level with the head.
- Period: Iron Age IIC  
 Bibliography: Herrmann 2002:no. 6.  
 Parallels: See catalogue no. 5.



Shu (cat. no. 6, reg. no. 44913; scale 2:1)

*Bes*

Bes did not belong to the official Egyptian state cult but rather to popular religion, although he also appeared in royal rituals. Whether he ever possessed an official cult is difficult to determine. Bes was known in Egypt since the Old Kingdom and was popular throughout the Mediterranean region since the Late Bronze Age (Bonnet 1952:101–89; *Lexikon der Ägyptologie* 1:720ff.).

The personality of Bes had many aspects. Most likely, he was regarded as similar to Aha, a popular form of the sun god. As a protector deity, he decorated bedroom furnishings to keep people safe at night. He was thought to be present, together with Hathor, at the time of birth; thus creative powers were probably also attributed to him (cf. the personal name *Qdbs*, “Bes has accomplished”(?), on an ostrakon from Samaria—Keel and Uehlinger 1992:232). He guarded newborn children with knives and protective symbols. In the myths surrounding Hathor, the folk-god Bes became a musician and dancer (Herrmann 1994:no. 424, 425).

These protective attributes of Bes played an important role in his depiction in amulets, which were intended to have an apotropaic effect, providing protection from danger and hostile forces (Hornung and Staehelin 1996:94). The frequent combination of Bes amulets with Udjat-eyes and baboon amulets emphasizes his solar aspect (see the discussion in Herrmann 1994:nos. 338–339, 463, and 355).

The typical Bes figure has a grotesque bearded face, broad nose, puffed-out cheeks, protruding tongue, and wide ears. Most of the time he is depicted naked, with either a long or short phallus. Rarely, he is depicted wearing a short kilt. In later periods (Iron Age IIA to Hellenistic), his head is adorned with a feathered crown.

In ancient Palestine, Bes amulets were quite popular. Only the Udjat-eye and the Ptahtek occur more often. There were many variations in the representation of Bes. The present author has tried to establish a Bes typology for amulets found in Palestine, one that would make it possible to distinguish Bes from the similarly rendered Ptahtek (Herrmann 1994:316ff.).

An important variant depicts Bes with a short phallus, very wide sideburns, and a feathered crown (see figure 12.1; cat. nos. 7–9). The development of this variant had its high point in Palestine. Most of the pieces were carefully executed to the smallest detail. The majority of examples date to the Iron Age IIB–C, with 11 examples dating to Iron Age IIB, 6 to Iron Age IIB–C, and 3 to Iron Age IIC (table 12.6). Only two examples (from Sheik Zuweid) date early as Iron

Age IIA, and only one example can be attributed to the Iron Age III–Persian period. This variant appears primarily in the south (Tell el-Far<sup>c</sup>ah South, Tell Jemmeh, Gezer, and Lachish) and along the Mediterranean coast (Achzib, Tell Abu Hawam, Dor, and Ashkelon). In the north, it has been found only at Megiddo (4 examples).

Another variant of the Bes figure that shows only the head is relatively well represented (15 examples) among the Bes amulets found in Palestine (table 12.7; see figure 12.2; cat. nos. 10 and 11). They most often date to the Iron Age IIB–C (11 examples). One exception is a Bes head from Megiddo that dates to Iron Age IB, on which the shape of the headdress is also rare. In Iron Age IIC–Persian, three Bes heads have been found (one in Ashkelon, two in Tell Jemmeh). Two heads found at Gezer probably also date to Iron Age IIB. It is worth noting that Bes heads are found primarily in the south of the country and along the Mediterranean coast, whereas in the north they are represented by only one relatively early example at Megiddo.



Scale 1:2

Figure 12.1: Bes figure from Ashkelon with wide sideburns and feathered crown (cat. no. 8)



Scale 1:1

Figure 12.2: Bes head from Ashkelon (cat. no. 11)

Table 12.6: Egyptian Amulets That Depict Bes with Short Phallus, Wide Sideburns, and Feathered Crown

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Sheik Zuweid	Iron IIA	KX 330	1
Sheik Zuweid	Iron IIA	KT 312	1
Lachish	Iron IIB	Tomb 120	3
Achzib	Iron IIB	Tomb ZR XXXVI	1
Achzib	Iron IIB	Tomb ZR XXIX	2
Tell Abu Hawam	Iron IIB	Stratum III (Iron IIA)	1
Tell el-Far'ah South	Iron IIB	Tomb 213	1
Tell Jemmeh	Iron IIB	EL 190	1
<b>Ashkelon (cat. no. 9)</b>	Iron IIB	Grid 50 Square 48 Layer 414 (604 B.C.)	1
<b>Ashkelon (cat. no. 8)</b>	Iron IIB	Grid 38 Square 84 Fine-grid 44 Layer 299 (604 B.C.)	1
Lachish	Iron IIB–C	Tomb 1002 (Iron IIB–III)	1
Gezer(?)	Iron IIB–C	Strata VII–V	1
Megiddo	Iron IIB–C	Surface find	1
Megiddo	Iron IIB–C	Unknown	1
Unknown	Iron IIB–C	Unknown	2
Megiddo	Iron IIC	Stratum III	2
<b>Ashkelon (cat. no. 7)</b>	Iron IIC	Grid 50 Square 58 Fine-grid 33 Layer 262 (604 B.C.)	1
Dor	Iron III–Persian	Unknown	1
<b>TOTAL:</b>	<b>Iron IIA–Persian</b>		<b>23</b>

**Catalogue no. 7**

Registration no.: 39197

Year excavated: 1992

Findspot: Grid 50 Square 58 Fine-grid 33 Layer 262

Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the city, in which various goods were weighed out. *Other small finds*: ivory fragment, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a scale, carnelian and glass beads, bone game pieces, many bone fragments, and pieces of an incense altar that belonged to a domestic shrine. The following amulets also come from this context: cat. nos. 14, 18, 19, 20, 23, 24, 25, 30, and 33.

Dimensions: 34.5 × 14 × 8 mm

Material: White porous composite with very thin light-green, and partly also light-yellow, glaze.

Method: Made with a mold.

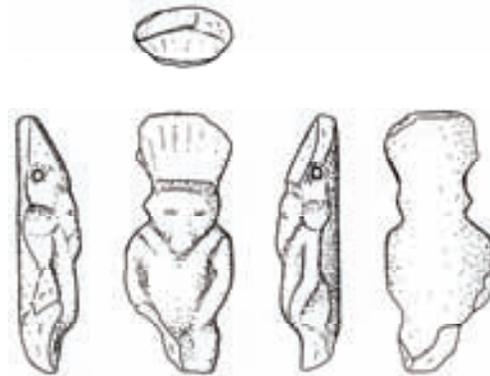
Preservation: The right leg, left foot, and base are missing.

Description: *Front*: Upright standing figure with bulging legs, short phallus, and testicles. Both arms are resting on his broad thighs. The head is set directly onto the shoulders and wide sideburns extend over the chest. The tongue hangs from the mustache-bordered mouth. The figure wears a multi-part feathered crown. The attachment hole penetrates the amulet horizontally between the head and the feathered crown.

*Back*: Flat and slightly curved.

Period: Iron Age IIC

Bibliography: Herrmann 1994: no. 410; 2002: no. 7.

Parallels: *Egypt*: Petrie 1975: pl. 33:188k.*Palestine*: Herrmann 1994: nos. 391–411.

Bes with feathered crown (cat. no. 7, reg. no. 39197; scale 1:1)

**Catalogue no. 8** (figure 12.1)

Registration no. 43694 and 44914

Year excavated: 1993

Findspot 1: Grid 38 Square 84 Fine-grid 44 Layer 299

Findspot 2: Grid 38 Square 84 Fine-grid 54 Layer 299

Findspot 3: Grid 38 Square 84 Fine-grid 42 Layer/Feature 312, Layer 401

Context: 604 B.C. destruction of a building (Layer 299) and occupational debris on the floor of a room (Layers 312, 401). *Other small finds*: iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198). The following amulets also come from this context: Shu (cat. no. 6), Ptahtek (cat. no. 12), white crown (cat. no. 28), papyrus stem (cat. no. 29), unidentified (cat. no. 31), and faience bead (cat. no. 32).

Dimensions: 120 × 81.2 × 28.5 mm

Material: White porous composite with thin light-green glaze.

Method: Made with a mold.

Preservation: Body, arms, and legs below the breast are broken off; the headdress and portions of the body and the breast had been broken apart and were reassembled by restorers.

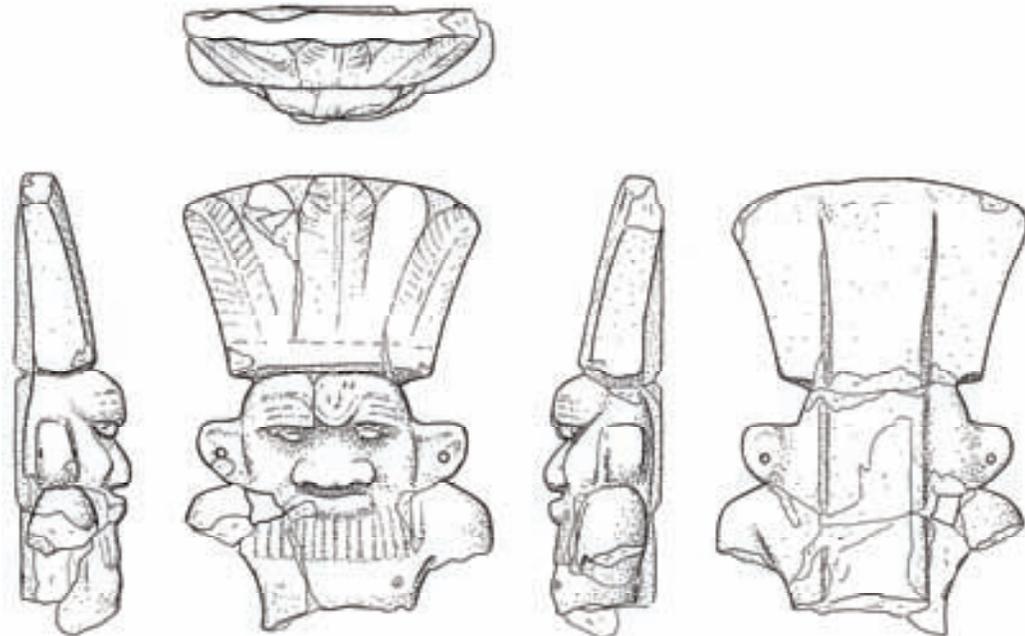
Description: *Front*: Upper body of a Bes figure. Both arms were most probably resting on the wide thighs, as in all other Bes figures. The head is attached directly to the shoulders and the wide sideburns hang over the chest. It is noteworthy that, unlike other such figures, no tongue protrudes from the wide mouth with bulging lips. The figure wears a five-part feathered crown on his head. All indications are that this was a Bes figure with a short phallus.

*Back*: The support beam goes directly to the feathered crown. The attachment hole between the head and body is missing. Instead, both the wide and protruding ears are provided with two small holes from which earrings had probably hung. The unusually large size indicates that we are dealing with a Bes statuette ca. 160 mm tall with attributes of an amulet, not an amulet as such.

Period: Based on the condition of the material, the method of manufacture, and the detailed workmanship, the earliest period for the manufacture of this piece is Iron Age IIB.

Remarks: These kinds of Bes statuettes are so far still unknown elsewhere in Palestine. This piece is an anomaly, as is the fragment of a similar piece described below (cat. no. 9).

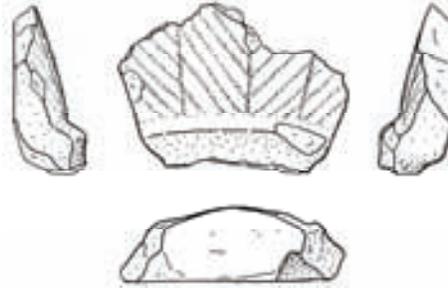
Bibliography: Herrmann 2002:no. 8.

Parallels: *Egypt*: Petrie 1975:pl. 33:188k.*Palestine*: Herrmann 1994:nos. 391–411.

Bes with feathered crown (cat. no. 8, reg. nos. 43694, 44914; scale 1:2)

**Catalogue no. 9**

- Registration no.: 40567  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 414  
 Context: 604 B.C. destruction of a building (Building405). *Other small finds*: bone utensils for looms, small clay vases, and olive pits.  
 Dimensions: 43 × 60.5 × 18.5 mm  
 Material: Very solid white composite with gray dirt layer on back and relatively thick light-blue glaze on front.  
 Method: Made with a mold.  
 Preservation: Upper section of feathered crown and head are broken off.  
 Description: *Front*: Section of a four-part feathered crown that was the headdress of a Bes figure.  
*Back*: Support beam missing from the back; it seems that this was subsequently worn off because traces of blue glassy fragments are still present in the depressions.  
 Period: Iron Age IIB  
 Remarks: Judging from the construction and the size of the feathered crown, this is a fragment of a Bes figure with a short phallus and wide sideburns. The size of the fragment shows that, like the piece described above (cat. no. 8), it originally belonged to a Bes statuette ca. 160 mm tall.  
 Bibliography: Herrmann 2002:no. 9.  
 Parallels: See catalogue no. 8.



Bes with feathered crown (cat. no. 9, reg. no. 40567; scale 1:2)

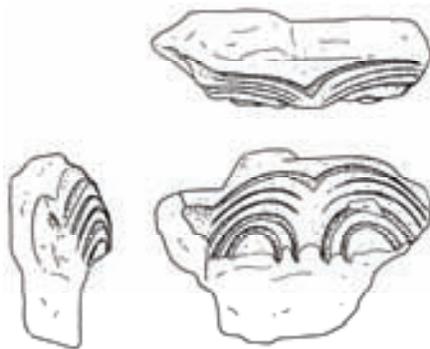
Table 12.7: Egyptian Amulets That Depict Only the Head of Bes

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Megiddo	Iron IB	Stratum IV	1
Lachish	Iron IIB	Surface find	1
Tell el-Hulefi	Iron IIB	Room 48/B	1
Tell es-Safi	Iron IIB	Unknown	1
Beth Shemesh	Iron IIB	Tomb V	1
Tell el-Far <sup>c</sup> ah South	Iron IIB	Cemetery 100	1
Unknown	Iron IIB	Unknown	2
Gezer	Iron IIB–C	Strata VII–V	1
Gezer (mold)	Iron IIB–C	Strata VII–V	1
<b>Ashkelon (cat. no. 10)</b>	Iron IIB–C	Grid 50 Square 48 Layer 384 (604 B.C.)	1
<b>Ashkelon (cat. no. 11)</b>	Iron IIB–C	Grid 50 Square 48 Layer 453 (604 B.C.)	1
Ashkelon*	Iron III–Persian	Grid 50 Square 59 Layer 46 (Iron III–Persian)	1
Ashkelon*	Iron III–Persian	Grid 50 Square 49 Layer 221 (Persian)	1
Tell Jemmeh	Iron IIC–III	BCC 198	1
<b>TOTAL:</b>	<b>Iron IB–Persian</b>		<b>15</b>

\* Not published here.

**Catalogue no. 10**

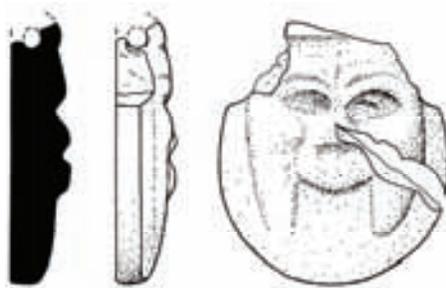
Registration no.: 39877  
 Year excavated: 1992  
 Findspot: Grid 50 Square 48 Layer 384  
 Context: Natural layer eroded by wind and rain. *Other small finds*: scale weight, clay bull figurine, bone remnants.  
 Dimensions: 24 × 30 × 12 mm  
 Material: Hard, porous white composite with traces of yellow glass.  
 Method: Made with a mold.  
 Preservation: Lower half of face missing and head decoration broken off.  
 Description: *Front*: Face with oversized eyes and a broad ear. Judging by the raised eyebrows, which are a typical of Bes figures and heads, it was probably part of a Bes head (Herrmann 1993:nos. 399, 409, 456, 459).  
*Back*: Flat.  
 Period: Iron Age IIB–C  
 Bibliography: Herrmann 1994:no. 466; 2002:no. 10.  
 Parallels: For the shape of the eyes, see Petrie 1975:pl. 34e; Reisner 1958:pl. 4:12649, 12654, 12657.



Bes head (cat. no. 10, reg. no. 39877; scale 1:1)

**Catalogue no. 11** (figure 12.2)

Registration no.: 48225  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 453  
 Context: Fill for the foundation of building destroyed in 604 B.C. *Other small finds*: figurine, fragment of an animal figurine, bone remnant.  
 Dimensions: 32.5 × 30.5 × 8 mm  
 Material: Very hard, white composite with thin light blue glaze.  
 Method: Made with a mold.  
 Preservation: Head broken diagonally across and reassembled by restorer. Headdress and ears are broken off.  
 Description: *Front*: Face with oversized eyes and wide mouth, from which the tongue probably protruded over the stylized sideburns. This fragment is part of a Bes head.  
*Back*: Flat.  
 Period: Iron Age IIB–C  
 Bibliography: Herrmann 2002:no. 11.  
 Parallels: *Egypt*: (mold) Khawam 1971:158, pl. 34:7, pl. 37:6; (finished) Petrie 1975:pl. 34:190b; Reisner 1958: pl. 3:12643, 12645; Brunner-Traut and Brunner 1984:74, no. 61. *Palestine*: Herrmann 1994:nos. 457–67.



Bes head (cat. no. 11, reg. no. 48225; scale 1:1)

*Ptahtek*

Like Bes, the Ptahtek deity was not part of the official cult but belonged to the realm of popular worship. Ptahtek is depicted (almost exclusively in amulet form) as a dwarfish, stunted man. Herodotus mentions the Phoenician custom of using Ptahtek as a protective deity on their ships (Bonnet 1952:584). He was especially honored as early as the Amarna period and enjoyed a revival in the Ramesside period. Countless amulet molds for the production of these dwarf-like figures are preserved in the faience workshops of Amarna and Qantir (Petrie 1894:pl. 18:275; Khawam 1971:pl. 34:23, 37:10–11, 38:11–12; Samson 1987:94, fig. 49; Herrmann 1985:nos. 129–134; 1989:29, fig. 1; 1990:nos. 30–37).

The fascination with dwarfs led to specific functions being ascribed to Ptahtek, who could be found in a wide variety of settings, from the private chamber of a lady to the workshop of a craftsman. He was regarded as a miniature Ptah, equipped with full creative powers. This indeed was what gave rise to the name Ptahtek, which is simply the Greek diminutive form of Ptah. He sometimes also carried a scarab on his head, thereby emphasizing his regenerative power and connection with the creative sun god. A magical saying from the Nineteenth–Twentieth Dynasty refers to the custom of wearing an amulet of this small deity around the neck to ward off evil (Bonnet 1952:584).

In Palestine, Ptahtek amulets are among the most popular types (207 examples). After the Udjat-eye (391 examples), the Ptahtek figure occurs most often. In Late Bronze Age IIB–Iron Age IA, Ptahtek is depicted as a simple, naked figure. In the Iron Age IIA, the figure becomes more complex, and in Iron Age IIB it reaches its highest degree of elaboration, only to become simpler again in Iron Age III–Persian. (For details of the development of the Ptahtek figure in Palestine, see Herrmann 1994:405f.)



Scale 1:1

Figure 12.3: Ptahtek with neck collar  
(cat. no. 14, reg. no. 38995)

## Simple, Small Ptahtek

It is surprising that the small, simple Ptahtek with unworked back occurs so late in Ashkelon (cat. no. 12). Table 12.8 shows that this type had disappeared by the end of Iron Age IIA, at the latest. Since it was found at Ashkelon in the same context as amulets that are securely dated to Iron Age IIC, we are dealing here with an amulet that was made at the latest in Iron Age IIA but to which the people of Ashkelon still attributed magical power in Iron Age IIC. Also noteworthy is the findspot, namely, in the floor of a building in which five other amulets, a stamp seal, and a scarab were found, which suggests that this was not a case of discarded materials being accidentally incorporated into the floor makeup but rather the deliberate inclusion of these amulets in the floor to protect the building and its inhabitants from evil powers.

## Simple, Large Ptahtek

A large version of the simple Ptahtek occurs in Palestine in Late Bronze Age IIB–Iron Age IB (table 12.9). The large version is much less common than the small. The amulet published here was found together with an Udjat-eye dated to Iron Age IIB in the foundation of a building that was probably constructed by the beginning of Iron Age IIC.

The fact that here, too, a Ptahtek figure had been incorporated into the foundation of a building together with an Udjat-eye, a scarab, and a terracotta figurine indicates a desire to protect the building and its inhabitants from evil powers—although the possibility cannot be excluded, in both cases, that these objects had been accidentally incorporated into the constructional fill.

## Ptahtek with Neck Collar

In Palestine, there are five examples of Ptahtek with a neck collar (figure 12.3) that date to the Late Bronze Age IIB–Iron Age IB, but this variant occurred mainly in Iron Age IIA–B, especially in the north of the country and on the Mediterranean coast (table 12.10).

## Broken-Off Ptahtek Head

The Ptahtek head published here (figure 12.4; cat. no. 15) was not a freestanding amulet, unlike the Bes heads. It originally belonged to an intact Ptahtek figure, from which it was broken off. Even so, it has

been placed in a separate category because, in the opinion of the present author, these heads were also used as separate amulets. This is based on the fact that the broken-off head is only rarely found together with the rest of the Ptahtek figure. Moreover, in graves at Lachish, Beth Shemesh, and Achzib the broken-off heads without bodies were provided for the deceased. It is certainly no coincidence that, in contrast to the Ptahtek amulets, hardly any broken-off heads from other amulet types have been found.

For the same reason that the head of Bes was represented by itself in a special amulet form (see Keel and Uehlinger 1992:250), the owner of a Ptahtek head would have expected to benefit from the head's protective powers. Whether or not such heads were deliberately broken off must remain an open question (see Herrmann 1994:475ff.).

Table 12.11 shows the popularity of the broken-off Ptahtek head as an amulet that was in widespread use all over Palestine, from Megiddo to Ashkelon.



Scale 1:1

Figure 12.4: Broken-off Ptahtek head  
(cat. no. 15, reg. no. 43030)

Just as with the simple Ptahtek figure (cat. no. 12), the late context of this amulet type at Ashkelon (Iron Age IIC) is surprising because its period of manufacture could not have been later than Iron Age IB.

#### Winged Ptahtek

In the late period, Ptahtek was often credited with the attributes of Harpokrates, emphasizing his function in preventing or destroying evil. Thus, he was able to trample crocodiles, bite snakes, and at the same time hold two sharp knives battle-ready in front of him. The two falcons that sit on the shoulders of some of the Ptahtek amulets of this period (see Herrmann 1994:nos. 634 and 642) refer to Horus (Brunner-Traut and Brunner 1991:no. 59), endowing Ptahtek with solar attributes.

When Ptahtek is represented as Harpokrates, Bes attributes are also easily attached to him. So he sometimes wears a lion's tail on his back (Herrmann 1994:nos. 624, 626, 628, 629) and two broad wings (*ibid.*, nos. 640–647). Sometimes he is combined with the goddess Isis, the Udjat-eye, or an inscribed beam (see Herrmann 1994:nos. 642, 643, 644). Only in the later period was Ptahtek equated with Ptah-Sokaris. The English-language technical literature uniformly refers to the dwarf deity by the late name Ptah-Sokaris, but since he already appeared much earlier, it is preferable to use the term Dwarf or Ptahtek.

Table 12.12 shows that the winged Ptahtek was a very popular amulet type in Palestine in Iron Age IIB–C. It appeared at this time in the north as well as the south and especially along the coast.

#### Catalogue no. 12

Registration no.:	44916
Findspot:	Grid 38 Square 84 Layer 401
Context:	Occupational debris on the floor of a room in a building destroyed in 604 B.C. <i>Other small finds:</i> iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198). The following amulets also come from this context: Shu (cat. no. 6), head of a Bes statuette (cat. no. 8), white crown (cat. no. 28), papyrus stem (cat. no. 29), unidentified (cat. no. 31), faience bead (cat. no. 32).
Year excavated:	1994
Dimensions:	5.5 × 5 × 5 mm (head); 5 × 5 × 2 mm (torso)
Material:	Porous white composite with light-green and black glaze.
Method:	Made with a mold.
Preservation:	Very poor; only the head and front part of the stomach are preserved.
Description:	Head with deep-set eyes, broad nose and black glazed Ptah cap. Below the hanging breasts, the stomach and navel can be recognized. Small Ptah with Ptah cap.
Period:	Iron Age IB
Bibliography:	Herrmann 2002:no. 12.
Parallels:	<i>Palestine:</i> Herrmann 1994:nos. 489–560 (for the black Ptah cap, see no. 579). <i>Egypt:</i> (mold) Khawam 1971:pl. 37:10; Herrmann 1985:nos. 129–30; (finished) Petrie 1975: pl. 31:176c; 1906:pl. 37:B50.



Simple, small Ptahtek (cat. no. 12, reg. no. 44916; scale 2:1)

Table 12.8: Egyptian Amulets That Depict Simple, Small Ptahtek

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 934	7
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 914	8
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 955	1
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 960C	2
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB–Iron IB	Tomb 855	1
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB–Iron IB	Cemetery 800	5
Tell el-Far <sup>c</sup> ah South	Late Bronze IA–B	Tomb 956	32
Tell el-Far <sup>c</sup> ah South	Late Bronze IA–B	Tomb 641	2
Lachish	Late Bronze IIB–Iron IA	Tomb 4002	3
Ashkelon*	Late Bronze IIB–Iron IB	Grid 38 Square 64 Layer 221 (Iron IIC)	1
Ashkelon*	Late Bronze IIB–Iron IB	Grid 38 Square 64 Layer 207 (Iron IIC)	1
<b>Ashkelon (cat. no. 12)</b>	Iron IB	Grid 38 Square 84 Layer 401 (604 B.C.)	1
Ashkelon*	Iron IA	Grid 50 Square 49 Layer 477 (Iron IB)	1
Ashkelon*	Late Bronze IIB–Iron IB	Grid 38 Square 74 Layer 1008 (Iron IA)	1
Ashkelon*	Late Bronze IIB–Iron IB	Grid 50 Square 58 Layer 504 (Iron IB)	1
Ashkelon*	Late Bronze IIB–Iron IA	Grid 50 Square 58 Layer 409 (Iron IA)	1
Beth Shean	Late Bronze IIB–Iron IB	Unknown	1
Megiddo	Iron IB	Stratum “IV filling” (Stratum VI)	1
Megiddo	Iron IB	Stratum V (Iron IIA)	1
Beth Shemesh	Iron IIA	Tomb 1	5
Achzib	Iron IIA	Tomb ZR XIII	1
<b>TOTAL:</b>	<b>Late Bronze IIB–Iron IIA</b>		<b>77</b>

\* Not published here.

Table 12.9: Egyptian Amulets That Depict Simple, Large Ptahtek

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 960B	2
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 903	1
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 934	1
Tell el- <sup>c</sup> Ajjul	Late Bronze IIB–Iron IB	Unknown tomb	1
Tell el- <sup>c</sup> Ajjul	Late Bronze IIB–Iron IB	Unknown	1
Megiddo	Iron IA–B	Level IV	1
Tell Abu Hawam	Iron IA–B	Stratum III (Iron IIA)	1
<b>Ashkelon (cat. no. 13)</b>	Iron IA–B	Grid 50 Square 57 Layer 256 (604 B.C.)	1
Ashkelon*	Iron IB	Grid 38 Square 84 Layer 556 (Iron IB)	1
Unknown	Iron IA–B	Unknown	2
<b>TOTAL:</b>	<b>Late Bronze IIB–Iron IB</b>		<b>12</b>

\* Not published here.

**Catalogue no. 13**

Registration no.: 44346

Findspot: Grid 50 Square 57 Layer 256

Context: Soil fill for the foundation of a building destroyed in 604 B.C.

*Other small finds:* terracotta figurine, glass beads, loom weights, faience beads, carnelian bead, steatite scarab, faience Udjat-eye (cat. no. 22).

Year excavated: 1994

Dimensions: 32 × 12 × 10 mm

Material: White composite with white and sporadic light-blue glaze.

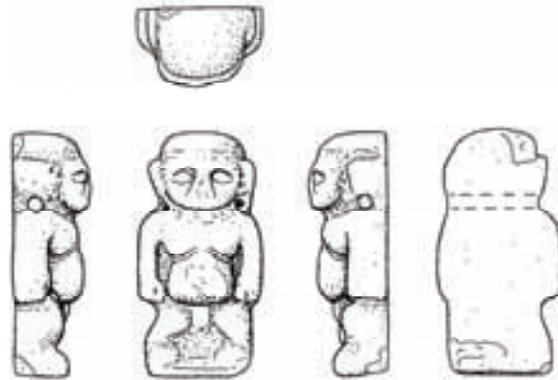
Method: Made with a mold.

Preservation: Good.

Description: *Front:* Figure with large ears, Ptah cap, and indicated collar at the neck. The hands of the slightly angled arms are clenched into fists and touch the upper thighs of the thick lumpy legs between which the male genitals can be clearly seen.*Back:* Flat and unworked. The attachment holes penetrate the neck underneath the broad ears.

Period: Based on the kind of manufacture and the style (unworked back side, lack of a supporting beam, attachment holes penetrating the neck) it was manufactured in Iron Age IA–B (see Herrmann 1994:no. 615).

Bibliography: Herrmann 2002:no. 13.

Parallels: *Egypt:* (mold) Herrmann 1990:no. 30.*Palestine:* Herrmann 1994:no. 561.

Simple, large Ptahtek (cat. no. 13, reg. no. 44346; scale 1:1)

Table 12.10: Egyptian Amulets That Depict Ptahtek with Neck Collar

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB	Tomb 840	1
Tell el-Far <sup>c</sup> ah South	Late Bronze IIB–Iron IB	Unknown	1
Tell el-Far <sup>c</sup> ah South	Iron Age IA–B	Tomb 126	1
Lachish	Late Bronze IIB–Iron IA	Tomb 4002	1
Megiddo	Iron IB	Stratum VI	2
Megiddo	Iron IIA	Stratum VA	1
Megiddo	Iron IIA	Stratum V	2
Megiddo	Iron IIA	Stratum VB	1
Megiddo	Iron IIB	Surface find	1
Megiddo	Iron IIC–III	Stratum II	1
Beth Shean	Iron IB–IIA	Room 1549 Level V	1
Beth Shean	Iron IB–IIA	Room 1211 Level V	1
<b>Ashkelon (cat. no. 14)</b>	Iron IB–IIA	Grid 50 Square 58 Fine-grid 14 Layer 262 (604 B.C.)	1
Unknown	Iron IIA	Unknown	1
Sheik Zuweid	Iron IIA	Surface find	1
Beth Shemesh	Iron IIB	Unknown	1
Achzib	Iron IIB	Tomb ZR XIII	1
Gezer	Iron IIB–C	Strata VII–V	1
<b>TOTAL:</b>	Late Bronze IIB–Iron IIC		<b>20</b>

**Catalogue no. 14** (figure 12.3)

Registration no.: 38995

Findspot: Grid 50 Square 58 Layer 262 Fine-grid 14

Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the ancient town, in which a variety of goods had been weighed out.

*Other small finds:* ivory fragment, small alabaster vase, metal weights, 11 bronze weights, 2 pans for a scale, carnelian and glass beads, bone playing pieces, many remnants of bone, fragments of an incense altar that belonged to a domestic shrine. The following amulets also come from this context: cat. nos. 7, 18, 19, 20, 23–25, 30, and 33.

Year excavated: 1992

Dimensions: 24 × 16 × 10 mm

Material: Solid white composite with white and occasional light-blue glaze.

Method: Made with a mold then completed by hand.

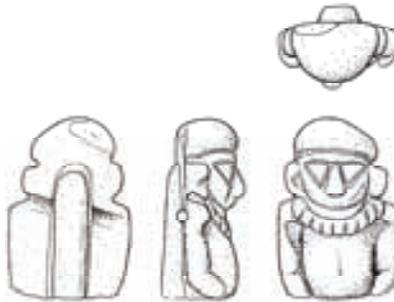
Preservation: Lower body broken away and no longer extant.

Description: *Front:* Figure with slightly angled arms, large ears, and well-defined Ptah cap. The neck collar shows a wide row of beads.

*Back:* At shoulder height, the attachment holes penetrate the support column and the back.

Period: Iron Age IB–IIA

Bibliography: Herrmann 1994:no. 603; 2002:no. 14.

Parallels: *Palestine:* Herrmann 1994:nos. 595–614.

Ptahtek with neck collar (cat. no. 14, reg. no. 38995; scale 1:1)

Table 12.11: Egyptian Amulets Consisting of Broken-off Ptahtek Head

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Megiddo	Iron IA	Stratum VIIA	1
Megiddo	Iron IIA	Stratum V	1
Megiddo	Iron IIA	Tell surface/Room III	1
Lachish	Iron IIA	Tomb 120	1
Unknown	Iron IIA	Unknown	2
Beth Shemesh	Iron IIB	Tomb 1	3
Beth Shemesh	Iron IIB	SE Grotto	1
Achzib	Iron IIB	Tomb ZR XXXVI	1
<b>Ashkelon (cat. no. 15)</b>	Iron IIB	Grid 38 Square 74 Layer 514 (604 B.C.)	1
<b>TOTAL:</b>	Iron IA–IIB		12

**Catalogue no. 15** (figure 12.4)

Registration no.: 43030

Findspot: Grid 38 Square 74 Layer 514

Context: 604 B.C. destruction of a building; grindstone of grain mill.

Year excavated: 1993

Dimensions: 11.3 × 13 × 15 mm

Material: Solid gray composite with light-blue and black glaze.

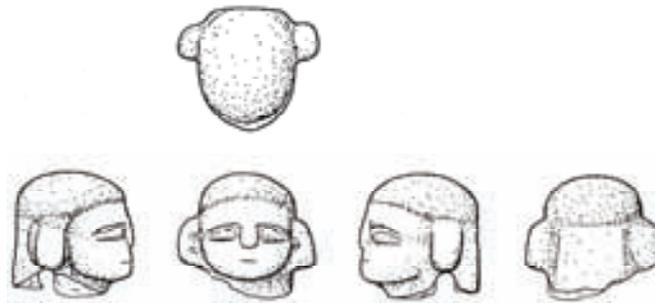
Method: Made with a mold.

Preservation: Body broken off and no longer extant.

Description: *Front:* Head with broad nose, protruding ears, and Ptah cap indicated with black glaze.*Back:* The attachment apparatus penetrates partly the neck and partly the broad support beam that turns into the Ptah cap.

Period: Iron Age IIB

Bibliography: Herrmann 2002:no. 15.

Parallels: *Palestine:* Herrmann 1994:nos. 617, 670–80.

Broken-off Ptahtek head (cat. no. 15, reg. no. 43030; scale 1:1)

Table 12.12: Egyptian Amulets That Depict Winged Ptahtek

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Beth Shemesh	Iron IIB	Tomb 1	2
Tell el- <i>c</i> Ajjul	Iron IIB	Tomb 1152	1
Lachish	Iron IIB	Level III	1
Ashkelon*	Iron IIB	Grid 57 Square 58 (Iron III–Persian)	1
Achzib	Iron IIB	Tomb ZR IX	1
Achzib	Iron IIB	Unknown tomb	1
Achzib	Iron IIB	Tomb ZR XXXVI	1
<b>Ashkelon (cat. no. 16)</b>	Iron IIB	Grid 50 Square 48 Fine-grid 4 Layer 405 (604 B.C.)	1
<b>Ashkelon (cat. no. 17)</b>	Iron IIB	Grid 50 Square 57 Layer 218 (604 B.C.)	1
Megiddo	Iron IIB	Stratum III	1
<b>TOTAL:</b>	Iron IIB–C		11

\* Not published here.

**Catalogue no. 16**

Registration no.: 42268

Findspot: Grid 50 Square 48 Fine-grid 4 Layer 405

Context: 604 B.C. destruction of a courtyard in a building.  
*Other small finds:* spindle whorl, animal figurine.

Year excavated: 1993

Dimensions: 10 × 7.9 × 4 mm

Material: Steatite overlaid with light-blue and white glaze.

Method: Carved and then glazed.

Preservation: Very good; upper portion of back side broken off.

Description: In the round.

*Front:* A small figure on a rectangular base with a broad and stocky body and, on his back, two wide wings, extending beyond the outer edge of the stocky legs. The wings are closed. Beneath the oval navel, small male genitals are visible. The attached angular arms rest on the stomach and the upper thighs. Across the chest hangs a two-stranded neck-collar. On the thick and widened cranium, the Ptah cap is recognizable. The two lines across the forehead, which with the edge of the Ptah cap form a trapezoid, could indicate the pincers of a scarab.

*Back:* Between both of the wide wings of Isis, which cover her back and legs, her slim body is visible, above which the head would most likely have been. The attachment device runs between the back of the Ptahtek's head and the broken-off body of Isis.

*Base:* On the underside of the base there is an impressed inscription.

Period: Because of the detailed shape of the individual features of this type, its manufacture has been ascribed to Iron Age IIB–C. The similarity in size and depiction leads to the conclusion that this piece was imported from the same workshop as the winged Ptahtek found in Ashkelon in 1898 (see Herrmann 1994:no. 644).

Remarks: If the back is indeed a reference to Isis, it would be an expression of the popular combination of Ptahtek and Isis. The art of miniature in ancient Palestine reached its zenith in the production of these small figures (Herrmann 1994:nos. 643, 644).

Bibliography: Herrmann 2002:no. 16.

Parallels: For winged backs, see Brunner-Traut et al. 1984:no. 59; Hölbl 1979:2:pl. 50; 1986:2:pl. 12–17.  
*Palestine:* Herrmann 1994:nos. 639–47.



Winged Ptahtek (cat. no. 16, reg. no. 42268; scale 2:1)

**Catalogue no. 17**

Registration no.: 44070

Findspot: Grid 50 Square 57 Layer 218

Context: Fill for the foundation of a building destroyed in 604 B.C. *Other small finds:* dark blue faience bead, fragment of alabaster vase, Udjat-eye with jagged frame (cat. no. 27).

Year excavated: 1994

Dimensions: 9.2 × 9.8 × 5.8 mm

Material: Steatite.

Method: Carved. The navel and the spaces between the attached arms and upper body, as well as the space between the legs, have been evenly drilled out with a fine drill.

Preservation: Head partly broken off.

Description: In the round.

*Front:* On a rectangular base stands a small figure with a wide and stocky body. Two wings on its back extend beyond the outer edge of the stocky legs. The wings are closed. Across the chest, the lower row of a wide neck collar is easily visible. Below the oval navel the small male genitals can be identified. The attached arms rest on the stomach and the upper thigh.

- Back:* Between the wide wings of Isis, which cover the back and legs, her body is visible, above which her head had most probably been.
- Base:* On the underside of the base, an inscription had been etched.
- Period:* See catalogue no. 16.
- Remarks:* The fact that here, too, a Ptahtek figure had been incorporated with an Udjat-eye into the foundations of a building shows the intention to protect the building and its inhabitants from evil powers. Of course, it is also possible that these objects were accidentally included in fill material.
- Bibliography:* Herrmann 2002:no. 17.
- Parallels:* See catalogue no. 16.



Winged Ptahtek (cat. no. 17, reg. no. 44070; scale 2:1)

## 2. ANIMAL FIGURES

### *Thoeris*

Thoeris (Egyptian *t3 wrt*, “the Great”) is a general term for a goddess in the form of a hippopotamus. Her most important functions were those of nurse and mother, from which her role as a nature goddess evolved. Her picture was attached to beds and to the birthing-tents in which new mothers stayed outside the home after giving birth. In the precarious postpartum period, mother and child required special protection, which Bes or Thoeris were to provide (see the birthing scene in the Temple of Hatshepsut in Deir el-Bahri, reproduced in Keel 1980:228, fig. 336).

In the New Kingdom, Thoeris was depicted as a celestial figure in the northern sky with a crocodile on her back. In Thebes, she was chiefly connected with Hathor, where her connection to Isis is also demonstrated, and where she most probably also possessed her own temple.

Iconographically, she is represented with the belly of a pregnant hippopotamus, the head of a hippopotamus, human hands, a crocodile’s back, and lion’s paws. Others belonging to the same circle of protective goddesses, such as Hedjet (the “White”), Ipet (the “Nurse”), and Beret (the “Sow”), could also appear in this mixed form (Bonnet 1952:530–35; *Lexikon der Ägyptologie* 6:494ff.).

Thoeris had firmly defined functions. Equipped with protective, healing, and defensive signs, such as

*s3-*, *nh*-signs, or knives, she carried out her apotropaic function and protected above all the newborn child and its mother, as well as the dead, who were exposed to all sorts of threats. The belief in the ability of Thoeris to protect both in life and in death was a decisive factor in the adoption of her figure as one suitable for amulets. The idea of regeneration in connection with this folk-deity was probably also significant (Hornung and Staehelin 1976:127ff.).

Thoeris in amulet form appeared quite early in Palestine. From Late Bronze Age IIA–B, four examples have been found in Lachish, two in Tell el-<sup>c</sup>Ajjul (McGovern 1985:18–19), and four in Tell el-Far<sup>c</sup>ah South. In Late Bronze Age II–Iron Age IB, amulets depict Thoeris solely in profile representation. She reappeared in Palestine in the Iron Age IIC–Persian period, at which time she was depicted in the round (Achzib, 2 examples; Tell Abu Hawam, 1; <sup>c</sup>Atlit, 9; Dor, 7; Ashkelon, 5; Gezer, 1; Tell Jemmeh, 1). She disappeared almost completely in Hellenistic times (only two examples, both from <sup>c</sup>Atlit).

For the detailed development of the different Thoeris amulet variations in Palestine, see Herrmann 1994:493f. Table 12.13 is limited to the sculptured representations, which are the only kind found in Ashkelon. This type was restricted almost exclusively to the Mediterranean coast.

Table 12.13: Egyptian Amulets That Depict Thoeris

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
<b>Ashkelon (cat. no. 18)</b>	Iron IIB–C	Grid 50 Square 58 Fine-grid 14 Layer 262 (604 B.C.)	1
Gezer	Iron IIC	Strata VII–V	1
Tell Jemmeh	Iron IIC	BO 200	1
Dor	Iron IIC	Locus 4630 (Iron III–Persian)	1
Dor	Iron IIC	Unknown	1
Achzib	Iron IIC?	Tomb ZR XIII	1
Achzib	Iron IIC?	Unknown	1
Ashkelon*	Iron III–Persian	Grid 38 Square 63 Layer 556 Feature 546	1
Ashkelon*	Iron III–Persian	Grid 57 Square 68 Layer 239 Feature 239	1
Ashkelon*	Iron III–Persian	Grid 50 Square 48 Layer 135	1
Ashkelon*	Iron III–Persian	Grid 38 Square 64 Feature 38 (Iron III–Persian)	1
Dor	Iron IIIC–Persian	Locus 5568/5569/5590	3
Dor	Iron III–Persian	Area C2 Locus 4668	1
⊂Atlit	Iron III–Persian	Tomb L/21a-II/SE Cemetery	1
⊂Atlit	Iron III–Persian	Tomb L/23e-VI/SE Cemetery	2
⊂Atlit	Iron III–Persian	Tomb L/23d-II/SE Cemetery	1
⊂Atlit	Iron III–Persian	Tomb L/23b-IV/SE Cemetery	2
⊂Atlit	Iron III–Persian	Tomb L/23c-VII/SE Cemetery	1
Tell Abu Hawam	Iron III–Hellenistic	Stratum II	1
Dor	Late Persian	Area D Locus 5597	1
⊂Atlit	Late Persian	Tomb L/35b-I/SE Cemetery	1
⊂Atlit	Hellenistic	Tomb L/24c-I/SE Cemetery	1
⊂Atlit	Hellenistic	Tomb L/24a-IV/SE Cemetery	1
<b>TOTAL:</b>	<b>Iron IIC–Hellenistic</b>		<b>28</b>

\* Not published here.

### Catalogue no. 18

Registration no. 38994

Findspot: Grid 50 Square 58 Fine-grid 14 Layer 262

Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the ancient town, in which various goods were weighed out.

*Other small finds:* ivory fragment, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a small scale, many bone remnants, fragments of an incense altar that had belonged to a domestic shrine. The following amulets also come from this context: cat. nos. 7, 14, 19, 20, 23–35, 30, and 33.

Year excavated: 1992

Dimensions: 37 × 13 × 15 mm

Material: White composite with light-blue glaze.

Method: Made with a mold then shaped by hand.

Preservation: Good. Front corner of the base is broken off.

Description: In the round.

*Front:* Striding figure on a rectangular base with large hippopotamus head, pregnant hippopotamus belly, slightly angled human arms, and broad lion feet. The strands of a divided wig reach across the prominent hanging breasts on which the nipples are still partly visible. The cap-like headdress cannot be definitively identified. Perhaps it is the remains of a stylized representation of a uraeus frieze, such as Hathor or Isis often wear.

*Back:* The furrowed wig covers the whole width of the back, down to the small of the back, and is separated from the broad crocodile's tail by a band.

Period: Iron Age IIB

Bibliography: Herrmann 1994:no. 719; 2002:no. 18.

Parallels: *Palestine:* Herrmann 1994: nos. 717–43.

*Egypt:* Petrie 1975:pl. 40:236w; Saleh and Sourouzzian 1986:no. 248; Keel and Uehlinger 1990:98, fig. 128; Schoske and Wildung 1992:no. 71. *Sardinia:* Hölbl 1986:2:pl. 58–63:1 a–d.



Theris (cat. no. 18, reg. no. 38994; scale 1:1)

### *Pregnant Sow*

It is likely that amulets depicting a pregnant sow, or a sow suckling her young, were the amulets most closely associated with Nut, the goddess of the sky. According to myth, this deity swallowed the stars of the heavens but she did not retain them. She returns them to life by giving them a new birth every day, just as she swallows the sun every evening in order to create it anew in the morning. Nut's role may later have been taken over by Isis, as shown by inscribed amulets of this type (Bonnet 1952:691).

The owner of a sow amulet (or an amulet depicting suckling pigs) would have hoped for maternal fertility and continuous regeneration (Herrmann 1994:no. 808). The solar aspects of the sky goddess were also important for the amulet's meaning.

The sow amulet appears relatively late in Palestine (table 12.14). In Iron Age IIB, it occurs once in Lachish and Beth Shemesh. In Iron Age IIC, it occurs once in Lachish and Ashkelon. In the Iron Age III–Persian period, it occurs once in <sup>c</sup>Atlit.

Table 12.14: Egyptian Amulets That Depict a Pregnant Sow

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Lachish	Iron IIB	Tomb 218	1
Lachish	Iron IIC	Tomb 106	1
Beth Shemesh	Iron IIB	Tomb 1	1
Achzib	Iron IIB	Tomb ZR XIII	1
<b>Ashkelon (cat. no. 19)</b>	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262 (604 B.C.)	1
<sup>c</sup> Atlit	Iron III–Persian	Tomb L/21Bc-IV/SE Cemetery	1
<b>TOTAL:</b>	Iron IIB–C		<b>6</b>

**Catalogue no. 19**

Registration no.: 39147

Findspot: Grid 50 Square 58 Fine-grid 14 Layer 262

Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the ancient city, in which various goods were weighed out.

*Other small finds:* ivory fragments, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a scale, carnelian and glass beads, bone gaming-pieces, many bone remnants, fragments of an incense altar belonging to a domestic shrine. The following amulets also come from this context: cat. nos. 7, 14, 18, 20, 23–25, 30, and 33.

Year excavated: 1992

Dimensions: 19 × 21.5 × 7 mm

Material: White composite with light-green glaze.

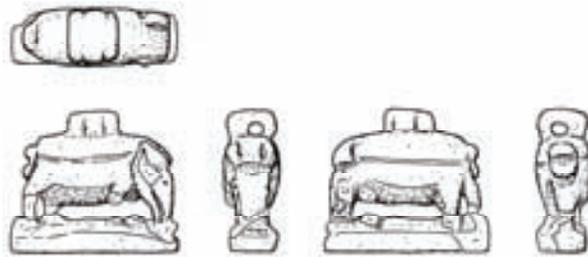
Method: Made with a mold.

Preservation: The small plinth is broken at ankle height, the head has broken off, and the snout is splintered into many small pieces. The front legs are missing.

Description: *Side:* On a base, a striding sow with a long, downturned snout and small tail. Each of the side surfaces points to a vertical indentation and the attachment hole is positioned on the back.

Period: Iron Age IIC

Bibliography: Herrmann 1994:no. 807; 2002:no. 19.

Parallels: *Palestine:* Herrmann 1994:nos. 803–6 (nos. 804 and 806 could also be identified as hippopotami).*Egypt:* Reisner 1907:pl. 20:12291.*Sardinia:* Hölbl 1986:2:pl. 69:2–3, 5–7; pl. 70.

Pregnant Sow (cat. no. 19, reg. no. 39147; scale 1:1)

*Squatting Baboon with Phallus*

The ancient Egyptians were familiar with two kinds of apes: the hooded baboon and the long-tailed monkey. During the Middle Kingdom, both species died out in Egypt itself, so they were usually imported from Nubia and Punt. Their ability to learn made them very popular with the Egyptians. Already in early times, the baboon was honored in Upper Egypt as the “Great and Wise One.” Later, the baboon was associated with Thoth, the god of wisdom, especially in his role as a scribe, and worshiped principally in Hermopolis (see Herrmann 1994:1.4, p. 132).

Although demon apes could become a danger to the deceased in the afterworld, others could be helpful. They also supported the search for truth in the courts of the other world. This may be why monkey amulets were frequently enclosed with the dead (Bonnet 1952:7–8; *Lexikon der Ägyptologie* 1:83ff.; 4:915ff.).

The idea of regeneration—rebirth and renewal, in this world and in the next—as well as the apotropaic aspect, played a role in the development of amulets (Hornung and Staehelin 1976:106–8). The solar aspect of the baboon amulet underscores the combination of this animal with the sun disk and uraeus, the Udjat-eye, Hathor, and Amun (see Herrmann 1994, remarks under no. 828 and nos. 832–33). The playful or erotic significance attached to the nude goddess associated with this animal should also not be underestimated (Hornung and Staehelin 1976:107–8; Schroer 1987:189–95).

In ancient Palestine, baboon amulets were relatively popular. They appear already (with the baboon shown in profile) in Late Bronze Age IIB at Beth Shean (5 examples) and at Tell el-Far<sup>c</sup>ah South (9 examples). Apart from one example of unknown origin, which can be dated to Iron Age IA–B based on

its method of manufacture, there is no evidence of this profile type in the Iron Age (on this, see Herrmann 1994:561ff.).

Another variant is the squatting baboon with phallus, which appears in Palestine in Late Bronze Age IIB–Iron Age IB (one example at Tell es-Safi), in Iron Age

IB (one example at Megiddo), and in Iron Age IA and IIC (two examples at Ashkelon). One of the amulets from Ashkelon (cat. no. 20) is unique because there the squatting baboon does not wear the moon as a head-dress but rather the sun disk with uraeus, which underscores the solar aspect of this amulet.

Table 12.15: Egyptian Amulets That Depict a Squatting Baboon with Phallus

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell es-Safi	Late Bronze IIB–Iron IB	Unknown	1
Megiddo	Iron IB	Stratum “IV filling”	1
<b>Ashkelon (cat. no. 20)</b>	Iron IIC	Grid 50 Square 58 Fine-grid 14 Layer 262 (604 B.C.)	1
Ashkelon*	Iron IA	Grid 38 Square 84 Fine-grid 36 Layer 725 (Iron IA)	1
TOTAL:	Late Bronze IIB–Iron IIC		4

\* Not published here.

#### Catalogue no. 20

Registration no.: 39012

Findspot: Grid 50 Square 58 Fine-grid 14 Layer 262

Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the ancient town, in which various commodities were weighed out.

*Other small finds:* ivory fragment, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a scale, carnelian and glass beads, gaming pieces of bone, many remains of bones, fragments of an incense altar belonging to a domestic shrine. The following amulets also come from this context: cat. nos. 7, 14, 18, 19, 23–25, 30, and 33.

Year excavated: 1992

Dimensions: 29 × 12 × 10 mm

Material: White composite with light-green glaze.

Method: Made with a mold then shaped by hand.

Preservation: The legs were broken off and glued back. The surface is very worn.

Description: *Front:* On a base, a squatting baboon with large vertically striped mane which leads directly to the wide and long member. The head is decorated with a sun disk, on whose lower edge is what is probably a uraeus.

*Back:* The back and the buttocks are lightly indicated by vertical elevations and depressions. Behind the sun disk and the mane is the attachment hole.

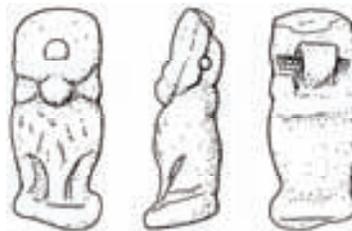
Period: Iron Age IIC

Bibliography: Herrmann 1994:no. 841; 2002:no. 20.

Parallels: *Palestine:* Herrmann 1994:nos. 839–40.

*Egypt:* Keel and Uehlinger 1990:97, fig. 126.

*Sardinia and ancient Italy:* Hölbl 1986:2:pl. 72:2b.



Squatting baboon with phallus (cat. no. 20, reg. no. 39012; scale 1:1)

## Falcon

The falcon was considered sacred in Egypt from very early times. It symbolized the god of the heavens as an entity who could soar to the highest heights. From very early on, the falcon was associated with Horus and Atum; however, as a rule, it was associated with the sun god, Re (Hornung and Staehelin 1976:96). In some places, Re was venerated in the form of two falcons.

In royal ideology, the king was linked closely with the falcon god and bore the Horus name. In cults of the dead and beliefs about the afterlife, it was the wish of the deceased to be transformed into a falcon, which is why the king's journey to heaven is represented as the flight of a falcon (Bonnet 1952:178–80; *Lexikon der Ägyptologie* 2:93ff.). The use of the falcon form in amulets was due to the identification of the falcon with the sun god and its association with the afterlife.

In ancient Palestine, the falcon appears in classical amulet form only in Iron Age IIA–B, with one example from Tell Jemmeh. Indications of the falcon form were found at Tell el-<sup>c</sup>Ajjul in Late Bronze Age IA (McGovern 1985:37), but these are rarities and thus form an exception. One example from Iron Age IIA is known from Megiddo. The remaining examples all belong to Iron Age IIB–C.

The falcon amulets possess different attributes in different cases: for example, the moon in both phases (Megiddo), the double crown (Beth Shemesh and Ashkelon), and twin feathers (Lachish). Table 12.16 shows that the falcon amulet was distributed over a wide area in Palestine in Iron Age IIA–C.



Scale 1:1

Figure 12.5: Falcon amulet  
(cat. no. 21, reg. no. 45242)

Table 12.16: Egyptian Amulets That Depict a Falcon

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Megiddo	Iron IIA	Stratum V	1
Tell Jemmeh	Iron IIA–B	Ee 182	1
Beersheba	Iron IIB	Unknown	1
Hebron(?)	Iron IIB	Unknown	1
Lachish	Iron IIB	Tomb 218 Locus Q.12:102	2
Beth Shemesh	Iron IIB	Tomb 1	1
Tell en-Nasbeh	Iron IIB	Unknown	1
Megiddo	Iron IIB	Level III (Late Bronze IIB)	1
Dor	Iron IIC	Unknown	1
Achzib	Iron IIC	Tomb ZR XIII	1
<b>Ashkelon (cat. no. 21)</b>	Iron IIC	Grid 50 Square 47 Layer 285 (640 B.C.)	1
<b>TOTAL:</b>	Iron IIA–C		12

**Catalogue no. 21** (figure 12.5)

Registration no.: 45242

Findspot: Grid 50 Square 47 Layer 285

Context: Fill for the foundation of a building that was destroyed in 604 B.C.

*Other small finds:* serpentine bead, ornamented bone handle, rectangular seal of white glazed bone.

Year excavated: 1995

Dimensions: 36.2 × 12 × 26 mm

Material: Serpentine.

Method: Carved.

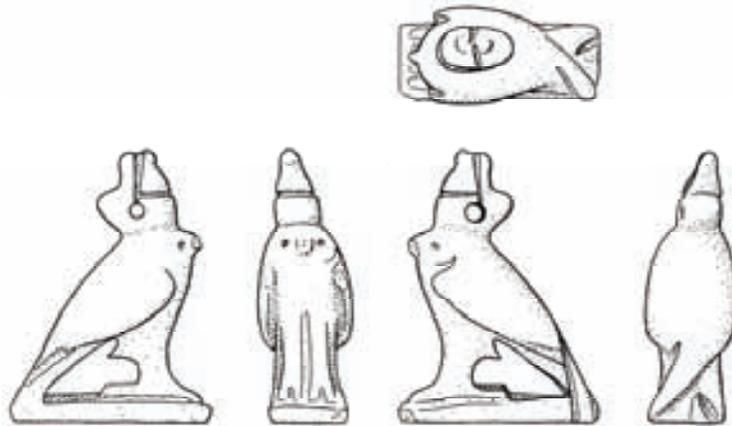
Preservation: The beak is worn away.

Description: In the round. Standing falcon on a base. The tail feathers are crossed and reach beyond the surface of the base. The attachment hole is punched through the white crown. Between the tail feathers and the legs, the figure is broken. The falcon has been carved so that the various colors of the material reflect the colors of the bird's feathers.

Period: Iron Age IIC

Remarks: This amulet is the only falcon amulet found to date in Palestine that was not made of Egyptian faience, but rather of stone (serpentine).

Bibliography: Herrmann 2002:no. 21.

Parallels: *Egypt:* Schoske and Wildung 1992:no. 22; Herrmann 1985:no. 309.*Palestine:* Herrmann 1994:no. 864.

Falcon (cat. no. 21, reg. no. 45242; scale 1:1)

## 3. OBJECT AMULETS

*Udjat-eye*

The Udjat-eye (the name means “saving”) was the most beloved Egyptian amulet in Palestine. It belongs to the class of human body parts; however, it was associated with the divine sphere and thereby did not function to protect the human eye but rather functioned apotropaically as a divine eye (Müller-Winkler 1987:93–94). It had primarily a regenerative function but was also used frequently as an apotropaically effective amulet. It was closely linked to the Eye of Horus, which, like the moon, constantly renews itself (Bonnet 1952:854–56; *Lexikon der Ägyptologie* 6: 824f.).



Scale 1:1

Figure 12.6: Udjat-eye (cat. no. 22, reg. no. 45661)

Iconographically, the Udjat-eye is depicted with a plain or decorated brow, eyelid, eyeball, pupil, plain or decorated cosmetic paint strokes, spiral curves, wedges, and plain or decorated vertical projections. The vertical projections illustrate the connection to the falcon-headed god of the heavens (see Müller-Winkler 1987:94).

On the basis of typology and material of manufacture, it is possible to reconstruct a stylistic development for this common amulet type that is similar to that of Bes and Ptahtek. In the Late Bronze Age IIB–Iron Age IB, Udjat-eye amulets had small dimensions and heightened relief. Occasionally, there was additional decoration with black glaze. Equally uncommon was the use of carnelian as the material of manufacture.

In Iron Age II, the Udjat-eye was often richly decorated, finished with two-color glazing, the surface almost always convex and depicted in high relief. The dimensions were generally much larger than in Late Bronze Age IIB–Iron Age IB and the predominant colors were shades of blue and green.

New characteristics appeared in Iron Age IIC, when the surfaces for the most part were flat and the edges sharp. Often the decoration was applied over the smooth surface with a thick composite material. Occasionally, the eyes were depicted in an overly large size. The relief was almost always deeper. In addition to Egyptian faience, granite and mother-of-pearl were used as material. Eyes made of carnelian are seldom encountered. (For the detailed development of the different Udjat-eye types in Palestine, see Herrmann 1994:612f.)

Table 12.17 lists examples of Udjat-eye amulets that are square overall with a slightly convex surface and low relief. Table 12.18 lists examples of composite forms whose features were symmetrically arranged (vertically or horizontally); these occur only rarely in Palestine and exclusively along the Mediterranean coast.

Table 12.19 lists examples of Udjat-eye amulets with rectangular frames; these are even more rarely encountered in Palestine—apart from Ashkelon, this type has been confirmed only at Achzib (one example) and at Tell Jemmeh (one example).

Table 12.20 lists examples of Udjat-eye amulets with rounded frames, which is one of the rarest forms in Palestine. The circular shape points to the solar aspect, which was emphasized by the spikes along the outer edge. Apart from Ashkelon, this kind of amulet has been found only at Samaria (one example) and at Dor (one example).



Scale 1:1

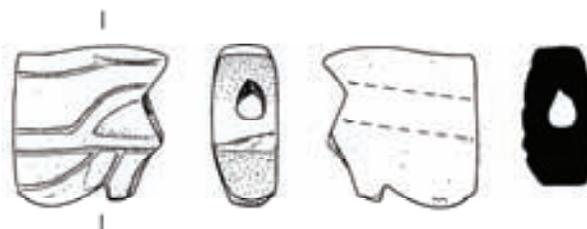
Figure 12.7: Udjat-eye with rounded frame (cat. no. 27, reg. no. 44013)

Table 12.17: Egyptian Amulets That Depict a Square Udjat-eye with Slightly Convex Surface and Low Relief

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell el-Far <sup>c</sup> ah South	Iron IIB	Tomb 201	3
Tell Jemmeh	Iron IIB	EM 197	1
Beth Shemesh	Iron IIB	Tomb 1	1
Achzib	Iron IIB	Tomb ZR XXXVI	1
<b>Ashkelon (cat. no. 22)</b>	Iron IIB	Grid 50 Square 57 Layer 256 (604 B.C.)	1
Tell el-Far <sup>c</sup> ah South	Iron IIB–C	Not stratified	1
Megiddo	Iron IIC	Stratum III	2
<b>TOTAL:</b>	<b>Iron IIB–C</b>		<b>10</b>

**Catalogue no. 22** (figure 12.6)

- Registration no.: 45661  
 Findspot: Grid 50 Square 57 Layer 256  
 Context: Soil fill for the foundation of a building that was destroyed in 604 B.C.  
*Other small finds:* terracotta figurine, glass beads, loom weights, faience bead, carnelian bead, steatite scarab, and Ptahtek (cat. no. 13).  
 Year excavated: 1995  
 Dimensions: 21 × 20 × 10 mm  
 Material: White composite with light-green and faded red/brown glaze.  
 Method: Made with a mold.  
 Preservation: Good.  
 Description: *Front:* Very slightly convex. The brow, eyelid edges, cosmetic paint strokes, pupils, and projection are marked by fine lines. The eyelid field is very wide and the pupils are triangular in shape.  
*Back:* Flat. The attachment hole runs horizontally through the central shaft.  
 Period: Iron Age IIB  
 Bibliography: Herrmann 2002:no. 22.  
 Parallels: *Palestine:* Herrmann 1994:nos. 933–41.  
*Egypt:* Müller-Winkler 1987:pl. 11:199–201.



Square Udjat-eye with slightly convex surface and low relief (cat. no. 22, reg. no. 45661; scale 1:1)

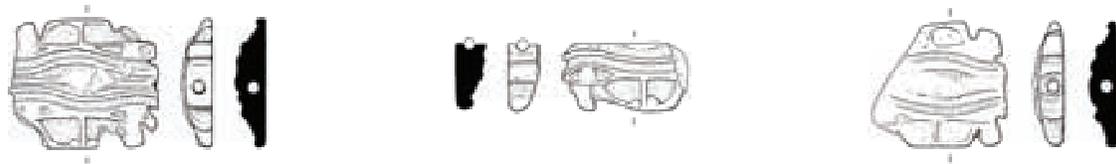
Table 12.18: Egyptian Amulets That Depict a Udjat-eye with a Symmetrically Arranged Composite Form

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
<b>Ashkelon (cat. nos. 23, 24)</b>	Iron IIB–C	Grid 50 Square 58 Fine-grid 14 Layer 262 (604 B.C.)	2
<b>Ashkelon (cat. no. 25)</b>	Iron IIB–C	Grid 50 Square 58 Fine-grid 13 Layer 262 (604 B.C.)	1
Achzib	Iron IIC	Tomb ZR XXIX	2
Dor	Iron IIC–III	Unknown	1
Dor	Iron IIC–III	Unknown	5
Sheik Zuweid	Iron IIC–III	Not stratified	1
Dor	Iron III–Persian	Area AB Locus 268	1
<b>TOTAL:</b>	<b>Iron IIC–Persian</b>		<b>13</b>

**Catalogue nos. 23–25**

- Registration no.: *Cat. no. 23:* 38982  
*Cat. no. 24:* 39009  
*Cat. no. 25:* 39011  
 Findspot: *Cat. no. 23:* Grid 50 Square 58 Layer 262 Fine-grid 14  
*Cat. no. 24:* Grid 50 Square 58 Layer 262 Fine-grid 14  
*Cat. no. 25:* Grid 50 Square 58 Layer 262 Fine-grid 13  
 Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the ancient city, in which various goods were weighed out.  
*Other small finds:* ivory fragment, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a scale, carnelian and glass beads, bone gaming pieces, many remains of bones, fragments of an incense altar belonging to a domestic shrine. The following amulets also come from this context: cat. nos. 7, 14, 18, 20, 30, and 33.

- Year excavated: 1992  
 Dimensions: *Cat. no. 23*: 17 × 19 × 4 mm  
*Cat. no. 24*: 9 × 16 × 4 mm  
*Cat. no. 25*: 15 × 18 × 4 mm  
 Material: White composite with light-green glaze.  
 Method: Made with a mold.  
 Preservation: *Cat. no. 23*: The edges are badly damaged and the small plinth is broken into seven pieces which have been glued together. In the center, the seventh piece is missing.  
*Cat. nos. 24 and 25*: The surfaces are very worn and large parts have been broken off.  
 Description: *Small plinth*: Front slightly convex. Four Udjat-eyes arranged symmetrically. Brows, eyelid-edges, pupils, cosmetic strokes. Spiral curves and projections are smooth. The horizontal central line is marked with two horizontal, symmetrically arranged papyrus stems.  
*Back*: Flat.  
 Period: Iron Age IIB–C  
 Bibliography: Herrmann 1994:nos. 1088–90; 2002:no. 23–25.  
 Parallels: *Palestine*: Herrmann 1994:nos. 1091–1100.  
*Egypt*: Müller-Winkler 1987:pl. 11:199–201.



Udjat-eyes with symmetrically arranged composite forms (scale 1:1)  
 (left: cat. no. 23, reg. no. 38982; middle: cat. no. 24, reg. no. 39009; right: cat. no. 25, reg. no. 39011)

Table 12.19: Egyptian Amulets That Depict a Udjat-eye with a Rectangular Frame

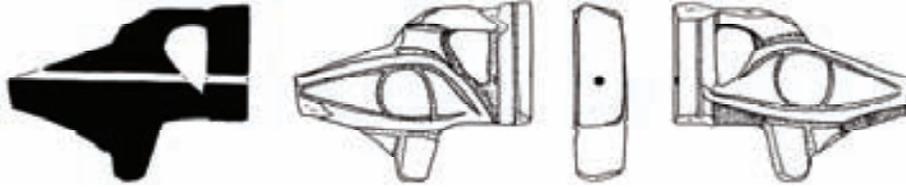
<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell Jemmeh	Iron IIB	CR 193	1
Achzib	Iron IIB–C	Tomb ZR XXIX	1
<b>Ashkelon (cat. no. 26)</b>	Iron IIB–C	Grid 50 Square 49 Layer 440 (604 B.C.)	1
Ashkelon*	Iron IIB–C	Grid 38 Square 83 Layer 223 (Iron III–Persian)	1
Ashkelon*	Iron IIB–C	Unknown	1
Unknown	Iron IIB–III	Unknown	1
<b>TOTAL:</b>	<b>Iron IIB–Persian</b>		<b>6</b>

\* Not published here.

#### Catalogue no. 26

- Registration no.: 44678  
 Findspot: Grid 50 Square 49 Layer 440  
 Context: Floor of a building.  
*Other small finds*: amethyst bead, terracotta bull's head from a drinking vessel, terracotta figurine, fragments of three equine body terracottas, stone weight, beads.  
 Year excavated: 1994  
 Dimensions: 24 × 31 × 7 mm  
 Material: Compact white composite with brown/red and black glaze.  
 Method: Made with a mold then shaped by hand.  
 Preservation: Fragmentary.  
 Period: Iron Age IIB–C  
 Remarks: In material and form, this Udjat-eye is almost identical to the one excavated in Ashkelon in 1989 (Grid 38 Square 83 Layer 223; Iron Age III–Persian; see Herrmann 1994:no. 1110). It can be assumed that they were imported from the same workshop.

- Bibliography: Herrmann 2002:no. 26.  
 Parallels: *Palestine*: Herrmann 1994:nos. 1106, 1108–10.  
*Egypt*: Petrie 1975:pl. 25:139; Reisner 1907:pl.5:5780–5798; Müller-Winkler 1987:pl. 13:234–235.  
*Sardinia*: Hölbl 1986:2:pl. 86:1–2.



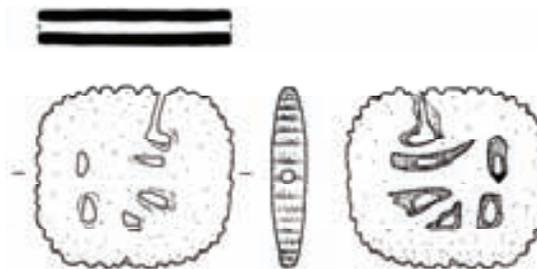
Udjat-eye with rectangular frame (cat. no. 26, reg. no. 44678; scale 1:1)

Table 12.20: Egyptian Amulets That Depict a Udjat-eye with a Rounded Frame

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Samaria	Iron IIA–B	Level VI	1
<b>Ashkelon (cat. no. 27)</b>	Iron IIC	Grid 50 Square 57 Layer 218 (604 B.C.)	1
Dor	Iron III–Persian	Unknown	1
<b>TOTAL:</b>	<b>Iron IIA–Persian</b>		<b>3</b>

**Catalogue no. 27** (figure 12.7)

- Registration no.: 44013  
 Findspot: Grid 50 Square 57 Layer 218  
 Context: Soil fill for the foundation of a building that was destroyed in 604 B.C.  
*Other small finds*: glass bead, dark-blue faience bead, fragment of an alabaster vase, winged Ptahtek (cat. no. 17).  
 Year excavated: 1994  
 Dimensions: 24 × 26 × 4.5 mm  
 Material: Porous white composite with light-blue and black glaze.  
 Method: Made with a mold then shaped by hand.  
 Description: Both sides. Udjat-eye in an oval, jagged frame; brows, eyelid edges, cosmetic stroke, spiral curve, and projection are smooth. Pupils and eyebrows decorated with black glaze. The eyes are free-standing within the frame.  
 Period: Iron Age IIC  
 Remarks: For dating of this variant in Egypt, see Müller-Winkler 1987:48.  
 Bibliography: Herrmann 2002:no. 27.  
 Parallels: *Palestine*: Herrmann 1994:nos. 1111, 1112.  
*Egypt*: Petrie 1975:pl. 18; Müller-Winkler 1987:pl. 13:230–32.



Udjat-eye with rounded frame (cat. no. 27, reg. no. 44013; scale 1:1)

*White Crown*

The “white” and “red” crowns are among the symbols of rulership; they personify the power of the ruler. Anyone who possessed this type of amulet, whether during his lifetime or in the afterlife, showed himself to be a person of power. He would also have hoped that such an amulet would grant him good health (Müller-Winkler 1987:359).

The white crown, like the red crown, is found very rarely in Palestine, and then only along the Mediterranean coast, chiefly in the Iron Age III–Persian period. The example from Ashkelon is an exception, since it was found in an Iron Age IIC context. Table 12.21 lists the examples of this type of amulet that have been found in Palestine.

Table 12.21: Egyptian Amulets That Depict a White Crown

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Ashkelon (cat. no. 28)	Iron IIC	Grid 38 Square 84 Layer 401 (604 B.C.)	1
Dor	Iron III–Persian	Area B	1
Dor	Iron III–Persian	Locus 5459	1
Atlit	Iron III–Persian	Tomb L/23c-VI/SE Cemetery	1
Atlit	Persian	Tomb L/35b-I/SE Cemetery	1
Atlit	Hellenistic	Tomb L/24b-V/SE Cemetery	1
TOTAL:	Iron III–Hellenistic		6

**Catalogue no. 28**

Registration no.: 44915

Findspot: Grid 38 Square 84 Layer 401

Context: Occupational debris on the floor of a room in a building destroyed in 604 B.C.

*Other small finds:* iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198).

The following amulets also come from this context: Shu (cat. no. 6), head of a Bes statuette (cat. no. 8), Ptahtek (cat. no. 12), papyrus stem (cat. no. 29), unidentified (cat. no. 31), and faience bead (cat. no. 32).

Year excavated: 1994

Dimensions: 12.5 × 6 × 7 mm

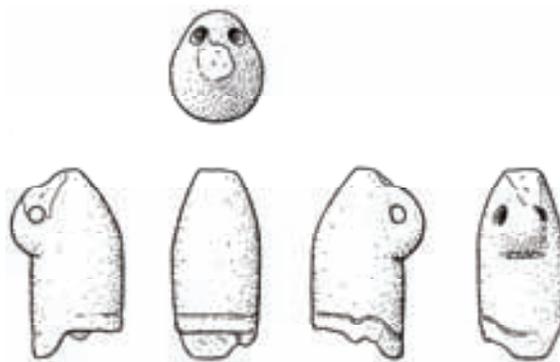
Material: Porous white composite with remnants of light-blue glaze.

Method: Made with a mold then shaped by hand.

Description: In the round. White crown.

Period: Iron Age IIC

Bibliography: Herrmann 2002:no. 28.

Parallels: *Palestine:* Herrmann 1994:nos. 1309–13.*Egypt:* Petrie 1975:pl. 4:48a–d; Reisner 1907:pl. 6:5857–58; Müller-Winkler 1987:pl. 33:668–71.*Sardinia:* Hölbl 1986:2:pl. 89:8.

White crown (cat. no. 28, reg. no. 44915; scale 2:1)

*Papyrus Stem*

The papyrus stem (also called the “Udjat amulet”) was, like the Udjat-eye, a very widely distributed Egyptian amulet type (see Petrie 1975:pl. 2:20; Müller-Winkler 1987:253). Its great popularity arose from the fact that it represented the written sign meaning “green, to be young.” Thus, the owner of a papyrus stem amulet hoped to be rejuvenated by it (Müller-Winkler 1987:254). Its regenerative aspect allowed it to play an important role in the afterlife. For this reason, most of the examples listed below were found in graves.

In Palestine, the papyrus stem appears for the first time in Iron Age IIC (one example each at Tell Jem-

meh and Achzib, two examples at Ashkelon) and reaches its highpoint in Iron Age III–Persian in the cities along the Mediterranean coast (10 examples at <sup>c</sup>Atlit, 5 examples at Dor). In Hellenistic times, there are only two indisputable examples, both from <sup>c</sup>Atlit.



Scale 1:1

Figure 12.8: Papyrus stem (cat. no. 29, reg. no. 45153)

Table 12.22: Egyptian Amulets That Depict a Papyrus Stem

<i>Site</i>	<i>Period of Manufacture</i>	<i>Findspot</i>	<i>Quantity</i>
Tell Jemmeh	Iron IIC	BM	1
Achzib	Iron IIC	Tomb ZR XIII	1
<b>Ashkelon (cat. no. 29)</b>	Iron IIC	Grid 38 Square 84 Fine-grid 52 Layer 401 (604 B.C.)	1
Ashkelon*	Iron IIC	Grid 38 Square 64 Feature 49	1
<sup>c</sup> Atlit	Iron III–Persian	Tomb L/23c-VI/SE Cemetery	5
<sup>c</sup> Atlit	Iron III–Persian	Tomb L/23d-II/SE Cemetery	2
<sup>c</sup> Atlit	Iron III–Persian	Tomb L/23b-IV/SE Cemetery	1
<sup>c</sup> Atlit	Persian	Tomb L/21b-I/SE Cemetery	1
<sup>c</sup> Atlit	Persian	Tomb L/35b-I/SE Cemetery	1
<sup>c</sup> Atlit	Hellenistic	Tomb L/24b-?/SE Cemetery	2
Dor	Iron III–Persian	Area G	1
Dor	Iron III–Persian	Area G Locus 9460	1
Dor	Iron III–Persian	Area G Locus 9378	1
Dor	Iron III–Persian	Locus 3679	1
Dor	Iron III–Hellenistic	Surface finds	2
Dor	Late Persian	Area B1 Locus 12803	1
<b>TOTAL:</b>	<b>Iron IIC–Hellenistic</b>		<b>23</b>

\* Not published here.

**Catalogue no. 29** (figure 12.8)

Registration no.: 45153

Findspot: Grid 38 Square 84 Fine-grid 52 Layer 401

Context: Occupational debris on the floor of a room in a building destroyed in 604 B.C.

*Other small finds:* iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198).

The following amulets also come from this context: Shu (cat. no. 6), head of a Bes statuette (cat. no. 8), Ptahtek (cat. no. 12), white crown (cat. no. 28), unidentified (cat. no. 31), and faience bead (cat. no. 32).

Year excavated: 1994

Dimensions: 20 × 6 × 6 mm

Material: Compact white composite with light-blue glaze.

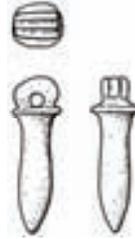
Method: Made with a mold then shaped by hand.

Preservation: Good.

Description: In the round. Papyrus stem. Double-ribbed attachment hole positioned on the projecting crown of leaves.

Period: Iron Age IIC

- Bibliography: Herrmann 2002:no. 29.  
 Parallels: *Palestine*: Herrmann 1994:nos. 1281–1302.  
*Egypt*: (mold) Hamza 1930:pl. 4:a, c; Herrmann 1985: nos. 448–51; 1990: no. 103;  
 (finished) Petrie 1975:pl. 2:20c–g; Reisner 1907:pl. 2:5294–5322;  
 Müller-Winkler 1987:pl. 21–22:433–557.  
*Sardinia*: Hölbl 1986:2:pl. 90:3–7.



Papyrus stem (cat. no. 29, reg. no. 45153; scale 1:1)

*Small Temple with Papyrus-pillars and Uraeus-snakes*

No. 30 is the only amulet of its type that has so far appeared at Ashkelon. It depicts a small temple with two papyrus-pillars and two uraeus-snakes. This amulet probably had a special connection to a local shrine in use during the late seventh century B.C. in the Grid 50 marketplace. The existence of such a shrine is indicated by the portable stone incense altar found nearby in Building 234 (see chapter 22). The two papyrus-pillars are reminiscent of the two pillars, Jachin and Boaz, in front of Solomon’s temple in Jerusalem (1 Kings 7:15–22). Another Iron Age IIC amulet of this type was found at Beth Shean in 1997.

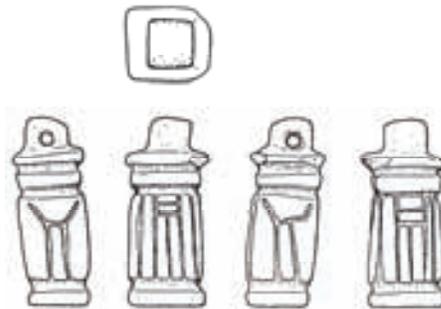


Scale 1:1

Figure 12.9: Small temple with papyrus-pillars and uraeus-snakes (cat. no. 30, reg. no. 38993)

**Catalogue no. 30** (figure 12.9)

- Registration no.: 38993  
 Findspot: Grid 50 Square 58 Fine-grid 14 Layer 262  
 Context: 604 B.C. destruction of a public building (Building 234) in the marketplace of the ancient town, in which several commodities were weighed out.  
*Other small finds*: ivory fragment, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a scale, carnelian and glass beads, bone gaming pieces, many bone remains, fragments of an incense altar.  
 The following amulets also come from this context: cat. nos. 7, 14, 18, 19, 20, 23–25, and 33.  
 Year excavated: 1992  
 Dimensions: 25 × 11 × 10 mm  
 Material: Solid white composite with white glaze.  
 Method: Shaped by hand.  
 Preservation: Good.  
 Description: In the round. Small temple with two papyrus-pillars and two uraeus-snakes. Attachment hole is set on roof.  
 Period: Iron Age IIC  
 Bibliography: Herrmann 1994:no. 1328; 2002:no. 30.  
 Parallels: *Palestine*: Herrmann 2006:no. 487.  
*Egypt*: Petrie 1975:pl. 41:245;  
 Reisner 1958:pl. 8:12754;  
 Herrmann 2002:no. 133.  
*Carthage*: Gauckler 1915:1:pl.168.



Small temple with two papyrus-pillars and two uraeus-snakes (cat. no. 30, reg. no. 38993; scale 1:1)

## 4. FRAGMENTS AND MISCELLANEOUS

**Catalogue no. 31**

Registration no.: 44912

Findspot: Grid 38 Square 84 Fine-grid 63 Layer 312 Feature 312

Context: Occupational debris on the floor of a room in a building destroyed in 604 B.C.

*Other small finds:* iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198).

The following amulets also come from this context: Shu (cat. no. 6), head of a Bes statuette (cat. no. 8), Ptahtek (cat. no. 12), white crown (cat. no. 28), papyrus stem (cat. no. 29), and faience bead (cat. no. 32).

Year excavated: 1994

Dimensions: Three pieces, each ca.  $4 \times 4 \times 4$  mm

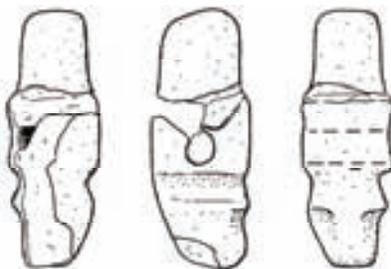
Material: Porous white composite with very thin green glaze.

Method: Made by hand(?).

Preservation: Very bad. The piece is not reconstructable because several pieces are missing. One can hardly recognize anything on the surface.

Period: Iron Age IIC

Bibliography: Herrmann 2002:no. 31.



Unidentified fragment (cat. no. 31, reg. no. 44912; scale 2:1)

**Catalogue no. 32**

Registration no.: 45152

Findspot: Grid 38 Square 84 Layer 401

Context: Occupational debris on the floor of a room in a building destroyed in 604 B.C.

*Other small finds:* iron knife, fragments of a game of knucklebones, jasper bead, stone bead, conical stamp seal of blue faience, mother-of-pearl fragments, scarab (reg. no. 45198).

The following amulets also come from this context: Shu (cat. no. 6), head of a Bes statuette (cat. no. 8), Ptahtek (cat. no. 12), white crown (cat. no. 28), papyrus stem (cat. no. 29), and unidentified (cat. no. 31).

Year excavated: 1994

Dimensions:  $13 \times 6 \times 5$  mm

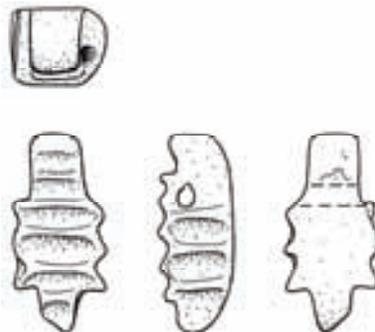
Material: Porous white composite with light-blue glaze.

Preservation: Good.

Description: Horizontally ribbed bead.

Period: Iron Age IIC

Bibliography: Herrmann 2002:no. 32.



Horizontally ribbed bead (cat. no. 32, reg. no. 45152; scale 2:1)

**Catalogue no. 33**

Registration no.: 44213

Findspot: Grid 50 Square 58 Layer 262

Context: Destruction of a public building (Building 234) in the marketplace of the ancient town, in which various commodities were weighed out.

*Other small finds:* ivory fragment, alabaster juglet, metal weights, 11 bronze weights, 2 pans for a small scale, carnelian and glass beads, one gaming piece, many remains of bones, fragments of an incense altar which had belonged to a domestic shrine. The following amulets come from the same context: cat. nos. 7, 14, 18, 19, 20, 23–25, and 30.

Year excavated: 1994

Dimensions: 12.5 × 11 × 7 mm

Material: Porous white composite with yellow-green glaze.

Method: Made with a mold.

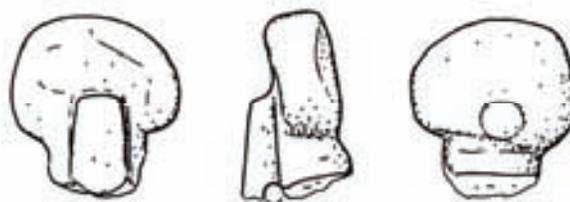
Preservation: Head and body are broken off.

Description: *Front:* Solar disk with indicated uraeus.

*Back:* Conical support beam runs conically into the solar disk.

Period: Iron Age IIC

Bibliography: Herrmann 2002:no. 33.



Solar disk (cat. no. 33, reg. no. 44213; scale 2:1)



## 13. A COLLECTION OF EGYPTIAN BRONZES

by Lanny Bell

THE BRONZES under discussion here consist of seven situlae, a model offering tray, and a figurine of Osiris. They were excavated in 1994 from the final architectural subphase of Grid 38 Phase 14.<sup>1</sup> They were recovered in a sealed context on the floor of the winery, whose roof and walls had collapsed in 604 B.C. during the Babylonian destruction of the city under Nebuchadnezzar II (figures 13.1–2). This occurred in the reign of Pharaoh Necho II (610–595 B.C.) of the Twenty-sixth Dynasty, who campaigned successfully on behalf of the Assyrians against the Babylonians in Syria-Palestine in 609; he occupied Carchemish at that time and held it until 605 B.C.



Figure 13.1: Bronze situlae and model offering tray in situ in Room 312 in the Grid 38 winery

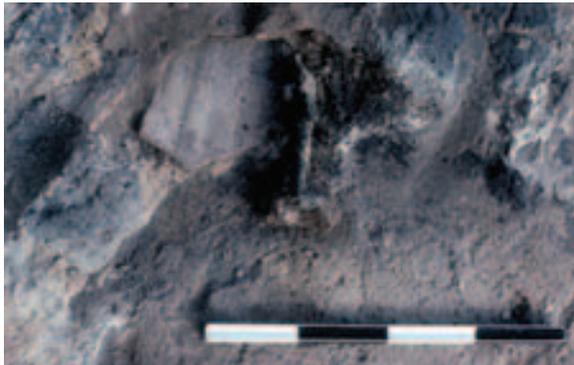


Figure 13.2: Bronze Osiris figurine in situ in Room 413 in the Grid 38 winery

<sup>1</sup> See *Ashkelon 1* (p. 280, fig. 15.55) and chapter 2 of the present volume for the spatial relationships of the situlae, the model offering tray, and the Osiris figurine in their distribution across Rooms 312 and 413 of Building 776.

### *The Situlae*

The seven situlae were found together with a model offering tray, also made of bronze (figure 13.3). They were found in Room 312 of Building 776 (Grid 38 Square 84 Fine-grid 45; see the plan in chapter 2, figure 2.4). Parallels indicate that the situlae were cast in molds, using the lost-wax process; a metallurgical analysis has yet to be performed on them. The suspension rings were attached secondarily. In general, these small artifacts (ca. 6.0–8.5 cm in height) are decorated with very simple patterns. From two to four horizontal bands divide the relief decoration into a sequence of scenes and motifs (see the drawings below).

Situlae nos. 2 and 3 each display two bands. Nos. 1, 4, and 6 each have three bands. Nos. 5 and 7 have four bands, with the insertion of a wave of water above the calyx of the water lily. The decoration includes solar barques and a row of standing figures, or pairs of symmetrically opposed squatting figures around a single central one, as in situla no. 1.

The vessels terminate in the representation of the sepals of the cup-like calyx of a blooming water lily. Sepals are green leaves that develop at the top of a stem (referred to as the footstalk or peduncle), enclosing and protecting the bud and then the petals of the open flower. Situlae nos. 2 and 5 depict the sepals most clearly; the saw-tooth pattern of nos. 1 and 7 is an attempt to represent depth in displaying both sepals and inner petals.<sup>2</sup> Most commonly, *Nymphaea caerulea*, the blue water lily, is depicted at the base of situlae; but *Nymphaea lotus*, the white water lily, may also be shown, as well as some artistic “hybrid” renderings with features of both. Characteristic of the blue water lily are spiky sepals and petals, whereas the white lily has broad striated, blunt-tipped sepals. No. 5 is the only Ashkelon situla clearly displaying the white water lily (cf. Green 1987:nos. 163, 188, 189).<sup>3</sup>

<sup>2</sup> For the intended effect, compare the depictions of the blue water lily at the tip of an Eighteenth Dynasty polychrome faience perfume vase and above the stem of two Twenty-second Dynasty faience goblets or chalices (Friedman 1998:nos. 82, 116, 117).

<sup>3</sup> For a representation of the calyx of the white water lily at the base of a faience drop-shaped vessel, see Tatton-Brown 1987:40. Both the blue water lily and the white lily are water lilies, and neither the blue nor the white water lily

Situla no. 3 is too badly corroded to be sure of the craftsman's intentions. The lowermost register of no. 4 is undecorated, and no. 6 substitutes a series of otherwise unintelligible pendant vertical lines where the calyx would be expected. The footstalk is most commonly represented, though it is rudimentary on no. 2. The footstalk is possibly indicated summarily on no. 6, but does not appear at the tip of no. 1. The outline of this feature is suggested in the corroded tip of no. 3.

The solar barque appears in the uppermost register of no. 1 (a single large morning barque), no. 5 (two morning barques—the small elements separating the barques represent three papyrus stalks and a clump of papyrus), and no. 7 (a morning barque and an evening barque, both adored by a series of baboons: two at the prow and one at the stern of each ship—once again, the decorative element between the groups of baboons adoring the two forms of the solar barque represents a clump of papyrus). This upper register is dispensed with in nos. 2 and 3. The upper register of no. 6 is undecorated, and no. 4 fills the space with a geometric or schematic design.

In the next register, an offering figure stands behind an altar laden with food gifts. The altar is sometimes surmounted by a blue water lily (most clearly illustrated on nos. 4 and 7; for a detailed depiction of the water lily, see Green 1987:no. 170). This figure faces a row of deities (nos. 4–7); or unattended offering stands appear before some of them (nos. 1 and 7). The offerer clearly represents the dedicator of the situla and/or its contents on nos. 4 and 7; the image is garbled on nos. 5 and 6. The cultic garden of Min follows his depiction on no. 5. *Was*-scepters are carried by some of the gods, whereas some of the goddesses hold papyrus scepters. There are small rectangular panels above the offerer (nos. 4? and 7), before some of the deities (nos. 1 and 5), or before all the deities (no. 7); intended to contain their names in hieroglyphs, they are blank and apparently were never engraved.

No. 6 seems to show two deities, no. 3 shows three, nos. 4 and 5 show four, nos. 1 and 2 have five, and no. 7 has six. The identification of the deities is frequently difficult to determine absolutely, due to the heavily corroded condition in which these objects were found, as well as the rather crude workmanship which some of them exhibit. Examining the best preserved pieces first, it is clear—in light of the paral-

els—that no. 1 is focused on Amun-Re,<sup>4</sup> flanked by groupings composed of Re/Thoth and Isis/Nephthys. No. 2 shows Min-Amun, Osiris, Isis, Nephthys, and Nefertum.<sup>5</sup> No. 7 consists of Min-Amun, Isis, Nefertum, Sakhmet, Re (possibly Re-Horakhty), and Hathor. No. 5 has Min-Amun, Isis, Nephthys, and Nefertum. No. 3 intends Min-Amun, Isis, and Nephthys (the vertical divider is unexplained). No. 4 leads off with Min-Amun, followed by Isis holding a *was*-scepter,<sup>6</sup> then Nephthys with her arm upraised in support of Isis,<sup>7</sup> and finally another god (possibly Nefertum or Horus) holding a *was*-scepter. No. 6 could represent Min-Amun followed by a completely unidentifiable god.

Leaving aside for a moment the unique arrangement of no. 1 and the ambiguous figures on nos. 2–7, we find the following recurrent deities: Min (6 times), Isis (4 times), Nephthys (3 times), and Nefertum (3 times). A singular representation of Osiris on situla no. 2 (one of the rare occurrences of the image of Osiris in the offering scenes depicted on situlae; see also Armant, discussed below)<sup>8</sup> and a grouping of Sakhmet, Re, and Hathor on no. 7 also occur. When the deities of the idiosyncratic no. 1 are included in this inventory, we also count a singular Amun-Re, as well as one pairing each of Re and Thoth, Isis and Nephthys.

<sup>4</sup> Amun-Re is represented, standing, on Saqqara nos. 169, 182, 184, 188, and 191 (Green 1987)—in addition to Min-Amun; on no. 184, he is apparently also the figure standing in the solar barque.

<sup>5</sup> A photograph of this piece has been published in Maier 2008:50.

<sup>6</sup> Both Isis and Nephthys hold *was*-scepters on the Mišpe Yammim situla (discussed below) and Saqqara nos. 166, 172, 185, and 222 (Green 1987); Isis holds a *was*-scepter on the Armant situla (discussed below) and Saqqara nos. 168, 187, and 225; Isis, Nephthys, and Mut hold *was*-scepters on Saqqara no. 188; Isis, Nephthys, Neith, and Selket hold *was*-scepters on Saqqara no. 169 (for these four goddesses together, see the Princeton situla, discussed below); and Isis, Nephthys, Sakhmet, and another goddess, perhaps Satet/Satis or Sopdet/Sothis, both with links to the inundation (see Valbelle 1981:128, 140, 142; Wilkinson 2003:164–68; Satis appears on Saqqara nos. 163 and 181 [Green 1987]), hold *was*-scepters on Saqqara no. 198; Hathor, Satis, and another goddess also hold *was*-scepters on Saqqara no. 163.

<sup>7</sup> See Kawa situla no. 2 (discussed below) and the Armant situla, as well as Saqqara no. 190 (Green 1987).

<sup>8</sup> The resurrected Osiris is also depicted as a djed-pillar on Saqqara nos. 168 and 180 (Green 1987). Note also that situla OIM 11395 (Lichtheim 1947) bears the dedication “(To) the Guide of those who follow his ways, the Beneficent One who loves Righteousness, (namely) Osiris . . .”

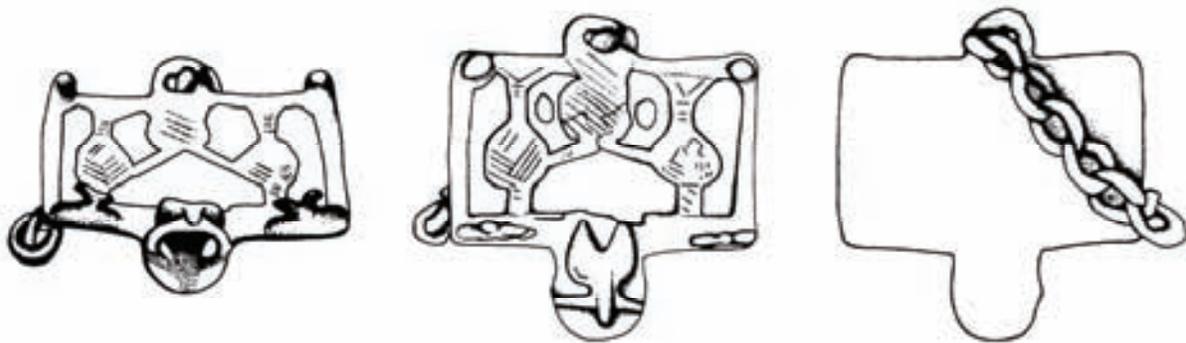
should be referred to as a “lotus.” I am indebted to Clair Ossian for his invaluable assistance in clarifying for me the botany of the Egyptian water lilies and the terminology which should be applied to them. See further Ossian 2005–2006; Täckholm 1974:144, 146.



Figure 13.3: Egyptian bronze situlae and model offering tray found in the Grid 38 winery destroyed in 604 B.C. The seven situlae and the model offering tray (top center) were found together in Grid 38 Square 84 Fine-grid 45, Room 312.

**Model Offering Tray** (Ashkelon reg. no. 44545; Israel Museum inventory no. 97-1776)

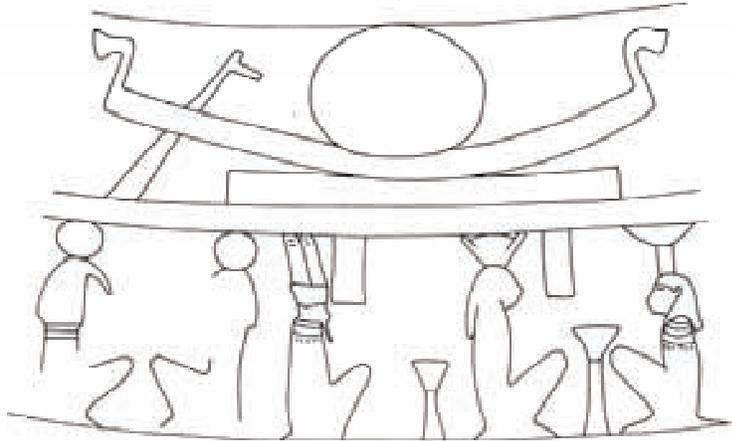
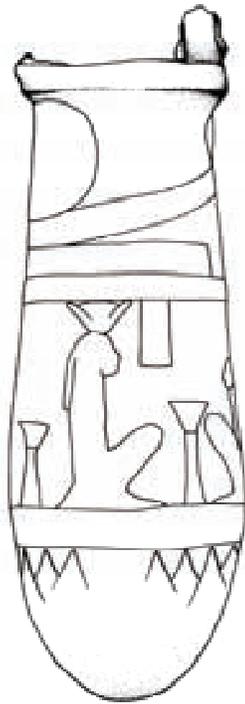
*Dimensions:* 4.05 cm (length)  
 4.35 cm (overall width)  
 2.05 cm (tray width without projections)



Scale 1:1

**Situla no. 1** (Ashkelon reg. no. 44549; Israel Museum inventory no. 97-1774)

*Maximum dimensions:* 8.55 cm (height)  
 2.4 cm (minimum lip diameter—slightly off round;  
 cannot measure maximum due to corrosion)  
 3.25/3.0 cm (belly diameter—slightly off round)



Scale 1:1

**Situla no. 2** (Ashkelon reg. no. 44543; Israel Museum inventory no. 97-1769)

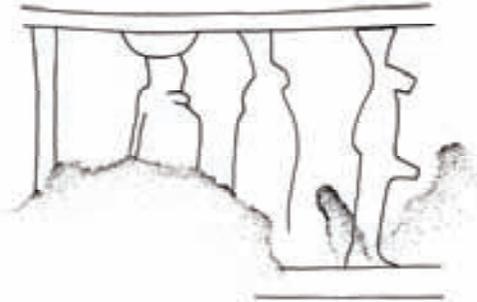
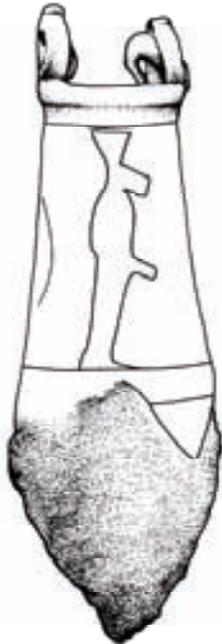
*Maximum dimensions:* 8.4 cm (height)  
 2.4 cm (lip diameter)  
 3.0 cm (belly diameter)



Scale 1:1

**Situla no. 3** (Ashkelon reg. no. 44544; Israel Museum inventory no. 97-1770)

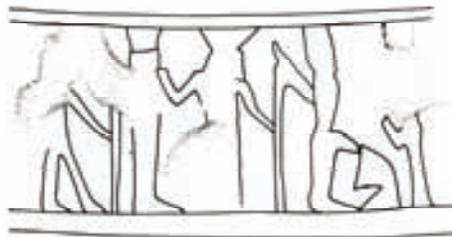
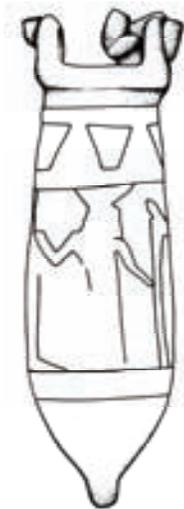
*Maximum dimensions:* 7.5 cm (height—approximate, due to corrosion)  
2.0 cm (lip diameter)  
2.95 cm (belly diameter—approx. due to corrosion)



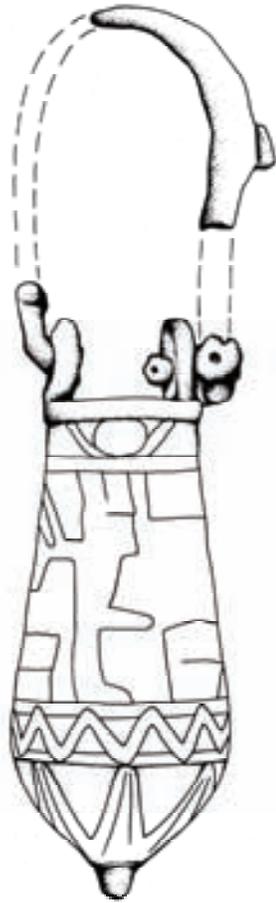
Scale 1:1

**Situla no. 4** (Ashkelon reg. no. 44550; Israel Museum inventory no. 97-1775)

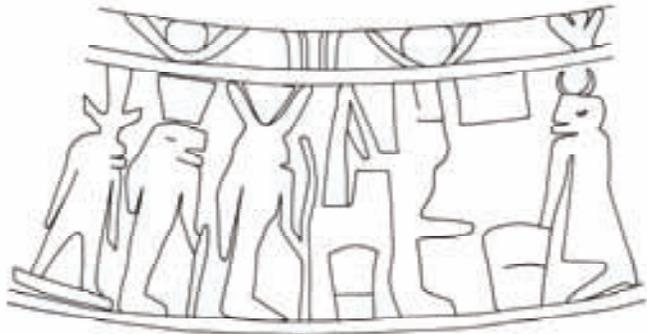
*Maximum dimensions:* 6.05 cm (height)  
1.85/1.6 cm (lip diameter—distorted: off round)  
2.0/1.95 cm (belly diameter)



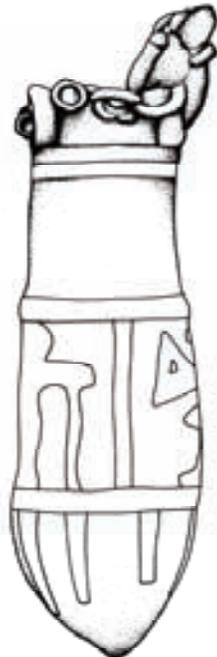
Scale 1:1

**Situla no. 5** (Ashkelon reg. no. 44548; Israel Museum inventory no. 97-1773)

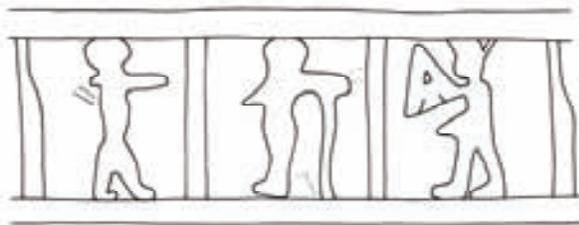
*Maximum dimensions:* 6.8 cm (height)  
2.2 cm (lip diameter)  
3.05 cm (belly diameter)



Scale 1:1

**Situla no. 6** (Ashkelon reg. no. 44546; Israel Museum inventory no. 97-1771)

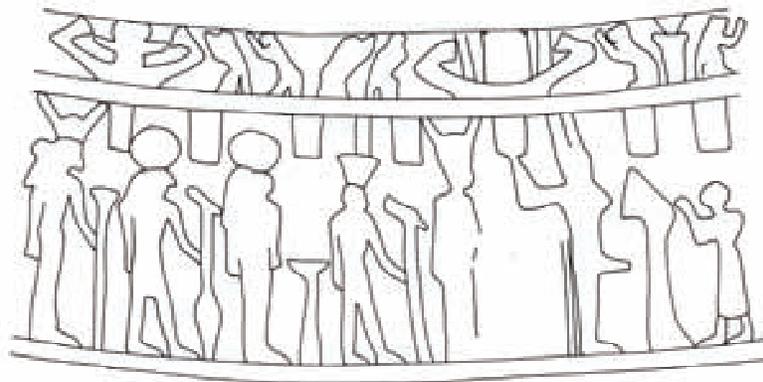
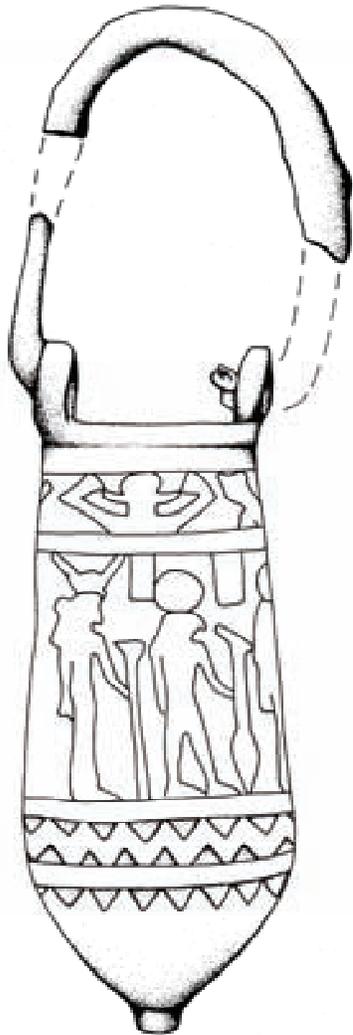
*Maximum dimensions:* 7.05 cm (height—approximate)  
2.05 cm (lip diameter)  
2.55 cm (belly diameter)



Scale 1:1

**Situla no. 7** (Ashkelon reg. no. 44547; Israel Museum inventory no. 97-1772)

Maximum dimensions: 8.0 cm (height)  
3.05/2.6 cm (lip diameter—distorted: off round)  
3.55/3.25 cm (belly diameter—distorted: off round)



Scale 1:1

### *The Model Offering Tray*

The cast bronze rectangular model offering tray (reg. no. 44545) was found in association with situla no. 3 (reg. no. 44544). The tray consists of a thin “plate” or “platter” with a slightly raised rim, having a spout on the front edge and a single suspension ring on the opposite edge. A section of chain belonging to the offering tray was attached to the suspension ring of the situla and was corroded onto the back of the tray; additional links of the chain were corroded onto situla no. 6 (reg. no. 44546).<sup>9</sup>

<sup>9</sup> Links of small chains were also corroded onto some of the situlae recovered at North Saqqara in 1995 (discussed be-

A very fat frog straddles the spout; its body is raised above the runnel, so that water poured onto the tray would seem to run off through its mouth.<sup>10</sup> On the top of the flat tray two *hes*-jars are represented, with water pouring from their spouts; there is a single loaf of round offering bread lying between them. With the help of the parallels,<sup>11</sup> the rim decoration

low); these chains, too, probably actually belong to the offering trays found with them.

<sup>10</sup> For the intended effect, see Baines 1985:119.

<sup>11</sup> There is a high degree of variability in the decoration of these little bronze offering trays. Other optional elements include the figure of a kneeling libationer (facing forward at the back of the tray—very common, possibly repeated at the sides), two standing falcons at the front corners (on Saqqara no. 447 [Green 1987], their place is at the back

can be identified as consisting of two recumbent jackals flanking the spout and two seated baboons on the corners of the side with the suspension ring. This piece is a non-Egyptian imitation (see further below).

The fundamental study of model offering trays is that of Emily Teeter (1994).<sup>12</sup> She presents a schematic for indicating the placement of elements included on these trays (see also Baillet 1905:63). In discussing the symbolism of the various elements of the trays, Teeter relates them to the decorative features they share with Type III situlae. However, she does not attempt to explain the frog. For a summary of the connection between the frog over the spout and the annual inundation of the Nile, fertility, and rebirth or resurrection, see Hornung and Staehelin 1976:112–13 and n. 97; Baines 1985:118–20; Junker 1913:61.

In 1964–1976 and 1995 a number of bronze model offering trays—or elements belonging to them—were excavated by the Egypt Exploration Society in the Sacred Animal Necropolis at North Saqqara (discussed below). Eighteen of these have been published so far (Green 1987:nos. 447–464). The documentation consists of a photograph or drawing of five of them. A metallurgical analysis has been made of one of them (no. 459).

All but one of the offering trays recovered in 1964–1976 are cast; most have a pair of suspension rings, but nos. 449 and 461 have single ones.<sup>13</sup> No. 448 is hammered, with two punched holes for suspension.<sup>14</sup> Nos. 450, 453, and 459 have hollow wire “handles” or “rings,” equivalent to the bails of the situlae. No. 449 has links of a small chain attached to its suspension ring. Roeder (1956:433) knows of several examples, in museum collections, of bronze offering trays with chains still attached.<sup>15</sup> Whether the

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corners instead of the baboons), two obelisks (either along the back edge, along the sides, or at the back corners—in place of the baboons; the baboons can also appear at the front of the rim, flanking the frog), and two recumbent lions (either in the place of the jackals or behind the frog over the spout). For the obelisk’s connection with the Egyptian concept of recurring creation (and therefore rebirth), see Bell 2002.

<sup>12</sup> Teeter notes (1994:259; see fig. 19.1b) that OIM 15254 (excavated in 1926–1927 by the Oriental Institute’s Architectural Survey) was found in the debris (*radim*) in and around the Ptolemaic temple at Medinet Habu. Associated with it in the same deposit was a collection of bronze statuettes.

<sup>13</sup> The number of rings is not specified for nos. 452, 456, and 464.

<sup>14</sup> Nicholson (2006:20) refers to a few “sheet copper-alloy offering tables” that were recovered in 1995.

<sup>15</sup> Roeder (1956:433) suggests that the model trays might have been worn around the neck, as an amulet. Andrews

small offering trays had wire handles or chains, they could have been hung on the walls of chapels or shrines (see Nicholson 2004:9).<sup>16</sup>

All the Saqqara examples are assigned dates in the fourth to second centuries B.C. (for one of the determining stylistic criteria, see Green 1987:116–7, no. 450; Teeter 1994:263). However, the completely unanticipated Ashkelon discovery pushes back the date of bronze model offering trays significantly, and suggests the need for a possible reevaluation of the dating of the Saqqara material.

Several model trays invoke Isis’s support for the donor: Saqqara no. 452 (Green 1987); BM 64027 (Teeter 1994:255, n. 1 and 262); Andrews 1994:93–94; Ben-Tor 1997:149; Schoske and Wildung 1992:210—the authors propose that this offering tray may have originated at Memphis, because the name of the donor’s father (Pediastarte) contains the name of a Canaanite goddess; see also the Mišpe Yammim and Princeton situlae discussed below.

Several of the trays also show a figure pouring libation water onto them from a Type III situla: Saqqara nos. 450, 452 (Green 1987); BM 22767 (Teeter 1994:256, 261 and fig. 19.2a); Schoske and Wildung 1992:210; Perdu and Rickal 1994:148; Baillet 1905:63 (with Maspero’s editorial comments in n. 1). For this gesture, compare a larger bronze kneeling figure (height 6.3 cm) in the Vleeshuis Museum in Antwerp (Roeder 1956:307–8, 433 and fig. 390).

Saqqara situlae nos. 165, 169, 170, 183, and 235? (Green 1987) also show the donor pouring a libation from a situla; cf. no. 180, where a man—standing at the prow of a papyrus skiff in a marsh scene—holds a situla. From this it appears that suppliants wishing to pour a libation over a deity’s offering table could achieve their aim symbolically by dedicating either a votive situla or a model offering tray at the shrine of the god or goddess.

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(1994:93) describes them as amulets, and notes that they were “small and light enough to have been worn by the mummy”; cf. Ben-Tor 1997:149.

<sup>16</sup> Offering tray OIM 11393 (Teeter 1994:255 and fig. 19.1a) has *both* a small wire handle through the suspension rings *and* a small chain attached to it. Teeter (p. 255, n. 6) believes the chain is genuine; in support of this, she cites Roeder’s (1956:434 and pl. 87b) unnumbered Louvre example, where a chain is used to link the wire handles of two bronze offering tables. However, she does point out that Roeder thinks the chain is probably modern. I would observe that neither chain resembles those retrieved through controlled excavation, nor do the wire handles of either example resemble the excavated ones.

*Discussion of the Situla Form*

The fundamental study of situlae remains the in-depth discussion of Lichtheim (1947). In the meantime, the New Kingdom pieces have been treated in detail by Radwan (1983:147–48, 159–60); he correctly rejects (pp. 17, 85, 95, 149) a Middle Kingdom date for the singular Berlin 18492 (Lichtheim 1947: 170 and pl. 4, fig.13).

According to Lichtheim's typology, our situlae are to be classified as Type III (p. 175, pl. 4, figs. 16–17).<sup>17</sup> She refers to them as “tubular” or “cylindrical.” Based on inscriptional and stylistic evidence, she tentatively dates specimens of this particular type from the Saite period (Twenty-sixth Dynasty, 663–525 B.C.) to the Ptolemaic period (332–30 B.C.).

“Situla” is a Latin word whose primary meaning is “vessel for holding water,” the first usage of which is listed as “bucket for drawing water from a well” (*Oxford Latin Dictionary*, 1996, p. 1775). The word is recognized as an English term employed in archaeology to designate any of “various bucket-shaped vessels” (*Oxford English Dictionary Supplement*, 1986, vol. 4, p. 212).

The distinguishing feature of true situlae is the presence of a bail, “the characteristic curved handle, the ends of which protrude from two rings which are attached to the rim” (Lichtheim 1947:170). The bail is best preserved in association with our situlae nos. 5 and 7, though remains survive in the corrosion of nos. 1–4 and 6 (the bit of chain now attached to situla no. 6 surely belongs to the model offering tray).

Lichtheim (1947:172, n. 26) notes: “Strictly defined, situlae are ceremonial metal buckets with a movable curved handle, but the term is generally used in a broader sense to include varieties such as cylindrical metal vessels without handle or even a stone replica of the metal form such as the alabaster situla from the tomb of Kha<sup>c</sup>” (e.g., Lichtheim 1947: pl. 4, fig. 9). “In addition,” she says, “we have situlae of this shape but with a fixed side handle.”

Lichtheim also calls attention to “cylindrical situlae without handle . . . among the bronzes of Luristan.” In his study of these latter artifacts, Calmeyer (1973:129–35) rejects outright the use of the term situla in reference to his “drop pots” (*Tropfenbecher*),<sup>18</sup> though he does cite rare examples of

*Tropfen-Situlen*, describing them as “clearly water vessels with bails [*Bügelhenkeln*] that were used otherwise only occasionally” (Calmeyer 1973:133, n. 105; *Napf*F3).

Lichtheim (1947:173–74) further deduces that it is “very likely that the cylindrical situlae are direct replicas in metal of a common pottery form of the Eighteenth Dynasty.” In Egyptology this form is sometimes referred to as a drop pot (Trope et al. 2005:88 refers to a Type III situla from Saqqara [Green 1987:no. 169, dated to the late seventh to sixth century B.C.] as having “a distinctive tear-drop shape”).<sup>19</sup> Vessels of this form were used primarily as containers for serving liquids.

*Archaeological Evidence*

Major problems encountered in studying Egyptian situlae are the paucity of properly excavated examples, and their appeal as art objects to looters and casual collectors; the bulk of the examples in collections and museums entered without proper provenance, and most of these remain unpublished. Until now, their study has proceeded mainly from this meager evidence, and that provided by inscriptions on them or mentioning them, and from representations of them. But the ancient texts and depictions which reference situlae are usually not precise enough to permit us to link them definitively with the actual types and varieties that have come down to us. Hence the difficulty of establishing an absolute chronology for them, or even an adequately detailed internal developmental sequence, and distinguishing their various contexts and usages. However, a limited number of situlae have been found in controlled, even stratified, excavations undertaken in Egypt, Sudan, Syria-Palestine, and Cyprus. This is the aspect of the discovery of the Ashkelon situlae with the most far-reaching significance—beyond, of course, the great implications they have for understanding the site of Ashkelon itself. At this point we will introduce some other crucial archaeological discoveries of Type III bronze situlae.

<sup>17</sup> For a brief survey of deities most commonly represented on Type III situlae, see also Blok 1930:203–4.

<sup>18</sup> His use of this terminology derives from the drop-like tips of most of the Luristan vessels (see p. 134); however, he also comments that the “drops” proceed from the “rosettes” which are typically associated with their bases (see

pp. 18, 98, 108). Nevertheless, he argues against their derivation from Egyptian situlae (pp. 134–35). The dating of the Luristan bronzes is the subject of intense debate.

<sup>19</sup> I have benefited from brief conversations with both Susan J. Allen and Peter Lacovara on this topic.

*Situlae Found in Syria and Palestine*

## Carchemish

Woolley found three situlae close to doorways during the course of his work at Carchemish on the Euphrates (Jerablus) in 1911–1914, when he investigated several ruined houses near the defensive walls of the Outer Town (Woolley 1921:118–32—this reference was called to my attention by Catherine Beckerleg in 2002; see Luschan and Andrae 1943:117; referenced by Calmeyer 1973:134). Two situlae (Woolley 1921:120 and pl. 21, fig. a:1/1\* and 2/2\*) were discovered in association with House B, which was situated in the southwestern sector; and a third (p. 130 and pl. 21, fig. a:3/3\*) was uncovered in House D/E, which was located not far from the west gate. For the relative positions of the houses, see Woolley's map of the site (pl. 3), reproduced in Hawkins (1976–80:427).

The dimensions of the situlae are not specified in the text, but the maximum height of each piece may be estimated from the scale attached to the published photograph. The results yield 9.05 cm for no. 1; 7.8 cm for no. 2; and 8.5 cm for no. 3; so their dimensions seem to be compatible with those of the Ashkelon situlae. All three terminate in a representation of the footstalk and calyx of the blue water lily.

The badly preserved remains of House B indicated extensive modifications, but the building history could not be reconstructed. The pottery at the site is identified as “Neo-Hittite,” but the exact context of this find was not determined. The much better preserved House D/E, on the other hand, evidenced only a single building period. It is described as “the residence of a well-to-do gentleman,” and is dated to the end of the Neo-Hittite period. The house was destroyed by fire and its contents sealed beneath the debris. Woolley attributes this event to the city's capture by the forces of Nebuchadnezzar II, which would provide a very close parallel with the situation at Ashkelon.

In addition to the situlae, numerous artifacts of Egyptian manufacture, or produced under Egyptian influence, came to light at Carchemish. The names of the Twenty-sixth Dynasty kings Psamtik I (664–610 B.C.) and Necho II (610–595 B.C.) were read, respectively, on a bronze finger ring and some clay sealings. Four bronze figurines of Egyptian deities were found (Woolley 1921:127–28 and pl. 21, figs. b, c). Two of the figurines depict Osiris: one is identified as of Egyptian manufacture (fig. c.2, measured at 7.0 cm); the other is said to be an “imitation” or “a local work, imitating an Egyptian model” (fig. c.1, meas-

ured at 7.7 cm). The other two figurines, both identified as Egyptian, depict Isis with the infant Horus and Harpokrates. Although it is not specified, the figurines are presumably solid cast.

The two situlae from House B are said to be “of Egyptian type but of Phoenician rather than Egyptian manufacture, cast with ornament in relief showing figures of Anubis, &c., conventionalized almost beyond recognition.” The situla from House D/E is cited without commentary, so it appears that this was regarded as a genuine Egyptian piece.

The usage of the term Phoenician in this context requires comment. Woolley is referring to the Iron Age culture of the “narrow strip of Levantine coastal plain between the cities of Aradus (modern Arwad) in the north . . . and Akko (modern Acre) in the south” (Markoe 1997:324).<sup>20</sup> Phoenician art was heavily influenced by Egypt, and the Phoenicians in turn acted as middlemen in disbursing Egyptian and Egyptianized artifacts across the Mediterranean world.

Unfortunately, the published photographs document the condition of the Carchemish situlae before any cleaning that might have been done later, so their decorated surfaces are still obscured by corrosion. Small drawings accompany the photographs, with an artist's rendering of the basic form of vessel no. 2 and a roll-out of each one's single register of relief decoration. No. 3 is the easiest to read: the presenter (with a blank name panel above him) stands with an offering table before Min-Amun and Isis; three vertical dividers also appear. No. 2 probably represents Isis (drawn as shown on the vessel) and Nephthys (taken from the opposite side—this must be the figure identified by Woolley as a corrupt representation of Anubis!). No. 1 is so garbled as to defy interpretation.

Another cast bronze situla, said to have been found near Carchemish, is currently on display in the Pergamon Museum in Berlin.<sup>21</sup> Its tip ends in the form of the footstalk with incised indications of the calyx of the blue water lily. Its decoration displays a highly schematic figure of an ithyphallic Amun holding a long staff—presumably an attempt to render the *was*-scepter. The style of this representation is clearly that of a “Phoenician” imitation.

With the Ashkelon and Carchemish examples from sealed contexts destroyed by the Babylonians at the end of the seventh century B.C., we have not only the earliest absolutely datable Type III situlae, but con-

<sup>20</sup> There was a Phoenician component in the population of the Philistine city of Ashkelon (Markoe 2000:62 and n. 99).

<sup>21</sup> This was called to my attention by Marina Pucci, who also sent me a photograph of it taken by her in the gallery.

temporary imitations, too.<sup>22</sup> To these may now be added a further example.

#### Zincirli (Sam<sup>ḏ</sup>al)

Two Type III situlae, one decorated (field no. S2203, currently in the Vorderasiatisches Museum in Berlin), were found in the German excavations at Zincirli, Iron Age Sam<sup>ḏ</sup>al (Luschan and Andrae 1943: 117; referenced by Calmeyer 1973:134).<sup>23</sup> This site is located on the eastern flanks of the Amanus Mountains to the northwest of Carchemish; its territory became an Assyrian province during the reign of Shalmaneser V (727–722 B.C.). Here was recovered the famous stele of Esarhaddon commemorating his victory over Taharqa at Memphis in 671 B.C. (see Bonnet and Valbelle 2006:146–48).

The documentation for the decorated situla consists of an artist's rendering of its basic form and a roll-out of its single register of relief; recently a photograph of the piece was published (Wartke 2005:fig. 90).<sup>24</sup> The offering figure (with a blank name panel above) appears kneeling<sup>25</sup> before Nefertum, Min-Amun, Isis, and Nephthys. The vessel terminates in a representation of the calyx of the blue water lily, but without the footstalk. The dimensions of the vessel are not given in Luschan and Andrae 1943; but Marina Pucci has generously provided them: 6.7 cm in height, with a lip diameter of 2.7 cm (before conservation). Although Luschan and Andrae comment that both situlae probably came from Egypt, the overall impression of the decorated piece is that of an imitation.

The decorated piece was recovered from the collapsed debris lying east of the columned palace, 2 m

below the top of the old enclosure wall. This building was burned when the citadel was destroyed; its remains were covered with a thick layer of ash and burnt material. The situla was found in an unburned area which dates to the final occupation of the site at the end of the seventh century B.C.

The undecorated piece, which was not assigned a field number, was probably left at the site; it was found in an ash layer elsewhere at the site, near the main gate.

#### Ugarit

An undecorated Type I situla (field no. 6239) was found among the contents of an Iron Age tomb at Ugarit (Schaeffer 1935:148–51).<sup>26</sup> The documentation consists of an artist's drawing (*ibid.*, fig. 7g—no measurements are given). The bail was partially preserved. Unfortunately, no pottery was recovered from the tomb, so the dating had to depend on the information provided by two large fibulae. Fibulae of this type were excavated at Gezer. Myres proposed to date them to the ninth or eighth century B.C., while Woolley proposed the seventh to sixth centuries. Schaeffer himself tends toward a date somewhere nearer the lower end of this four-hundred-year period rather than its beginning.

#### Byblos

Calmeyer (1973:134) reports that there is an undecorated situla from Byblos in the Archaeological Museum of the American University in Beirut (inventory no. 2845). There is no further information available at this time

#### Miṣpe Yammin

In 1986, an archaeological survey of the site of Miṣpe Yammin (Jebel el-Arba<sup>ḥ</sup>in) in the Upper Galilee (northwest of the lake) discovered a deposit of four bronzes buried next to the remains of a Phoenician temple of the Persian period (Frankel and Ventura 1998; Frankel 1993; see Wolff 1993). A situla was included among them.<sup>27</sup> The excavations of 1988–1989 determined that the site was occupied since Iron Age II, and the cultic use of the temple area continued into the Hellenistic period. The “juglets and bottles were of wares found at sites in

<sup>22</sup> The Carchemish publication was a great comfort to us in our work because it vindicated the conclusions we had already drawn regarding the Ashkelon situlae. As we were puzzling over the strange—even bizarre—decoration we encountered, I had reluctantly decided that some of them must be imitations; that is, not produced in Egyptian workshops or by Egyptian craftsmen. Daphna Ben-Tor agreed and Pnina Arad subsequently pointed out that the model offering tray is also an imitation. Had we found them without documentation, we would immediately have dismissed them as modern forgeries!

<sup>23</sup> I am indebted to David Schloen for providing me with a digital copy of the Luschan and Andrae reference.

<sup>24</sup> This reference was called to my attention by Marina Pucci, who is currently working in Berlin on the Zincirli material. I am indebted to her for the invaluable remarks she has forwarded to me concerning the undecorated situla and the updated information on the archaeological contexts of both situlae.

<sup>25</sup> For a kneeling donor, see Saqqara no. 187 (Green 1987); cf. nos. 173, 182, 197, 207, 210, 219.

<sup>26</sup> Referenced by Calmeyer (1973:134), who identifies the situla as an imitation; see also Popham et al. 1982b:239 and n. 7.

<sup>27</sup> This was called to my attention by Lawrence Stager.

the Jezreel Valley and the coastal plain, suggesting they were brought by worshippers from afar” (Wolff 1993).

The situla is published thoroughly in photographs and a roll-out drawing, accompanied by detailed commentary. There is a high probability that “it was produced in Egypt” (Frankel and Ventura 1998:49), possibly intended for use at Thebes, as indicated by the depictions of Amenemopet and Montu.<sup>28</sup> The vessel terminates in a representation of the calyx of the blue water lily, but without the footstalk, here referred to as a “knob” (*ibid.*, p. 40). There are three registers of decoration. The uppermost contains a composite depiction of four baboons adoring the morning barque pulled by four jackals; this time five deities appear in the barque: three goddesses at the prow, the sun god (Re) in his shrine amidships, and a falcon-headed god (Montu?) at the stern.

In the second register the donor, standing behind an offering table (bearing food gifts surmounted by a blue water lily), holds a libation vessel as he hails the gods. All of the captions above the seven deities name them: Amenemopet (Amun of Luxor: *Ipy* is a common late period spelling of *Ipt*), Isis, Nephthys, Re, Montu (the Theban war god), Nefertum, and Sakhmet—Isis, Nephthys, Re, and Montu all hold *was*-scepters; only the horizontal space for the name of the donor remains blank.

The authors comment on Nefertum’s position before his mother Sakhmet, expressing concern over the absence of Ptah (the third member of the Memphite Triad). Ptah is rare on situlae (except those from the Memphis area), and the “reversal” of Nefertum and Sakhmet has already been encountered on Ashkelon no. 7; it also occurs on Kawa no. 2 (see below). Nefertum is one of the regulars on situlae, depicted at least three times at Ashkelon, once at Zincirli (even taking precedence over Min-Amun!), and once (as mentioned above) at Kawa. The authors themselves (*ibid.*, p. 44) cite a further reversal at Saqqara (Green 1987:no. 165, where Ptah is not represented), pointing out at the same time the “proper” order at

Saqqara (Green 1987:nos. 166–67, where Ptah is depicted in his role as the head of the Memphite Triad). Saqqara is, of course, the cemetery of Memphis.

The explanation for these phenomena lies in (1) Nefertum’s role on the situla as the personification of the blue water lily, therefore connected with the waters of the inundation (see Wilkinson 2003:133–35), and (2) this situla’s apparent origin in the Theban realm (cf. the situlae found at Armant, discussed below). So Sakhmet is here secondary to her son, and Ptah is generally irrelevant in this context. The authors observe (citing Lichtheim 1947:177) that offering scenes of this type, showing a single worshiper before a long row of deities, was “fully developed in Dynasty 26” (Frankel and Ventura 1998:41).

The third register consists of two opposed series of kneeling figures rejoicing at the rising of the sun: these are three Souls of Pe (an area of the sacred site of Buto in the Delta; these Souls are most commonly depicted with falcon heads) and three Souls of Nekhen (the sacred site of Hierakonpolis in Southern Upper Egypt; these Souls are most commonly represented with jackal heads). The figures are isolated from one another in panels, the central one—separating the leaders—being blank; the other four contain hieroglyphic labels identifying the jackal-headed figures following them as the Souls of Pe and the falcon-headed figures as the Souls of Nekhen.<sup>29</sup>

The originally empty band above the first register of decoration was subsequently filled with an incised Phoenician inscription, mentioning the name of the donor and his dedication of this votive to the Canaanite goddess Astarte. The date of the inscription, based on palaeography, is probably “the sixth or fifth century” (Frankel and Ventura 1998:49).

The dating of the deposit is securely fixed archaeologically in the Hellenistic period on the basis of stratigraphical observations from elsewhere at the site, and the discussion of the historical circumstances that probably led to the burial of this hoard is convincing. But the assignment of the situla itself to the Persian period remains conjectural. In considering its date, the authors first “tentatively date the situla to the Persian period” (*ibid.*, p. 45); later the formulation becomes “the Mišpe Yamim bronzes are probably from the Persian period” (p. 52); and in their concluding remarks they state this opinion in stronger terms, saying that “both the situla itself and the Phoenician inscription are almost certainly from the Persian period” (p. 53).

<sup>28</sup> Note, however, that Amenemopet also appears on Saqqara nos. 166, 167, 181, and 188 (Green 1987—the hieroglyphic text of no. 188 is somewhat garbled, with “Amun-Re” written above the head of the donor, and “in [possibly ‘lord of’] Luxor (*Ipt*)” written before the face of the god; a similar garbling of the text(s) associated with the ithyphallic Amun occurs on no. 169). On Saqqara no. 183, the ithyphallic Amun figure seems to be labeled Amun-Re, as he is on OIM 11395 (Lichtheim 1947:177 and pl. 5). Montu also appears on the unprovenanced OIM 11395 (*ibid.*, p. 169 and pl. 5), in association with the Memphite Triad.

<sup>29</sup> This reversal of heads may be a characteristic feature of Theban art (see Wilkinson 2003:89–90, with special attention to the representation from the tomb of Ramesses I).

Of itself, the date of the deposit provides only a *terminus ante quem*. The available criteria for dating individual situlae are extremely limited, allowing us to only tentatively suggest a period, usually with a wide chronological range: Saite to Ptolemaic, for instance, as Lichtheim has proposed. There is no evidence that the production of this situla was contemporary with its Phoenician dedicatory inscription in the Persian period. It may well have been obtained and reused as an heirloom, personalized by a later owner long after its production.<sup>30</sup>

The authors' attempt to date this situla is founded in their study of the other artifacts with which it was found. The bronze Apis bull is possibly "a local imitation of the Egyptian prototype," while the recumbent ram is dated to the Persian period (pp. 51, 53), based on its similarity to one recovered from Iliffe's (1936) Ashkelon hoard. But Iliffe's fourth-century B.C. date for his hoard has been challenged by Lawrence Stager, who now places it in the late seventh century (*Ashkelon 1*, pp. 160–62, 281–82). Frankel and Ventura (1998:39) conclude that all the bronzes were "probably votive gifts to the temple in the Persian period," and could have been buried during "the final stage of the cultic center" when it fell to the Hasmoneans (p. 39). Thus, their concluding scenario is that "the four bronzes were originally associated with the temple of the Persian period, probably having been brought to it as votive gifts, and that in some way they were kept at the cult center till its final abandonment."

The form of the "drop-shaped, slender situla" from Mišpe Yammim, its large size (the height is 16.7 cm), and the extensively and elaborately engraved decoration,<sup>31</sup> including hieroglyphic texts, make it very different from any of the others we have discussed so far. In the end, I believe that a secure date for this piece has yet to be established. The form is, however, definitely in the Egyptian tradition; it clearly reflects the shape of a faience vessel from the Amarna period (Freed et al. 1999:282, where this vessel is referred to as a "situla").<sup>32</sup>

<sup>30</sup> Consider the case of Saqqara situla no. 164 (Green 1987), where the donor is represented as a woman, yet the dedication inscription names a man.

<sup>31</sup> The authors note only that the "decoration is not in high relief" (Frankel and Ventura 1998:45). For incised decoration on cast bronze situlae, see Green 1987:nos. 169–172, 193–195, as well as the Kourion situla (discussed below).

<sup>32</sup> Lichtheim (1947:174, n. 39) cites this piece, which is in the Walters Art Museum (accession no. 48.456) and may be viewed online at <http://art.thewalters.org> (as of January 2010).

## Princeton Situla

McCarter (1993) acknowledges the assistance of Betsy Bryan in the publication of an unprovenanced Type III situla in Princeton (accession no. y1938-20) that also bears an incised Phoenician inscription just below the rim. The inscription is dated to the mid-sixth century B.C. (McCarter 1993:115).<sup>33</sup> The donor's name, "Servant of Ptah," connects him with Memphis, where there was a Phoenician settlement (*ibid.*, pp. 116–17, 119).<sup>34</sup> He calls upon Isis to grant favor and life, which "probably reflects the influence of Egyptian offering formulae" (*ibid.*, pp. 115–16). McCarter refers to the situla as "a small ceremonial vessel . . . used for carrying and sprinkling liquids in rituals."<sup>35</sup> He further comments that the "*situla* is especially associated with Isis. Egyptian *situlae* are shaped in part to resemble the female breast, and the Egyptians thought of the *situla* as the breast of Isis, bearing and distributing her nurturing and life-giving milk" (*ibid.*, p. 118). Isis was definitely a popular goddess among the Phoenicians: there are ten Phoenician proper names containing the element Isis (Muchiki 1999:14–43).

The situla (13.5 cm in height) is closer in size and style to the provenanced examples we are studying here, down to the presence of the calyx and footstalk at its tip. The situla is described as "Egyptianizing" (*ibid.*, p. 119); no date is suggested for it. The published documentation consists of captioned photographs and accompanying commentary. There are three registers of decoration: the uppermost one contains a representation of the morning barque (with the *bnw*-bird), and the lowermost displays the evening barque; papyrus stalks bracket the barques. The intermediate offering register depicts the donor before Isis, Nephthys, Neith, and Selket (the four goddesses who appear at the corners or sides of New Kingdom sarcophagi/coffins and canopic chests—each one of them associated especially with birth), followed by the standard of Nefertum; for this latter, see Saqqara nos. 168, 181, 183, 185, 188, 200, 205, 211, 212 (on nos. 211 and 212 preceded by a figure of Sakhmet shown holding the standard; see also no. 235), and 219 (Green 1987).

<sup>33</sup> This reference was called to my attention by Lawrence Stager. For the Phoenician settlement in Memphis during this period, see also Markoe 2000: 47, 138; cf. 20, 96.

<sup>34</sup> There are seven Phoenician proper names containing the element Ptah, and five with Apis (Muchiki 1999:14–43).

<sup>35</sup> Following McCarter, Markoe (2000:138) also attributes a funerary function to this situla.

## Tell el-Mazar

An undecorated hammered bronze situla (field no. 52) was found at Tell el-Mazar among the contents of Grave 12/13 during excavation of Cemetery A, which is dated to the Iron Age II (Yassine 1984:24, 80–81, and figs. 8.5, 51.58; de Groot 1993).<sup>36</sup> Tell el-Mazar is located east of the Jordan, between Tell Deir <sup>c</sup>Alla and Tell es-Sa<sup>c</sup>idiyeh. Pottery of the sixth to fifth centuries was recovered at the site, as well as metal items; the establishment of the cemetery is dated to the Neo-Babylonian period, and it continued in use through the fifth century B.C.

This piece has never before entered into the literature of situlae; although illustrated in both photograph and line drawing, it is described in the text simply as a “bottle.” The shape of the body of the vessel, as well as the technique of its manufacture, are unparalleled in our corpus. It is certainly an imitation. The dimensions of the situla are not specified in the text; however, based on the scale attached to the published photograph, its maximum height may be estimated at ca. 19 cm, making it even larger than the Mišpe Yammim piece. The well-preserved bail measures ca. 9 cm. Nothing more can be said about this situla at this time.

*Situlae Found on Cyprus*

## Kourion

A situla was found during the University of Pennsylvania excavations at the Sanctuary of Apollo Hylates, overlooking the sea at Kourion in southern Cyprus (McFadden 1938; Mitford 1971:38–42; Buitron-Oliver 1996:156–57 and pl. 59, no. 68).<sup>37</sup> Along a paved street leading between Temples A (Roman) and B (Archaic Greek), a mixed deposit of bronzes was found in the debris of a ruined building. They range in date from the Archaic period through the Hellenistic period (McFadden 1938:17).

Mitford (1971:40) describes the find spot as “surface filling of the Archaic Precinct.” Karageorghis (1982:140), however, speaks of the find in the context of the deliberate burial of votive offerings: they had been “placed on benches around the altar or on an offerings table in the courtyard of the sanctuary. Every time these were full the priest would dig a pit in the vicinity of the sanctuary and bury the surplus so as to make room for new gifts. Such a deposit was found near the Sanctuary of Apollo at Kourion.”

<sup>36</sup> This piece called to my attention by Jill Baker in 2003.

<sup>37</sup> This piece called to my attention by Jill Baker in 2003.

McFadden (1938:15–16) describes such deposits elsewhere at the site as “altar-pits.”

Among the objects in this deposit was the situla (called an “amphora” by McFadden, p. 17), which is 11 cm in height. Photographic documentation is provided by McFadden and Buitron-Oliver (see also Tatton-Brown 1979:320; 1982:89). The body is engraved with an Egyptian-style depiction of a kneeling man holding a blue water lily over an altar; there is no indication of a ground line. A line of hieroglyphic text is incised around the vessel just below the rim. It begins above the depiction of the altar and is oriented in Egyptian fashion to the offering figure; it reads: “(To) Isis, who shall give life (to) Shepenamun, son of Psamtik.” Mitford acknowledges the assistance of Alan Schulman in providing a translation of the text, as well as background information on situlae.

The Kourion situla is cast, with the representation of a footstalk at its tip. Schulman describes this as “a foot in the form of a miniature stand.” On the basis of the names and the shape of the vessel, Schulman dates it to the Twenty-sixth Dynasty. What may be said most fairly is that an occurrence of the name Psamtik—especially—would be extraordinary (except possibly at Sais itself), if encountered before the beginning of the Twenty-sixth Dynasty.

Though the image of Isis does not appear on the situla, it is clear that it was originally intended to be placed as a votive at one of her shrines. Whether the selection of this piece for presentation at Kourion was arbitrary, and the mention of Isis therefore merely incidental, or whether Isis already had some cultic connection with the site, remains an interesting question. Tatton-Brown (1982:85) points out that the worship of Isis “is not otherwise attested in Cyprus before the Hellenistic period.”

Besides the hieroglyphic text, there is a shorter incised inscription in Cypriote syllabic (Cyprosyllabic) indicating that the situla was the property of “the god” (unambiguously identified at the site as Apollo only in the fifth century B.C.). The same inscription was also scratched, post-firing, into a Corinthian oinochoe which came from a nearby deposit, dated by the fill to the pre-Classical period (Mitford 1971:38–41). Mitford comments that, stylistically, the pot itself “is definitely of the sixth [var.: later sixth] rather than the seventh century”; and he concludes that the “inscription, cut locally, while clearly not contemporaneous with the manufacture of the pot, cannot at the same time be much younger.” With this in mind, and citing Diodorus’s statement about the generosity shown by Amasis toward the island’s temples, Mitford (1971:42) concludes that the circumstances which brought the situla to Cyprus “can

reasonably be ascribed to the period of Egyptian domination of Cyprus during the mid-sixth century.” Tatton-Brown (1982:75) specifies that in “about 569 B.C. the [Twenty-sixth Dynasty] Pharaoh Amasis [570–526 B.C.] took political control of Cyprus, which he held until around 545.” Karageorghis (1982:138–39) formulates the history this way: by 570 Amasis “had become the effective ruler of Cyprus,” and Egyptian rule “lasted for about 25 years.”

#### Amathus

Buitron-Oliver (1996:156) mentions that several other situlae have been found in Cyprus, citing one “from Tomb 276 at Amathus, which contained pottery of Cypro-Archaic I and II date.” Karageorghis (1982:9) dates the Cypro-Archaic period to 750–600 B.C. (I) and 600–475 B.C. (II), placing Amasis’s brief rule over Cyprus in the Cypro-Archaic II period. Amathus (Amathonte) is a port city on the south coast of Cyprus. Karageorghis (1982:139) notes that “Amathus lies on the route to Naukratis, the Greek colony in Egypt, and would have been a port of call for Greek ships sailing to the Delta.”

The Amathus vessel is illustrated in Karageorghis 1981:fig. 77 (see pp. 1007, 1016). It measures 10.2 cm (including the well-preserved bail). This situla is without decoration, and displays an exaggerated foot-stalk. In all likelihood it is another Phoenician imitation.

#### A Situla Found at Lefkandi in Greece

Lefkandi lies on the west side of the island of Euboea, opposite the Boeotian coast. It was “founded in the Early Bronze Age with a practically continuous history until its destruction around 700.” In the Toumba Cemetery, in tombs of the Late Proto-geometric I (ca. 950–900 B.C.), “two bronze vases, a situla with incised decoration and a lotus-handled jug, both of Egyptian manufacture” were found (Popham et al. 1982a:169–71).

The authors of Popham et al. 1982b:239 and n. 6 still consider this piece to be an Egyptian import. They also refer to the fragmentary remains of a similar situla (Heraklion Museum inventory no. 78) discovered in 1884 among the votives deposited in the Idaean Cave on Crete. Popham (1994:17), however, suggests that the vessel may possibly have Egyptianizing decoration. He also refers to the discovery of a second situla of the same type, undecorated but better preserved. The engraved Type I situla was recovered from Tomb 42 (Popham et al. 1982b:214, 221 [fig. 4], 223–24, 238 [fig. 8], 239; pls. 23:17, 27d, and

33a, h; Popham 1994:16–19; Popham and Lemos 1996:pls. 7, 132, 143—an expanded caption of this plate appears on p. 203). The documentation for the situla consists of a photograph, as well as an artist’s rendering of its basic form and a roll-out of traces of its decoration. The technical details of its manufacture are clearly specified. The height of the hammered sheet-bronze body is 16 cm (with the bail, the whole situla measures 21.5 cm). The rim is beaten over a cast ring, to which the suspension rings are attached. Unfortunately, corrosion has obscured the decoration almost beyond recognition. It is noteworthy that Radwan (1983:172) reports that no Third Intermediate Period situlae have been identified in Egypt.

#### Situlae Found at Kawa (Gem-Aten) in Nubia

Two situlae were found during Oxford University’s excavations in Nubia in the ruined Hypostyle Hall of Temple T at Kawa (Macadam 1949; 1955). Constructed under Taharqa (690–664 B.C.) of the Twenty-fifth Dynasty, this temple was dedicated to Amun of Kawa and Amun of Napata. These artifacts have never before entered into the discussion of situlae. The find spot of the situlae is described as grid D/E of an extensive deposit called the “Bronze Find” (Macadam 1955:92–93, 125 [33/5], 158–59 and pl. 58c). The majority of the objects found in this large pit were badly burnt. “The burnt items were embedded in a layer of ashes and *concentrated in two heaps* [my italics]. Evidently they had been thrown down there and deliberately set on fire by savage invaders . . . This great bonfire of temple property [was] probably due to a deliberate sacking.” Thus a single great conflagration was envisaged by the excavators, and consideration of the latest dates of the artifacts associated with it eventually led them to conclude that it had occurred in the Late Meroitic period, sometime around the second to third centuries A.D.

However, a brief study of burial caches containing sacred objects indicates that such pits frequently remained in use for long periods, being reopened and extended over time as necessary (Bonnet and Valbelle 2006:174–82). The disposal of partially destroyed temple furnishings was only one of their purposes. A common motivation for such activity was the need to clean up an overcrowded site to make room for new donations, particularly along processional ways—perhaps before renovations were undertaken. A related reason was to avoid the possibility of damage being done during expected hostile actions. An open area in the floor of a temple was a favorite spot for digging protective dumps.

The discovery of these situlae at Kawa may be attributable to the presence of Egyptian craftsmen brought from Memphis at the time of the construction of Temple T (Bonnet and Valbelle 2006:142). Nearly a century later, in 593 B.C., Psamtik II (595–589 B.C.) launched a campaign against the forces of the Nubian ruler Aspelta, said to be menacing the southern frontier of Egypt. A major battle ensued in the area of Kerma, not far from Kawa. The victorious Egyptian army continued its advance beyond Napata, which was sacked and burned in the conflict (for this scenario, see Bonnet and Valbelle 2006:164–71). Subsequently, the new Kushite capital was established at Meroë, beyond Egypt's reach. The pursuit of fleeing Kushite survivors would have led the Saite army right past Kawa as they pushed southward. In anticipation of an attack, the situlae could have been buried by local priests and forgotten, only to be rediscovered by archaeologists in a common grave of artifacts of mixed date, buried under various circumstances.

Macadam's documentation for both situlae consists of photographs (1955:158 and pl. 83:e–f) and catalogue text (*ibid.*, pp. 158–59). An artist's roll-outs of the decoration are presented only for no. 2 (Macadam 1949:87 and pl. 36). Both vessels terminate in a representation of the calyx of the blue water lily, and both apparently show the footstalk. The catalogue entry describes no. 1 as "peg-bottomed"; and the online references describe no. 1 as having "the form of a breast" and no. 2 as having a "stud" below the calyx.<sup>38</sup>

No. 1 (field no. 0655; Brussels E. 6970, purchased in 1935) is 11 cm in height. There are two registers of relief decoration.<sup>39</sup> Two solar barques appear in the uppermost register, in association with two baboons (adoring the morning barque) and two jackals (towing the evening barque). In the second register an offerer stands pouring libation water over an altar, facing a row of four deities: Min-Amun (followed by his cultic garden), Isis, Sakhmet, and Horus. Horus carries a *was*-scepter, while the two goddesses carry papyrus(?) scepters. Name panels (all blank) appear above all the deities except Horus. This situla is described online as "a libation vase" with "a scene representing an offering to the god Amun-Min."

No. 2 (field no. 0656; Khartoum 2702) is 10 cm in height. There are three registers of relief decoration. In the uppermost register the morning barque (adored by two baboons) and the evening barque (towed by two jackals) follow one another. In the second register an offerer stands behind an altar (surmounted by a blue water lily) facing a row of six deities: Min-Amun (followed by his cultic garden), Isis, Nephthys, Horus, Nefertum, and Sakhmet. Horus and Nefertum carry *was*-scepters, Nephthys carries a papyrus scepter, and Isis and Sakhmet extend one arm each to support Min-Amun and Nefertum, respectively.<sup>40</sup> Blank name panels appear above all the deities.

The third register consists of an opposed series of kneeling figures of three falcon-headed Souls of Pe(?) and four jackal-headed Souls of Nekhen(?).<sup>41</sup> Once more the individual figures are isolated from one another in separate panels. A hieroglyphic inscription, incised in the band dividing registers two and three, requests Amun-Re Kamutef to grant life, prosperity, and health to the donor, identified as Pefteu(em)'aubaste. This situla is described online as "a vessel for water" used for "libations for water and probably for milk."

#### *Deposits of Votive Situlae Recovered in Egypt*

##### North Saqqara

The British Egypt Exploration Society undertook excavations during 1964–1976 in the vast Sacred Animal Necropolis of North Saqqara, lying to the northeast of the Sarapieion/Serapeum complex. They worked in the Main Temple precinct known anciently as *Hepnebes*, where a temple dedicated jointly to Osiris-Apis and Isis the Mother of Apis was located (Smith, Davies, and Frazer 2006:figs. a–b; Davies and Smith 1997:116 and figs. 3–4; see also Green 1987:fig.1). The sacred animal incarnations of these deities were a bull and a cow, respectively. The burial galleries of the sacred cows were comparable to those long known for the Apis bulls at the Sarapieion. The earliest attested relevant usage of the site was in year 37 (534 B.C.) of Amasis (570–526 B.C.) of the Twenty-sixth Dynasty; the latest recorded burial of a sacred cow took place in 41 B.C. (Davies and Smith 1997:120), during the joint reign of Cleopatra VII and her son Caesarion (44–30 B.C.).

<sup>38</sup> In January 2010, the Kawa situlae could be seen online at <http://globalegyptianmuseum.org/record.aspx?id=1168> (Brussels) and <http://www.friends-partners.org/partners/orient/resour/meroe/collection/02702.htm> (Khartoum).

<sup>39</sup> My description is based on the published catalogue, supplemented by study of the online photographs, as well as the parallels.

<sup>40</sup> See Saqqara no. 190 (Green 1987); cf. nos. 165, 167, 181, 189.

<sup>41</sup> For the queries, see the commentary above on the Mišpe Yammim situla.

Associated with the central temple were small sanctuaries of Osiris-Baboon and Osiris-Falcon. These chapels, in which suppliants' offerings were deposited, stood at the tops of stairways leading to the animal catacombs below. The deities celebrated in the central temple were more easily accessible to the wider population through the animal cults connected with each of them (Davies and Smith 1997: 122). After an indefinite period of time, these votive objects were removed from display in the chapels and ritually buried.

The building history and chronology of the Main Temple Complex has been divided into three major pre-Christian phases (Smith, Davies, and Frazer 2006:13–20). Phase I is dated to the Twenty-sixth and Twenty-seventh Dynasties (ca. 664–404 B.C.), when the builders incorporated several preexisting tomb chambers into their constructions. Phase II, divided into three subphases, began around the beginning of the Twenty-ninth Dynasty and continued through the Thirtieth Dynasty (399–343 B.C.).<sup>42</sup> Phase III consists of the Thirty-first Dynasty and the Ptolemaic period, at least (343–30 B.C.).

The earliest caches of objects begin to appear at the beginning of Phase II, when they were used for the deposit of material that had been in use during Phase I (*ibid.*, pp. 51–52). “Such caches . . . probably resulted from periodic clearances of the shrines when they became too cluttered with offerings. Since the offerings were the property of the god, they could not be destroyed or sold and so were buried within the sacred precincts” (Nicholson 2005:12; see Davies and Smith 1997:n. 61; Smith 1974:55–56).

The popular votives—situlae and model offering trays—“were found both lying scattered in surface debris [referred to as *redim* in Green 1987], and, more frequently, deliberately buried in numerous caches. . . . The caches were mainly located immediately inside or outside the west enclosure wall. They were mostly made in accumulating drift-sand and their archaeological stratigraphy and date of deposition is therefore very uncertain. . . . [T]he date of deposition of the caches has no necessary relation to the date of manufacture of the objects in them” (Davies and Smith 1997:123 and n. 61; cf. Smith 1974:57).

<sup>42</sup> There may have been a brief period of disturbance (ca. 404–393/1 B.C.) at the beginning of Phase II, during the transition between the end of the Twenty-seventh (Persian) Dynasty and the beginning of the native Twenty-ninth Dynasty. Another disturbance seems to have followed Phase II, with the ending of the Thirtieth Dynasty and the beginning of the second Persian domination (the Thirty-first Dynasty).

When they were found, some of the individual objects in the caches were corroded together. The caches excavated at Saqqara present us with, by far, the largest collection of votives discovered until that time. Green's catalogue (1987) enumerates the Type III bronze situlae under entries 163 to 446.

My tabulation of the total number of exemplars cited there is roughly 350.<sup>43</sup> Besides these, non-Type III situlae (nos. 178, 191, 232, 366) are catalogued, along with faience ones (nos. 280–285). The documentation for a selection of them consists of photographs and/or roll-out drawings. Metallurgical analyses have been made of nos. 165, 170, and 257.

Green's catalogue proposes dates for each of the situlae, taking into account the available archaeological data connected with their find spots, any diagnostic texts written on them, and stylistic considerations (see p. 2). For the present purpose, we are concerned primarily with the earliest situlae, those that have been assigned to the seventh–sixth centuries B.C. For those attributed to the seventh century, we find them dated variously the “7<sup>th</sup> century” (no. 163), “after 624 BC, reign of [Psamtik I]” (no. 165), “second half 7<sup>th</sup> century” (no. 164), and “late 7<sup>th</sup>–6<sup>th</sup> century” (nos. 169, 170, 174). Both nos. 164 and 165 have texts useful in refining their dates. No. 165 specifies a particular year in the reign of Psamtik I (40 [+x]) of the Twenty-sixth Dynasty, whereas the donor of no. 164 is named Necho, probably in honor of the second king (Necho II) of that dynasty. Building on this foundation, other situlae begin to fall into place. The obvious high quality of the style of no. 163 makes it an excellent candidate to join this grouping. The decoration of one of the slightly later pieces (no. 174), although very worn, displays the highest craftsmanship, while the other two (nos. 169 and 170) are delicately incised.

The group placed next is said to belong to “first half of 6<sup>th</sup> century” (no. 274), “6<sup>th</sup> century” (no. 168), “probably 6<sup>th</sup> century” (nos. 166, 175), and “c. 6<sup>th</sup> century” (no. 173). The father of the donor of no. 274 was probably named after Psamtik I; but the text is a bit garbled, as the scribe or engraver seems to have mixed together elements of the names and titles of both Psamtik I and Apries (589–570 B.C.). Hence it is likely that the situla, undecorated except for the two

<sup>43</sup> This estimate is bound to be at least a little high, because many of the catalogued pieces are not illustrated. With this incredible wealth of material to publish, it is quite understandable that not every piece is documented fully. However, in nearly every case, it is impossible to determine whether the footstalk and calyx are present, nor are the details of any representations of this latter feature specified.

columns of hieroglyphic text, was dedicated during the reign of the third king of the Twenty-sixth Dynasty. No. 168 is another work of high quality, and clearly belongs among the early situlae.

All of the eleven situlae just mentioned are enormous (the range of their heights is 14.25–33 cm) when compared to those of Ashkelon (ranging 6.0–8.5 cm). As presented, the Saqqara collection does not seem to provide very many parallels for the situlae of Ashkelon, Carchemish (their range is 7.8–9.05 cm), and Zincirli (6.7 cm). However, sixty-seven Saqqara situlae (from among nos. 163–279) are within the limits of the size range of the Ashkelon pieces. The decoration of only one of these is illustrated (no. 206), almost all are assigned a date of “3<sup>rd</sup>–1<sup>st</sup> century,”<sup>44</sup> and three are labeled “crude” (nos. 242, 260, and 267).<sup>45</sup> In fact, the style of the decoration of Ashkelon situlae nos. 2 and 7, despite their small size, seems to rival that of some of the earliest Saqqara situlae.

A reexamination of the situlae of the Saqqara corpus, in light of the material from Ashkelon, Carchemish, and Zincirli, might lead to the recognition of additional “crude” Saqqara situlae possibly dating to this early period. If so, we could be justified in assuming these examples were probably produced in the Phoenician settlement at Memphis, and that the imitations we have discussed above might have originated there, too.

In 1995, after the publication of Green’s (1987) book, an area in front of the Falcon Chapel was cleared for further study. In the process, a small rock-cut (early Old Kingdom?) tomb chamber was found near the east enclosure wall of the temple precinct, close to the top of the stairway leading down to the Falcon Catacomb. It had been abandoned when its roof collapsed, and was used much later to hold what turned out to be the largest deposit of bronzes from the whole Sacred Animal Necropolis (Nicholson and Smith 1996a; 1996b; Nicholson 1998b; 2004; 2005). The majority of the finds were corroded together in clumps, and a major conservation effort was required to separate and clean them. Apparently dating to the fourth century B.C., the cache consisted of more than 600 objects, the great bulk of which were situlae (up to 89 percent)—mostly cast, but a few also ham-

mered—along with several additional model offering trays;<sup>46</sup> links of small chains were attached to some of the situlae. Also present were figurines of deities, including Osiris. The cache has not yet been published.

#### Tuna el-Gebel

Kessler (2008:155) comments that, of the bronzes excavated in Egypt (including situlae), a great number of them originate from animal cemeteries. Tuna el-Gebel was the cemetery of Hermopolis/el-Ashmunein in Middle Egypt. There are extensive catacombs beneath the remains of the small early Ptolemaic temple dedicated to Osiris-Baboon (apparently with an associated chapel of Osiris-Ibis). The presence of deposits of Type III situlae recovered in association with the galleries containing ibis burials (the Ibiotapheion) was first called to my attention by Dieter Kessler himself in a presentation he delivered at the 5th Ägyptologische Tempeltagung, held in Würzburg, Germany (23–26 September 1999); see now Kessler and Nur el-Din 2002. He showed a photograph (from the Supreme Council of Antiquities’ archives of the unpublished excavations of Sami Gabra in the 1930s) of a corroded cluster of votive situlae, comparable to those found at Saqqara. There are three areas of pre-Ptolemaic activity at the site: Gallery D dates from the beginning of the Saite period to Persian times; Gallery C (west) was in use from Dynasty 27 into Dynasty 30; and Gallery C (north) dates to Dynasty 30 and the reigns of Ptolemy I–II at the beginning of the Ptolemaic period. Because no further information is available about these situlae, nothing more can be said about them at this time.

#### Dendera

Petrie (1900:28–29, 34, 63–64 and pls. 24, 36; see also 1937:28–29 and pl. 41) found four diverse situlae in a floor deposit (“a trench in the floor”) in the sacred animal catacombs at the site of Dendera. He dates the whole complex to a period extending from the Eighteenth Dynasty to Greco-Roman times, but he found this deposit in the pharaonic structure. The situlae in question are nos. 11–14.<sup>47</sup>

<sup>44</sup> Nos. 216 and 239 are “3<sup>rd</sup>–1<sup>st</sup>(?),” no. 229 (24 situlae) is “4<sup>th</sup>–1<sup>st</sup>,” and no. 279 is “4<sup>th</sup>–2<sup>nd</sup> century.”

<sup>45</sup> The decoration of five others (all “3<sup>rd</sup>–1<sup>st</sup> century”) is also called “crude”: nos. 215, 238 (“very crude”), 252, 264–265. Nos. 215 and 238 are illustrated: no. 238 (height 9.5 cm) is strikingly similar in style to the Ashkelon imitations.

<sup>46</sup> At least some of these were “equipped with a handle which would have allowed them to be hung up in the shrine” (Nicholson 2004:9).

<sup>47</sup> As correctly stated in Petrie 1900:34. On p. 29, however, Petrie mistakenly lists them as nos. 10–13.

Two other bronze caches were located elsewhere at the site, containing items dating only to the Nineteenth Dynasty. Petrie (1900:34) lists situla no. 10 as one of these.<sup>48</sup> Petrie speculates that these New Kingdom pieces probably represent property stolen from local temples, left behind in stashes which the ancient robbers had been unable to access again.

Three of the situlae found in the Dendera floor deposit (nos. 11, 12, 14) are Type III. The fourth situla from this deposit (no. 13) is Type IV.<sup>49</sup> The available documentation for the Type III situlae consists of photographs of all of them, as well as two very unreliable sketches.<sup>50</sup> The scale of the photographs (Petrie 1900:pl. 24) is given as 1:4. So the maximum height of the body of these pieces may be estimated at ca. 13.2 cm (no. 11), 16 cm (no. 12), and 7.6 cm (no. 14; with the bail, the whole situla measures 10.4 cm).

#### Armant Bucheum

A Type III cast bronze situla was found during excavations conducted in the area of the Bucheum at Armant, located in the Theban nome on the west bank of the Nile south of Luxor. The sacred bulls of the Theban Montu were buried in catacombs (the Bucheum) near the Temple of Armant, which dates from the reign of Nectanebo II (360–343) of the Thirtieth Dynasty. The catacombs were in use until at least the reign of Constantius II (A.D. 337–361—see Ray 2000/2001:349). Unfortunately, many earlier tombs in the Armant cemeteries were destroyed, and their contents scattered, during the construction and extension of the Bucheum. This fact, added to the extensive looting the site has suffered since, means that most of the artifacts were recovered from heaps of rubbish, making it impossible to assign any datable archaeological context to this situla (Mond and Myers 1934, vol.1:99).

The documentation consists of photographs and an artist's drawing of the piece, as well as a roll-out of its decoration (Mond and Myers 1934, vol. 3:pls. 84, 161).<sup>51</sup> The dimensions are not given. The situla

<sup>48</sup> Cf. Petrie 1937:29 and pl. 41 (the unnumbered vessel with the scale 1:6). See Radwan (1983:151 and pl. 74); this vessel is Lichtheim 1947:pl. 4, fig. 12.

<sup>49</sup> See the rough rendering of Petrie 1937:pl. 41, fig. 73. Lichtheim 1947 cites no. 13 on p. 175, n. 50.

<sup>50</sup> Cf. Petrie 1937:pl. 41, figs. 71 (= no. 12) and 72 (a conflation of nos. 11 and 14). Lichtheim's (1947) own drawings of the basic forms of nos. 11 and 12 are the sources for her pl. 4, figs. 17 (no. 11) and 16 (no. 12), respectively.

<sup>51</sup> A chemical analysis of the bronze was conducted (Mond and Myers 1934, vol. 1:105–6).

terminates in the representation of the calyx of the blue water lily and the footstalk; the bail is well preserved. There is a single register of decoration: the donor stands with upraised arms behind an offering table (surmounted by a blue water lily), facing Min-Amun (followed by his cultic garden), Horus, Isis, and Nephthys. Both Horus and Isis hold *was*-scepters; Nephthys extends one arm toward the shoulder of Isis in support of her sister.<sup>52</sup>

A Type I situla was also found at another part of the site in similar circumstances (Mond and Myers 1934, vol. 1:98, 105; vol. 2:22; vol. 3:pls. 84–85, 161). The vessel was hammered, and the decoration is incised: the donor is depicted before a representation of Osiris, Horus ("son of Isis and Osiris"), and Isis. The hieroglyphic inscriptions include a brief text pertaining to libation with water (Evrard-Derriks and Quaegebeur 1979).<sup>53</sup>

#### The Osiris Figurine

A bronze Osiris figurine was found in Room 413 of Building 776 in the winery (Grid 38 Square 84 Layer 295), a room immediately adjacent to Room 312, in which the situlae were found. It is cited in *Ashkelon 1* (pp. 281–82) in association with the redating of Iliffe's (1936) Ashkelon hoard (see also Ilan 2000: 66–69).<sup>54</sup> It is solid cast, with a tang for mounting in a base and a double ring attached at the back of the neck for suspension from a chain. Osiris is depicted in his typical standing pose. Bearded, he wears the *atef*-crown (the white crown flanked by plumes) with a protective uraeus. His torso is shrouded, except for the hands, which hold the shepherd's crook and "flail"—symbols of kingship—across his chest.

We have already had occasion to refer to the discovery of Osiris figurines together with situlae at Carchemish and Saqqara (the 1995 find). Other figurines were recovered at Saqqara in 1964–1976 (Smith 1974:50–56), and Teeter (1994:259 and n. 12) reports that four bronze Osiris figurines (and the head of another) were recovered at Medinet Habu along with the model offering tray she publishes. Large numbers of bronze Osiris figurines were also recovered during the old, unpublished excavations at Tuna el-Gebel (see Kessler 2008, especially pp. 157–60).

<sup>52</sup> This piece is now in the Louvre (Porter and Moss 1937: 159).

<sup>53</sup> This piece is now in the Cleveland Museum of Art (accession no. 1932.32; Berman 1999:492–93, 583).

<sup>54</sup> Their archaeological context is unknown, but these objects were possibly buried in advance of the impending Babylonian attack on Ashkelon.

**Osiris Figurine** (Ashkelon reg. no. 44445; Israel Museum inventory no. 97-3452)*Length:* 9.05 cm (including the tang)

Scale 1:1

The Ashkelon cache is clear evidence that there was a shrine or temple complex nearby, with which it was associated. When that cult place was established and whether it was used primarily by Egyptians or Egyptianized natives cannot be determined at this distance. But it is not going too far to suggest that the winery could easily have been part of a temple complex connected in some way with the cult of Osiris (or Isis and Osiris). Osiris was the god of vegetation and resurrection. He was associated with wine in the pharaonic period; and in the Greco-Roman period he was assimilated to Dionysos—in Egypt and elsewhere in the Mediterranean world. The death of the grape and the miraculous rebirth of its corrupt fluids as wine were certainly within his purview. In an expanded version of Pyramid Texts Spell 32 (discussed above) in Theban tombs 100 and 119 (see Bissing 1908:181–82), there is a reference to Isis and Nephthys bringing Osiris a libation consisting of “wine belonging to the Great Ones who came forth from the Primordial Waters.”

*Conclusions*

This is the place to attempt to tie together the various strands encountered in the preceding presentation. Because of the complexities involved, the best way to proceed is to summarize the findings, while looking at some of the details. Formally, the Type III situla is derived from the calyx of a water lily. It originated in the Twenty-sixth Dynasty,<sup>55</sup> and its contents symbolized the refreshing waters of the inundation, the overflowing Nile. For the remainder of the pharaonic period it was not a breast symbol, a phallic symbol, or a miniature amphora;<sup>56</sup> and it held neither milk nor semen.

<sup>55</sup> There is so far no direct evidence for its origin in the Twenty-fifth Dynasty.

<sup>56</sup> See the Kourion situla commentary and the description of a newly acquired Type III situla at the Michael C. Carlos Museum, available online at <http://www.carlos.emory.edu> in January 2010 (it is described as having a “button base”). I have benefited from a brief conversation with Peter Lacovara on the subject of this situla.

Lichtheim (1947:172–73; cf. Blackman 1912:71 and n. 3; Blok 1930:219) describes *situlae* as “ceremonial vessels used in the temple as well as in the mortuary cult of the private tomb. . . . [T]he offering of a liquid as drink to the deceased effects his body’s revivification and sustenance. In the ceremony of revivification . . . water is the primary liquid, and milk plays a minor part. . . . [T]he libation of a liquid over the offering table constitutes an act of purification. But in this ceremony water is the main (if not the sole) agent. However, the aspects of revivification, sustenance, and purification overlap and intermingle to a considerable extent.”

Besides the use of *situlae* as formal cult vessels, we have seen that many Type III *situlae* were deposited as votives, popular offerings presented at the shrine of a deity in the hope of receiving some personal benefaction.<sup>57</sup> Lichtheim (1947:172) describes the “two different functions” of *situlae* represented in private tombs: “the aspersion of milk on the path of the funeral procession and . . . the offering of drink to the deceased.” But she warns that it is not from the use of *situlae* as depicted in private funerary cult that their use in the temple is to be deduced (*ibid.*, pp. 175–76, n. 51). She concludes that it was only a particular kind of *situlae*, depicted in tombs and temples and designated specifically as *mhr/mhn*-vessels (“milk jars”), that actually functioned as containers for milk (*ibid.*, p. 173; cf. p. 171, n. 13 and pl. 4, fig. 2—for these vessels, see also Blok 1930:187–88; cf. Teeter 1994:264, n. 22).

Nefertum best represents the blue water lily cup (i.e., the *situla*) filled with the waters of the inundation, which flow forth from Osiris. On the other hand, the water lily is in itself also a solar symbol. The symbolism of the blue water lily and the white water lily is complementary: the blue water lily opens around midmorning and closes by midafternoon, responding to the movement of the sun. The white lily opens in the early evening, remains open throughout the night, and closes by midmorning.<sup>58</sup> The other gods represented in the *situla*’s decoration also belong to the merged cycles of the sun god—various manifestations of Amun(-Re)—and the vegetation god Osiris. Amun and Osiris were alter egos, sharing between them the powers of life and death, together

guaranteeing fertility, regeneration, rebirth, and resurrection.<sup>59</sup>

An ithyphallic Amun characteristically has priority of place on the *situlae*, at the head of the rank of deities to whom the donor presents offerings; and Isis and Nephthys are “the deities most commonly depicted with him” (Green 1987:66).<sup>60</sup> We have been referring to this god by the generic designation Min-Amun, although this name does not actually occur in *situlae* texts. There he is most frequently identified as Amenemopet (the Amun of Luxor—see Bell 1997: 156–57, 174–79), although he also may be labeled Amun-Re; at Kawa he is invoked as Amun-Re Kamutef. A ram-headed Amun is depicted on Saqqara no. 197 (Green 1987).<sup>61</sup> Otherwise, Amun-Re appears in his usual Karnak form.

In discussing water and milk as possible contents of Type III *situlae*, Pamminger (1990:96–97) notes that the milky fluid in the stems of the romaine-like lettuce (*Lactuca sativa longifolia*), grown in the cultic garden of Min-Amun, symbolizes the semen of the ithyphallic gods Min and Amun. He further speculates that milk could have been used in *situlae* to represent semen. But he certainly does not suggest that actual semen could be contained in them.

However, in the immediate aftermath of the discovery of the Ashkelon *situlae*, the possibility that they contained semen was seriously considered (Stager 1996b:62; cf. Maeir 2008:49). In the caption to a photograph in Stager (1996b:61), the *situlae* are described as “phallic-shaped” (cf. Maeir 2008:50; in the caption on the same page, they are described as “phallus-shaped”). Maeir (2008:49) goes on to conclude “that these vessels were meant to represent uncircumcised, non-erect phalluses.” Following up on Maeir’s work, Leith (2008:34) identifies the Ashkelon *situlae* as having “the form of uncircumcised penises.”<sup>62</sup>

<sup>59</sup> For the mixture of Osirian and solar cosmological representations on *situlae*, see Blok 1930:213, 218; cf. Hornung 1990:119–24. In the Opet Temple at Karnak, an ithyphallic Amun-Re—identified as the *ba*-form of Osiris and depicted with a plumed human head and bird’s body—flies above the corpse of Osiris, reinvigorating it by the strength of his own creative powers (see Bell 2008:26).

<sup>60</sup> The “most commonly invoked deity is Isis, either alone or together with other deities such as Osiris and Apis” (Green 1987:66).

<sup>61</sup> In Nubia, Amun (in his ram manifestation) was regarded as the source of the inundation (see Bell 1997:162 and n. 119, 177–78 and n. 162).

<sup>62</sup> I am grateful to Daniel Master for providing me with digital versions of these two articles.

<sup>57</sup> Karageorghis (1982:140) offers the following description of votive offerings: they “are substitutes for the worshippers, and their presence in the sanctuaries is a permanent reminder to the god of their gift and prayer.”

<sup>58</sup> Once again I am grateful to Clair Ossian for his assistance in formulating this statement.

In reality, in the whole prior literature of *situlae*, there is only one piece about which it has ever been claimed that it takes the form of a phallus (Michaïlidès 1951:293–94, 303–6 and pl. 3; de Rachewiltz 1958:90, 86, fig. 7; cf. 1960:118). Michaïlidès had a substantial private collection of Egyptian antiquities in Cairo when he died in 1973. This *situla*, which he admits is unique, was among them; and he illustrates it in his article.<sup>63</sup> Its present whereabouts are unknown. The other artifacts he publishes also come from his own collection. Described as originating in the Fayoum<sup>64</sup>—with a small support stand attached to its base<sup>65</sup>—the *situla*'s height (without this support) is given as 10.5 cm; the suspension rings for the bail are missing. It features a lion-headed spout, so it is quite unlike any *situla* we have studied here.

From the published photographs it is impossible to say whether it was cast or hammered. Apart from the apparent incised indication of a *glans penis*, its smooth sides are undecorated. Michaïlidès makes reference to Lichtheim's 1947 article, so he believes he does not need to comment on *situlae* in general. However, it is clear that he knows about the prominent position occupied by the ithyphallic Amun in the decoration of most Type III *situlae*, although he does not specifically mention this fact. He uses his *situla* as a jumping-off point, but—except for the pages cited—the rest of the material he has compiled is presented in an extraordinarily diffuse style that makes it very difficult to understand its relevance to *situlae*. Fortunately, Griffiths (1975:208) has had the patience to distill the results of his argument into a single lucid sentence: “Michaïlidès . . . urges that in the *situlae* of the Late Era three symbolisms are conjoined: solar renewal, refreshment through water, and sexual power.”

Lichtheim (1947:175–76) points to “a brief version of the [libation] formula . . . incised on the neck of Cairo *situla* no. 3463” (Bissing 1901a).<sup>66</sup> This vessel, dated to Apries (589–570 B.C.), contains a version of Pyramid Texts Spell 32. Bissing (*ibid.*) describes the inscription as “half obliterated,” but enough traces survive to make this identification certain. For the

<sup>63</sup> I would like to express my appreciation to May Trad and Mamdouh el-Sebai in Cairo for helping me obtain a digital copy of this article.

<sup>64</sup> This provenance, if accurate, could possibly suggest a Roman date for this piece—if it should actually prove to be genuine.

<sup>65</sup> Cf. Saqqara no. 175 (Green 1987) and Cairo 3467 (Bissing 1901a).

<sup>66</sup> Lichtheim also cites an unpublished Type III *situla* (OIM 10665) with “a lengthy libation formula in incised hieroglyphs and no relief decoration at all.”

application of various libation texts and representations to *situlae* assigned Saite–Ptolemaic dates, see Blok 1930:197–211; Bissing 1901b:41–43.

Pyramid Texts Spell 32 (§§22–23) is a libation text, involving the presentation of “cool water” from the region of the First Cataract; it continued in use for a very long time (see T. Allen 1950:63–64). Besides the Old Kingdom royal pyramids, it occurs in the Middle Kingdom tomb of Senwosretankh at Lisht (J. Allen 2005:15–16 and n. 1) and the Coffin Texts (J. Allen 2006).<sup>67</sup> It is found next, with minor variation, in the Eighteenth Dynasty Theban tomb of Sennefer (no. 96; Virey 1900:86–87; Bissing 1903).<sup>68</sup> Spell 32 recurs, with some minor variations, in several Saite tombs located around the pyramid complex of Unis at Saqqara (Soukiassian 1982).<sup>69</sup> They date to Apries (Amentefnakht) and Amasis (570–526 B.C.; Psamtik, Tjanenhebu, Pedienisis, Hekaemsaf, and Pedineith[?]). The same text is to be found in Theban tomb 33 (Pediamenopet; Bissing 1908:183), and on at least one Saite offering table (Cairo 23099; Kamal 1909).

Whenever Isis and Nephthys occur together in any context, there is always an Osiris figure or substitute—however represented—associated with them (cf. Lévai 2007:48–51). So the depiction of Isis and Nephthys together on Type III *situlae* is sufficient to indicate Osiris's presence as well, despite the infrequency of his appearance among the *situla* deities.<sup>70</sup> Osiris is the personification of the Nile, and its source—specifically the inundation, arising out of the primordial abyss (cf. Baines 1985:120; for the Greco-Roman period, see Wild 1981:69, 110–13, 116), conceptualized in the divine fluids exuding from his own dead flesh (Blackman 1912:71, n. 3; Blok 1930:206–10).<sup>71</sup> Therefore, Osiris is also the Nile water contained in the *situla* (cf. Blok 1930:198–99; Wild [1981:116] notes that, in the Greco-Roman period, the jar containing Nile water could itself become sa-

<sup>67</sup> It also develops into Coffin Texts Spells 64 and 895.

<sup>68</sup> An abbreviated and somewhat revised version of the text is squeezed into the decoration of the late Eighteenth Dynasty tomb of Sobekmose at el-Rizeiqat, to the south of Luxor (Hayes 1939:18 and pl. 5). An expanded version occurs in two Eighteenth Dynasty Theban tombs, nos. 100 (Rekhmire) and 119 (anonymous): see Bissing 1908:181–82.

<sup>69</sup> See now Hussein 2009. I thank Jim Allen for providing me with the full title of this Brown University dissertation.

<sup>70</sup> He is appealed to on Saqqara nos. 181, 188, and 278, and he promises to bestow benefactions on no. 273 (Green 1987).

<sup>71</sup> See Pyramid Texts Spells 436, 553, 676, and 679; cf. 424—all addressed to the king *becoming* Osiris—and 32, 33, 423; cf. 357 and 460—all addressed to the king *as* Osiris.

cred, as the body of Osiris)! This is confirmed not only in other features of the decoration, but also by the symbolism and function of the situlae themselves.

Hapy (a “fecundity figure”) also brings forth the inundation. He is represented on Saqqara situlae nos. 163, 165, and 168 [twice] (Green 1987; see Baines 1985:312–13); for Osiris-Hapy (Osiris equated with Hapy), see also Blok (1930:206–7). At Philae he is shown in a cavern beneath Biga Island (the Abaton), holding water jars from which the Nile flows (Junker 1913:37, 58; cf. Koemoth 1994:120, fig. 8); elsewhere at Philae water flows from his breast (Junker 1913:61; cf. Koemoth 1994:118, fig. 7; Baines 1985: 118–20—Baines specifically rejects the idea that the fluid could be milk).<sup>72</sup>

The tradition that Isis suckled Osiris as part of his resurrection ritual goes back to the Pyramid Texts.<sup>73</sup> In Spells 406, 413, and 663 Isis’s milk occurs in contexts clearly involving inundation water; in Spell 42, the *mnz*’-vase (used to contain either milk or water) occurs (as also in Spell 553, where Nephthys does the suckling). For milk as an agent of rejuvenation in temple ritual, see Bell 1985:265–66 and n. 76. However, none of this implies that milk was ever used in Type III situlae during the pharaonic period.

With the ascendancy of Isis in the Greco-Roman world, a situla became one of her major symbols—along with a sistrum. This association led to a significant reinterpretation of the situla’s meaning and usage. Then, and only then, the situla was imagined to be a breast, and it is typically understood to have contained milk.<sup>74</sup> For sample representations of such situlae in Alexandrian art, see Wilkinson 1992:48; Venit 2002:150; for a gilded silver situla from Pompeii, see Bianchi et al. 1988:217–18.

For our purposes, the best summary treatment of the situla in “breast form,” and its connection with milk, is to be found in Griffiths 1975:82–83, 208–11. The transition began at the Temple of Isis (founded under Amasis) on Philae Island in the region of the First Cataract, the mythological source of the Nile flood since the earliest days of Egyptian history. No

later than the early Roman period the cult of Isis at Philae became intertwined with that of Osiris at the ancient Abaton (“Taboo Place”), the mysterious cavern located on the adjacent Biga Island—one of Osiris’s many burial places throughout Egypt (Arnold 1999:221, 236–37, 264). Lesko (1999:189; see Valbelle 1981:57 [§407G]) recalls an early Ptolemaic hymn to Isis-Satis at Philae, in which the goddess is connected with the Abaton and Biga. Here she is clearly acting in the role of Universal Creator: she is called the “giver of life,” and is said to be “the one who pours out the inundation.”<sup>75</sup>

Junker (1913) translates and interprets two versions of a decree pertaining to the rites to be conducted in conjunction with the mysteries of Osiris at the Abaton. The god Thoth himself is identified as the author of the decree. The texts are inscribed on the north wall of the “Gateway of Hadrian” at Philae, near the depiction of the Abaton (referred to above). The unique rituals described and illustrated at Philae also took place in the Lower Nubian temples of Kalabsha, Dabod, Dendur, and el-Dakka. All of these shrines were enlarged or rebuilt under Augustus, and became dependencies of the Philae Isis Temple.

The best synopsis of Junker’s work is that of Griffiths (1975:211; cf. Lichtheim 1947:173, n. 31): “Libations of milk were conspicuous in the rites connected with the Abaton on the Island of Bigeh; daily libations of milk were there decreed. . . . Junker gives a detailed analysis of the use of milk in these rites and shows that the libations included those poured on offerings and on sacred trees near the grave of Osiris; the constant symbolism attached is the conferment of life and renewed vigour; every ten days [i.e., once a week] Isis herself is responsible for the libation in a special visit.”

But the situation is a bit more complicated, leading Green (1987:66) to conclude: “It is not possible to say whether the [Type III] situlae were intended to contain water, or milk libations, as Junker . . . has suggested.” So we need to look at what Junker actually says. First it should be noted that Type III situlae are not involved at Philae. Lichtheim (1947:173, n. 35) cites Cairo situla no. 3468 (Bissing 1901a—Radwan [1983:148 and pl. 72] tentatively dates this vessel to the Eighteenth Dynasty) as an actual example of the type of situla depicted in the decoration of Philae.<sup>76</sup> For convenience, I will designate them Type

<sup>72</sup> For a hieroglyphic writing of the name of Isis—especially closely associated with Osiris on Philae—determined with the water-sign, see Blok 1930:211, n. 3.

<sup>73</sup> See Spells 42, 268, 406, 413, 661, 663. Nephthys also suckles Osiris, sometimes in conjunction with Isis (Spells 268, 661—for the implications of Nephthys’s placing her hand on Osiris in this context, cf. Spell 565), and sometimes alone (Spells 365, 553, 565).

<sup>74</sup> Nevertheless, the Greco-Roman “breast-shaped” Isis situla (including the “nipple”) is derived directly from the calyx-based water vessel, and is itself also associated with water libations.

<sup>75</sup> The hymn is preceded by the making of a libation to the goddess.

<sup>76</sup> A situla of the same shape is represented among the offerings presented by Thutmose III before Amun-Re at Karnak (Wreszinski 1923–1942, vol. 2:pl. 25c [Beibild 1], no.

A situlae. Their distinguishing characteristics are a flat bottom, a wide shoulder, and a neck of variable length. For representations of such situlae at Philae and Kalabsha, see Junker 1913:10 (fig. 2), 16 (fig. 4), 20 (fig. 6); for their counterparts at the Temple of Dendur, see Aly et al. 1979:pls. 24 and 41; Aldred 1978:27. Ramesside variants include the long-necked situlae designated *mhr*-vessels at Luxor Temple (Kuentz 1971:19 and pls. 21 and 34—the hieroglyphic text labels the man carrying the shoulder pole or “yoke” (from which the situlae are suspended) as the “Bearer of the Milk Jar[s] of Amunet”; cf. Teeter 1994:264, n. 22); see also the exemplars illustrated in *Medinet Habu* 3:pl. 168; 6:pl. 480.

Junker (1913:9–21, 50–54) begins by saying that milk had a special role to play in the worship of Osiris at Philae that is not attested elsewhere. He then pursues an in-depth examination of milk libations at Philae (and, of course, the specified Nubian temples), and traces their development and relationships with traditional milk offerings and water libations. He distinguishes between (1) the presentation of milk as a drink offering to a god and (2) the pouring of milk over the god’s laden offering table. The former rite is attested frequently in temples of all periods throughout Egypt, and makes use of two generic milk jars (hieroglyphic sign W 20 and variants). In some of the accompanying texts the king—who may be called “the son of the Lord of Herds”—brings milk (“what is in the breasts of your mother”) to Osiris—who may be called “the Ruler of Milk”—in order to revitalize his corpse and rejuvenate his limbs.

When the second rite was performed at Philae the king could be shown pouring milk—as specified in the accompanying label—from one or more situlae. In the traditional rite of “censing and libating” it was “cool water” that was poured from a tall jar (hieroglyphic sign W 15 and variants) over the provisions on the offering table, not only as a drink offering, but also to purify the offerings and consecrate them to the god’s use. The two locales where milk was to be poured out at the Abaton are specified as the sacred “grove or garden” of Osiris—where his *ba* rested—and the cavern-like sanctuary where his body lay. The use of milk in the libation rite occurs only here, under very specialized circumstances. Sometimes

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103); another is depicted in a scene of Ramesses III offering before Nefertum at Medinet Habu (*Medinet Habu* 7:pl. 523). Compare two similarly shaped situlae carried on a “yoke” for presentation before the shrine of the resting barque of Amun-Re in Theban tomb 409 (belonging to a Chief Accountant of Cattle of All the Gods of Thebes under Ramesses II; Negm 1997:pls. 10–11).

milk was prescribed (as indicated in the accompanying label), while water was represented; and vice versa. On the other hand, the representation could also combine the use of both types of vessel in a single scene. If the necessity arose, Osiris could be reassured that the “cool water” contained in the libation jar brought by Isis was in reality milk!

To conclude, we can ask what actually happened when Egyptian practices involving situlae were transported outside of Egypt, beyond the Nile Valley. The problem was handled in a variety of ways. On occasion, genuine Nile water seems to have been shipped abroad (for the Greco-Roman period, see Wild 1981:91–92); or other waters were substituted (for the Greco-Roman period, see Witt 1971:61). On the other hand, since Osiris was immanent in whatever water was placed in the situla, that water magically *became* Nile water.

On the island of Delos, the Inopus River was conceived of as a mystical extension of the Nile for the purposes of rituals conducted at the Sarapis-Isis temple (Delos A) constructed there in 210–200 B.C. An underground water crypt was linked directly to the Inopus-Nile. The temple was founded by an Egyptian priest from Memphis; it continued in use until 88 B.C. (Wild 1981:35–36, 63–64, 171–72, 214). An Isis-Sarapis temple (Delos B) was situated well above the level of the river, so that “when the Inopus was in flood, servants or devotees of the sanctuary carried up this ‘new water’ in jars to fill the basin” (Lesko [1999:191] points out that the Pompeii Isis temple also had “a cistern holding Nile water”). The Delos temple has been dated to the last decade of the third century B.C. It also seems to have survived until 88 B.C. (*ibid.*, pp. 37, 172–73).

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## 14. FAIENCE AND ALABASTER VESSELS

by Michael D. Press

THE STUDY OF FAIENCE is complicated by confusion concerning terms and materials. The term “faience” itself is confusing because it originated with the glazed pottery of Faenze in Italy, now referred to as “majolica,” which is quite different from the material we call faience. There is often also a confusion between faience and other vitreous materials, namely, glass and “Egyptian blue” (see Nicholson 1998b; Nicholson and Peltenburg 2000:177–78; Nicholson and Henderson 2000:205). All three materials are composed of silica combined with other substances in varying amounts, including alkali (soda), calcium oxide (lime), and copper. They are manufactured by different methods, however.

Faience is a ceramic material, although it is made of silica, not clay. Silica, which constitutes up to 99 percent of the material, gives a faience object its shape and is the source of its special optical properties. Other ingredients, generally lime and soda, serve as binding agents (Nicholson 1998b:50–51). A glaze made of the same substances is then formed over this core, either through application or self-glazing techniques, such as efflorescence and cementation (Nicholson and Peltenburg 2000:177).

Glass and Egyptian blue, on the other hand, are produced by a process in which the ingredients, having been ground into a powder, are sintered (combined through heating). This process is often referred to as “fritting” (Nicholson and Henderson 2000:199). Further confusion is sometimes introduced through the loose application of the term “frit” to the finished product. Strictly speaking, frit refers only to the product of the initial sintering process (Lee and Quirke 2000:109), so it is not an appropriate term for the final product. Nonetheless, the term frit is widely used by Egyptologists as a synonym for Egyptian blue, a vitreous material produced by fritting. Egyptian blue was used both as a pigment and in the production of objects in its own right.

In cross-section, faience can be easily distinguished from Egyptian blue (“frit”) or glass. Faience has a white or gray core and a colored glaze that forms a distinct layer over the core, whereas Egyptian blue is uniformly blue throughout the object and glass is uniformly clear. Faience and Egyptian blue are sometimes hard to distinguish if the glaze has worn off the faience, but even then the whitish core of faience should still make it distinguishable from Egyptian blue.

Finally, it can be difficult to determine where faience was produced. Although it was originally an Egyptian product, faience technology eventually spread over a much broader area. Thus, in the Middle Bronze Age IIB, there was apparently a thriving production of faience in Canaan (Sagona 1980). Closer in time to our corpus, an East Greek production center was probably established on Rhodes by the middle of the seventh century B.C. (Webb 1978).

### *Faience Vessels*

The classification of the faience vessels from contexts dated to the seventh century B.C. at Ashkelon presents a problem. There are no close parallels contemporary with our examples. Although Egyptian vitreous materials such as faience were sufficiently well known in the Middle Bronze Age to spur local Canaanite production (Sagona 1980), nothing like the Ashkelon vessels has been reported from Iron Age contexts in Palestine. In fact, very little faience of any kind has been reported for this period, with the exception of New Year’s bottles. The same is true of alabaster vessels (discussed below). The discussion that follows is therefore of necessity rather tentative and will simply highlight a few key forms.

Two pieces, catalogue no. 2 (reg. no. 46371) and catalogue no. 3 (reg. no. 47333), appear to come from a type of bottle known as an ovoid flask. This type is well represented both in Egypt (von Bissing 1902:38–39) and Palestine, but it is primarily found in contexts dated to the Middle Bronze Age II (see Panitz-Cohen and Maeir 2004:43 and Ben-Dor 1945:103–4 for examples made of local gypsum-alabaster). No examples are known from contexts dated to the first millennium B.C.

There is a comparable piece at the Louvre (Caubet 2007:264) that was found on Cyprus, but it is not from a controlled excavation and it presents a similar problem. Although its form resembles the Middle Bronze Age ovoid flask, such a date would make it by far the earliest Egyptian faience vessel found on Cyprus, where most examples are clearly dated to the Late Bronze Age. It may well be, then, that the ovoid flask type was revived during the Iron Age, perhaps as part of the archaizing trend of the Saite period (von Bissing 1902:xxiv). There was a similar archaizing trend in the case of alabaster vessels, which is discussed further below.

In the case of our examples, however, there may be a better explanation. Both pieces were found in the same fill layer. In fact, given their similar form, color, and decoration, they may be part of the same vessel. Although their find-context is a fill containing much seventh-century pottery, this deposit was immediately above one of the Bronze Age tomb chambers that lie below the seventh-century B.C. marketplace in the Grid 50 excavation area. It is therefore possible that these pieces originated in the tomb itself. It is worth noting that other typical Middle Bronze–Late Bronze faience vessels, though not of the ovoid flask type, were found on the floors of the tomb chambers.

Catalogue no. 4 (reg. no. 39732) is the upper portion of a small jar that has some general similarities to the ovoid flask, although its body is not as slender and ovoid, and the rim is folded, unlike the simpler rim of the ovoid flask. In these respects, it is closer to the example from Cyprus discussed above (Caubet 2007:264) than to the standard ovoid flask form.

Unlike the ovoid flask fragments discussed above (cat. nos. 2 and 3), the context of this jar is secure. It was found in the destruction debris in Room 406 of the marketplace, in the same room where an alabaster kohl pot was found on the floor (see below). This jar probably held perfumed oil, like the ovoid flasks, and so belonged to a range of types made in various vitreous and stone materials to be used for toiletries (e.g., Friedman 1998:119, 213).

Catalogue no. 5 (reg. no. 45406), a fragment of a fish vessel, is similarly difficult to classify. Representations of tilapia (*Tilapia nilotica*), in particular, were very common in Egypt, in a variety of forms and materials. Fish depicted in stone (von Bissing 1904: pl. 8:18549, 18551, 18554), as well as in faience (Friedman 1998:223), were used as platters. But the mouth of our fish is pierced, suggesting that it served as a spout. Bottles made in various vitreous materials were shaped like fish of this form (Friedman 1998: 223). The Archaic Greek faience that was produced on Rhodes included aryballoi in the shape of various animals, notably the tilapia (Webb 1978:pl. 22:941–49). Our fragment does not appear to be wide enough, however, to have been part of an aryballos.

The best parallel, both in form and in date, is the fragment of a fish face found at Khan Sheikhoun in Syria (Du Mesnil du Buisson 1932:pl. 37:244; Caubet 2007:248, pl. 61). The Khan Sheikhoun fish was found in a level attributed to the Neo-Babylonian period. It has been noted that, while the context is contemporary with the Rhodian aryballoi, the fragment does not bear the features of an aryballos: in the position of the aryballos mouth is a suspension hole,

suggesting that the fish served as an amulet (Caubet 2007:248). This would be an amulet of a type produced in the New Kingdom. The discovery of the Ashkelon faience fish, which was found on the floor of a room in the Grid 38 winery, indicates a seventh-century date for the production of such objects.

In general, it is difficult to identify parallels for the Ashkelon faience vessels. Contemporary vessel types in Egypt have not been studied in sufficient detail (the only general study was done by von Bissing more than a century ago). Meanwhile, the number, types, and quantity of these finds are unparalleled in the southern Levant in the seventh century. The Ashkelon corpus therefore provides an important addition to our knowledge of faience production in this period.

#### *Alabaster Vessels*

As with faience, the terminology used to describe alabaster vessels is confusing. The term “alabaster” is used to refer to two quite different types of rock: a type of limestone consisting mainly of the mineral calcite, called travertine by geologists, and a rock consisting mainly of the mineral gypsum, which geologists call alabaster (Ben-Dor 1945:94; Aston 1994:43–43; Aston, Harrell, and Shaw 2000:21–22, 59). Near Eastern archaeologists generally use the term alabaster (or Egyptian alabaster) to refer to travertine, not true alabaster. Some archaeologists (e.g., Clamer 1989) have proposed the alternative “calcite-alabaster” to make the distinction clearer, but this term has not been widely accepted.

Travertine is found in Egypt but not in the Levant. Alabaster, on the other hand, occurs in both Egypt and the Levant; however, it was not normally utilized for stone vessels after the Old Kingdom (Aston 1994: 50–51). All of the Ashkelon vessels are made of travertine and can therefore be reasonably assumed to be Egyptian imports.<sup>1</sup> In this chapter, the conventional terms alabaster (or Egyptian alabaster) are used to denote travertine.

The Ashkelon assemblage consists mainly of the bottle type known as the “alabastron” (cat. nos. 7–11). The term alabastron is used in ceramic studies to refer to a wide variety of forms from the second and first millennia B.C. that are assumed to be copies of alabaster originals. However, in studies of stone vessels the term alabastron is used in a much more restricted fashion. It refers specifically to a teardrop-shaped bottle that is basically cylindrical; it is normally long and slender, although a short and squat

<sup>1</sup> I would like to thank Dr. Stephen Moshier for help in identifying the material of the stone vessels.

“baggy” variant also exists. The most common types display a flaring mushroom lip and two lug handles on the sides (Petrie 1937:14–15; Aston 1994: 166). The earliest datable forms can be attributed to the early Twenty-sixth Dynasty (Petrie 1937:14; Aston 1994:166); that is, the mid- to late-seventh century B.C. As Petrie notes, the alabastron is, in fact, the characteristic stone vessel of the Saite period (Petrie 1937:14; also von Bissing 1907:xxxvi).

Although the alabastron continued in use into the Roman period, the Ashkelon vessels are all early examples of the type. At some point in the Persian period, a variant form developed with a flat instead of a rounded base (Clamer 1989:348). In the Hellenistic and Roman periods, a newer form without mushroom lip and with a ring around the neck replaced the earlier types (Aston 1994:166; Petrie 1937:15). None of these later features is visible in the Ashkelon assemblage, however.

Catalogue no. 12 (reg. no. 40964) is a classic example of the kohl pot (von Bissing 1904:pl. 9). This type is often thought to have disappeared in the Eighteenth Dynasty (Petrie 1937:11; Aston 1994: 146–49). The context of the Ashkelon example is clear, however. It was found on the floor of Room 406, one of the shops in the Grid 50 marketplace, at the foot of a female skeleton. In fact, the Saite period is characterized by a revival of Middle and New Kingdom vessel types in various media (including alabaster) in archaizing forms. Von Bissing (1907: xxxv) specifically notes that the kohl pot, while rare, is among the vessel types revived in this period.

Catalogue no. 13 (reg. no. 48000) is a type of cylindrical jar known as an “oil jar” or “unguent jar” (von Bissing 1904:pl. 1; Petrie 1937:3–5; Aston 1994:99–105). As with the kohl pot, this type, too, is generally considered to have disappeared in the Eighteenth Dynasty (Petrie 1937:5; Aston 1994:99). Von Bissing (1907:xxxv) notes that the cylindrical jar is also among the types revived in the Saite period. The context of our oil jar is less secure than that of the kohl pot, however. It was found in the massive fills below the seventh-century marketplace. Nevertheless, it is likely that the cylindrical jar can be dated to the seventh century, since the vast majority of the material in the fill is of that date.

As a whole, the Ashkelon assemblage consists entirely of toiletry items. The alabastra were used to hold perfume, the kohl pot for kohl (for makeup), and the cylindrical jar for oil. The Ashkelon alabastra are characteristic of Egyptian production in the seventh to sixth centuries B.C. and the other vessels, though rare, are also occasionally attested in Egypt in this period. All of the forms have numerous and precise

Egyptian parallels and constitute a unified corpus attributable to the late seventh century B.C.

#### *General Discussion*

The fact that the Ashkelon assemblage of faience and alabaster vessels can be so closely dated by the Babylonian destruction of the city in 604 B.C. is significant and requires further comment. As mentioned above, faience is rare in Palestine in the Iron Age. In the seventh century, it is almost unattested aside from examples of New Year’s bottles. Similarly, Egyptian alabaster imports to Palestine in the Iron Age are rare and appear to increase only at the end of the period under the Saite regime (Ben-Dor 1945:93).

The alabastron is the characteristic vessel type in this material from the seventh century B.C. onward, so it is the key to understanding the chronology of imports. Although the alabastron form occurs in Egypt in the second half of the seventh century, its distribution outside of Egypt in this period—and specifically in the Levant—is less certain. Generally in the literature, the alabastron is said to be popular in the Persian period (see Stern 1982:149 and 269:n. 20 for discussion and earlier references; for more recent publications of Persian-period contexts, see Clamer 1989:348; Bennett and Blakely 1989:299).

Some have suggested, however, that the type first appears in the Levant before 600 B.C. (e.g., Stern 1982:149; 2001:527). The first evidence that this type might predate the Persian period came from a group of Ammonite tombs in Jordan that contained alabastra made of Egyptian alabaster, as well as pottery imitations, at Amman (Harding 1945:72; 1953:56–57, pl. 7:46, fig. 23:126–30; Hadidi 1987:fig. 17), Meqabelein (Harding 1950:44, pls. 15:13, 16:12–16), and Tell el-Mazar (Yassine 1984:69–72, 83–84, figs. 6:4–5, 46:8–11, 47:12–15, 52:61–63). The dating of this tomb series has been debated, however, with the dates originally assigned by Harding as early as the eighth century (1945:69, 79) lowered to the late seventh century (Henschel-Simon 1945:80) or even later (Sinclair 1954–1956:51–52; Yassine 1984:13–14, 69–70; Hadidi 1987:101–2). Even though the precise chronology of the series is unclear, the pottery and alabaster alabastra from the tomb of Adoni-nur, at least, must be dated to the seventh century on the basis of the reference to Amminadab on the Adoni-nur seal (Harding 1953:48–72; Ibrahim 1975:74).

More recently, additional examples have been discovered that must predate the Persian period. These include alabaster and pottery alabastra found in tombs at Ketef Hinnom in Jerusalem, which are dated by Barkay (1994:98–99) to the Babylonian period.

Farther afield, an alabastron was found in a bothros in Floor 2A (ca. 725–550 B.C.) at Kition (Karageorghis 1999:77, pl. 36), and a large (50-cm-tall) alabastron of Egyptian alabaster was among the grave goods from Tomb 19 at Laurita, Almuñecar, in Spain (Aubet Semmler 1999:292). In Israel, the only example, to my knowledge, that can be dated to the seventh century B.C. (aside from the Ashkelon group) is a fragment of an alabastron made of Egyptian alabaster from Ashdod Stratum VI, which is one of two alabaster vessels from this stratum (Dothan and Ben-Shlomo 2005: 233, fig. 3.110:5–6).

The Ashkelon assemblage is thus significant for two reasons. First, it is securely dated to the late seventh century, clearly indicating (along with the Ashdod example) that the alabastron type was already being imported to Palestine at this time. Second, it is remarkable for the number and diversity of vessels. Most of the other deposits prior to the Persian period consist of single examples of alabaster vessels or of pottery alabastra. The large number of alabastra from seventh-century B.C. Ashkelon makes this assemblage unique, as do the other forms found in it. Clamer (2007:629) notes that the kohl pot is rare in Palestine even in the Middle and Late Bronze Ages, when it is common in Egypt. In the seventh century, on the other hand, both the kohl pot and the cylindrical jar are rare in Egypt, and to my knowledge no other examples have been found outside Egypt.

The most interesting parallel to the Ashkelon corpus is to be found in House D at Carchemish (I am grateful to Catherine Beckerleg for bringing this to my attention). There, in the Babylonian destruction—also dated to 604 B.C.—was found a series of alabaster vessels, including at least one described as an alabastron (Woolley 1921:129), which is unfortunately not illustrated. In addition to the alabaster vessels, other objects of Egyptian origin were found, including bronze figurines and situlae, and faience New Year's bottles (Woolley 1921:123–29). This assemblage as a whole is paralleled very closely at Ashkelon (see chapter 13 in the present volume and Iliffe 1936). Each type of Egyptian object is present at both Carchemish and Ashkelon, and an alabastron (cat. no. 8; reg. no. 44500) was found in Room 312 of the Ashkelon winery together with bronze situlae.

The finds from House D at Carchemish were interpreted by Woolley (1921:126) as indicating the house of a “wealthy Hittite” with close ties to Egypt. Others have concluded that they indicate the presence of an Egyptian garrison (e.g., Leahy 1988:302). The nearly identical suite of finds at Ashkelon should be interpreted along similar lines, indicating very close ties with Egypt in the late seventh century B.C. The general scarcity elsewhere of the alabastron form, and of alabaster generally, outside of Egypt before the sixth century B.C. are best seen, in my view, as a further indication of this special relationship.

**Catalogue of Faience and Alabaster from Contexts Dated to the Seventh Century B.C. at Ashkelon**

FAIENCE VESSELS

**Catalogue no. 1**

Registration no.: 39477

Year excavated: 1992

Findspot: Grid 50 Square 58 Fine-grid 12 Layer 262

Dimensions: 23 × 32 mm

Thickness: 10 mm

Material: Faience

Form: Bowl

Remarks: Rim fragment. White ground with black glaze-painted decoration on exterior, interior, and rim.



Scale 1:1

**Catalogue no. 2**

Registration no.: 46371

Year excavated: 1995

Findspot: Grid 50 Square 48 Layer 462

Dimensions: 40 × 32 mm

Thickness: 8 mm

Material: Faience

Form: Ovoid flask

Remarks: Body fragment. Light buff ground with brown glaze-painted criss-cross lines on exterior. Glaze-painted decoration on exterior, interior, and rim.



Scale 1:1

**Catalogue no. 3**

Registration no.: 47333

Year excavated: 1996

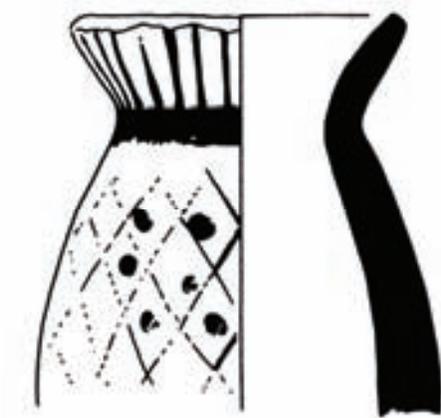
Findspot: Grid 50 Square 48 Fine-grid 42 Layer 468

Dimensions: 53 × 45 mm

Thickness: 7 mm

Material: Faience

Form: Ovoid flask

Remarks: Rim and upper body fragment (probably from the same vessel as cat. no. 2).  
Light buff ground with brown glaze-painted lines on exterior.

Scale 1:1

**Catalogue no. 4**

Registration no.: 39732

Year excavated: 1992

Findspot: Grid 50 Square 49 Fine-grid 13 Layer 364

Dimensions: 57 × 60 mm; rim diameter 40 mm

Thickness: 6 mm

Material: Faience

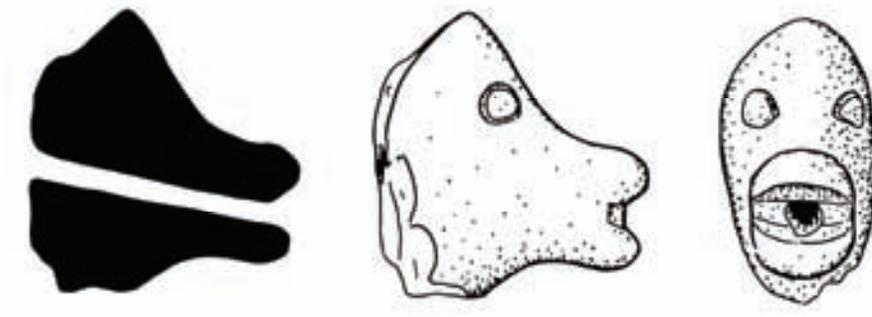
Form: Small jar

Remarks: Rim, neck, and partial shoulder.  
White glaze with gray core.

Scale 1:1

**Catalogue no. 5**

Registration no.: 45406  
 Year excavated: 1995  
 Findspot: Grid 38 Square 84 Fine-grid 48 Layer 413 Feature 413  
 Dimensions: 36 × 35 mm  
 Material: Faience  
 Form: Fish vessel  
 Remarks: Fragment of fish vessel (face only). Incised circles for eyes. Hole from mouth to back of head. Light buff ground. Light gray core.



Scale 1:1

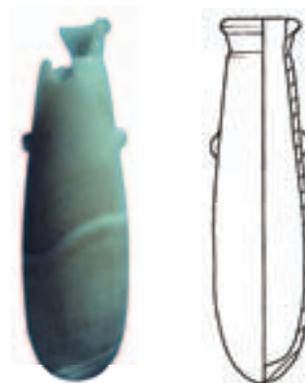
**Catalogue no. 6**

Registration no.: 47374  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Material: Egyptian blue ("frit")  
 Form: Unknown  
 Remarks: An unidentifiable body fragment. No drawing or photograph is available.

## ALABASTER VESSELS

**Catalogue no. 7**

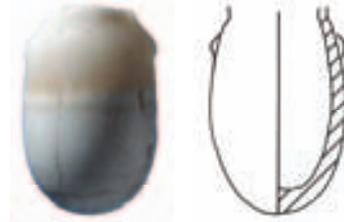
Registration no.: 39013  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 3 Layer 262  
 Dimensions: 97 × 27 mm; neck diameter 14 mm  
 Material: Alabaster (travertine)  
 Form: Alabastron  
 Remarks: A nearly complete cylindrical alabastron. Two lug handles on the sides. Part of rim and neck missing. Light tan with white and tan bands.



Scale 1:2

**Catalogue no. 8**

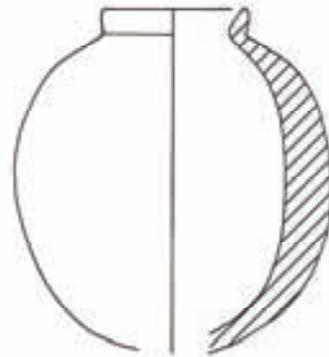
Registration no.: 44500  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Fine-grid 55 Layer 386  
 Dimensions: 55 mm (preserved height)  
 Material: Alabaster (travertine)  
 Form: Alabastron  
 Remarks: Several fragments, partially restored, of a baggy alabastron. Preserved neck to base, with half of body and most of base. Two lug handles on the sides. Light tan with white bands.



Scale 1:2

**Catalogue no. 9**

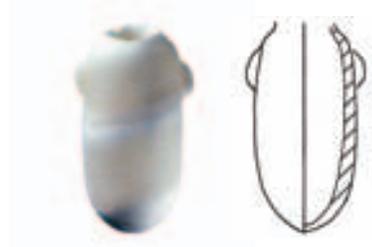
Registration no.: 45613  
 Year excavated: 1995  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions: 95 × 77 mm  
 Material: Alabaster (travertine)  
 Form: Alabastron  
 Remarks: Large fragment of a jar, probably a baggy alabastron. Fragment extends from base to neck. Lug handles not preserved. White with tan and brown bands.



Scale 1:2

**Catalogue no. 10**

Registration no.: 46518  
 Year excavated: 1996  
 Findspot: Grid 50 Square 56 Layer 212  
 Dimensions: 55 × 30 mm; inner mouth diameter 12 mm  
 Material: Alabaster (travertine)  
 Form: Alabastron  
 Remarks: Complete body of cylindrical alabastron, broken at neck. Lug handle on each side. Light tan with white band.



Scale 1:2

**Catalogue no. 11**

Registration no.: 46577  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 44 × 17 mm  
 Thickness: 5 mm  
 Material: Alabaster (travertine)  
 Form: Alabastron  
 Remarks: Body fragment, probably of an alabastron. White to light tan in color.



Scale 1:1

**Catalogue no. 12**

Registration no.: 40964  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Fine-grid 26 Layer 401  
 Dimensions: 59 × 60 mm; inner mouth diameter 19 mm  
 Material: Alabaster (travertine)  
 Form: Kohl pot  
 Remarks: Complete except for some chipping at the rim.  
 Short and globular with an everted rim.  
 White to light tan in color; not banded.



Scale 1:2

**Catalogue no. 13**

Registration no.: 48000  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 86 × 36 (at base) mm  
 Material: Alabaster (travertine)  
 Form: Cylindrical jar  
 Remarks: Large fragment extending from rim to base. Base is complete but over half of rim and body are missing.  
 Foot is slightly splayed and sides flare to everted rim.  
 Off-white to light tan in color; not banded.



Scale 1:2

**Catalogue no. 14**

Registration no.: 47019  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 467  
 Dimensions: 62 × 28 mm  
 Thickness: 6 mm  
 Material: Alabaster (travertine)  
 Form: Unknown  
 Remarks: Body fragment. White to light tan bands. No drawing or photograph is available.



## 15. BEADS AND OTHER JEWELRY

by Seong Hyun Park

THERE ARE 154 objects excavated from seventh-century B.C. contexts at Ashkelon that can be classified as jewelry. These are listed in table 15.3 according to their material of composition: (1) bone; (2) vitreous materials (faience, frit, or glass); (3) stone; (4) bronze; and (5) gold or silver. Within each category of material, the finds are listed in order by registration number, and the type, dimensions, state of preservation, and findspot is noted in each case. The various categories of material are discussed and the main types are illustrated, followed by a complete listing of the items (table 15.3).

Most of the items are beads or pendants. These are classified using the typology of Horace Beck (1928).

### Bone Beads

Only five of the 154 jewelry items are made of bone. All are beads and all were found in the Grid 50 excavation area. Reg. nos. 39168 and 45604 are classified as “circular” (Beck I.C.1.a). Reg. no. 45936 is classified as a “square cylinder disk” (Beck IX.A.2.b). Reg. no. 44211 is possibly to be classified as “annular” (Beck XX.A.1). Reg. no. 46504 is fragmentary and its type is uncertain.



Figure 15.1: Two types of bone beads

### Vitreous Beads

There are 87 beads made of vitreous material.<sup>1</sup> Three-quarters of them can be classified into one of ten different bead types (see table 15.1); the remainder are too poorly preserved to be classified.

<sup>1</sup> There are only 82 registration numbers listed as “Vitreous Beads” in table 15.3, but two of these refer to multiple beads, so there are actually 87 individual beads. Vitreous artifacts that are not beads are discussed separately in this volume: faience amulets in chapter 12 and vessels made of faience or “frit” (Egyptian blue) in chapter 14.

Table 15.1: Vitreous Bead Types and Proportions

Type	Quantity	Percentage
Cylinder disk (I.A.2.b)	33	37.9
Circular (I.C.1.a)	11	12.6
Annular (XX.A.1.a)	7	8.0
Long cylinder (I.D.2.b)	5	5.7
Collared crenellated disk	2	2.3
Ellipsoid (I.D.1.a)	1	1.2
Multi-tubular (XVII.A.2.a)	1	1.2
Standard square cylinder (IX.C.2.b)	1	1.2
Truncated convex bicone	1	1.2
Button-shaped (or is it a button?)	1	1.2
Uncertain	24	27.5
TOTAL:	87	100.0



Figure 15.2: Types of vitreous beads

### Stone Beads and Pendants

Twenty-six of the jewelry items are made of stone. They are all either beads (22 items) or pendants (4 items). In addition to chert, limestone, and quartz, there are beads and pendants made of semiprecious materials such as agate, amber, amethyst, carnelian, and jasper.

Six different bead types and two pendant types are found in this corpus. These are common types found throughout the Levant over many centuries. Six of the 22 stone beads (27 percent) are of the “truncated bicone” type (mostly Beck I.B.1.f; e.g., reg. no.

47478 shown in figure 15.3). This accords well with Tufnell's (1953:400) observation that bicones begin to replace cylinder beads and long barrel beads in the later Iron Age tombs at Lachish.

Four of the 22 stone beads (18 percent) are of the "long barrel" type (Beck I.D.1.b; e.g., reg. no. 42501 shown in figure 15.3). Two are of the "oblate" type (Beck I.B.1.a; e.g., reg. no. 44630) and there is one "toggle bead" (Beck XLII.A.5.b; reg. no. 40333) and one "parallel-perforated" spacer bead (reg. no. 39503).

The lotus is the common motif in the two pendant types. Two of the four stone pendants are of the "lotus seed-vessel" type (Beck XXVI.B.3.d; e.g., reg. no. 20324 shown in figure 15.3) and two are of the "lotus flower" type (Beck XXVI.B.1.c; e.g., reg. no. 44245), which was very popular in the Late Bronze Age II. Among the few late Iron Age II contexts in which lotus pendants have been found are: Megiddo Stratum III (Lamon and Shipton 1939:pl. 90:7); Lachish Tombs 224 and 1002 (Tufnell 1953:pl. 67:143–45); and Achzib Tomb ZR XXIX (Dayagi-Mendels 2004:fig. 4:21, no. 65).



Figure 15.3: Types of stone beads and pendants

### Bronze Jewelry

With bronze, the range of the jewelry expands beyond beads and pendants to include earrings, finger rings, bracelets, and fibulae. The bronze beads are too corroded to say much about them (e.g., reg. no. 43502

shown in figure 15.4). Given their spherical shape and small, uniform size, it is likely that these were indeed beads, but in their present poor state of preservation, it is difficult to prove that they were perforated, so it is possible that they had some other use.

Three types of bronze earrings were found in late seventh-century B.C. contexts at Ashkelon. Six out of the nine earrings are of the lunate type. The term "lunate" is used here to refer to earrings with a half-moon shape that were hung from one end only (e.g., reg. no. 20408 in figure 15.4). This is in contrast to the "crescent" earrings that were hung from both ends (e.g., reg. no. 46629), of which there is one example in the Ashkelon corpus. Almost every tomb in the two Achzib cemeteries contained both of these earring types, all made of bronze, and dated to the ninth–seventh centuries B.C., although they were designated there as "crescent-shaped" (e.g., Dayagi-Mendels 2002:fig. 4:7, nos. 26–29; fig. 4:10, no. 14; fig. 4:15, no. 1; fig. 4:19, no. 8; etc.).

The "ovate" type of earring is known from the earlier group of Iron Age tombs at Lachish (Tufnell 1953:390). These are mostly made of silver, however, and they undergo a stylistic change over the course of the Iron Age II, first by the addition of pendant ball-drops, and later by the use of pellets to join the heavy ball-drop to the ovate ring (Tufnell 1953:391). This development toward ball-drop and "mulberry" types, which is also seen at other Judahite sites, and even at Ekron (Golani and Sass 1998), has not been observed so far at Ashkelon, although the small bronze "beads" discussed above might instead have been pellets used to join ball-drops to ovate earrings.

This conservatism is probably the reason for the plain appearance of the one "scoop-shaped" earring in the corpus (reg. no. 50878; shown in figure 15.4), which seems to be the bare-bones version of the so-called boat earrings found at Judahite sites.

Three types of bronze rings are attested. The "plain" type (e.g., reg. no. 42379 shown in figure 15.4) has a round cross-section and has ends that do not overlap. The "spiral" type (e.g., reg. no. 46373) has ends which overlap and has a more rectangular cross-section. Both types occur in the Iron Age tombs at Achzib (Dayagi-Mendels 2002:fig. 4:1, no. 5; fig. 4:8, no. 4; fig. 4:32, no. 2; etc.), which are dated to the ninth–seventh centuries B.C. Of particular interest is Achzib Tomb ZR LIV, where the two types were found together: a ring with overlapping ends and rectangular section, and rings with nonoverlapping ends and round section (*ibid.*, fig. 4:33, no. 2). One of the rings shown in figure 15.4 (reg. no. 46271) is an example of a spiral type with an elaborate design.



Figure 15.4: Types of bronze beads, earrings, finger rings, bracelets, and fibulae

The third ring type found at Ashkelon is “bezeled” (e.g., reg. no. 40586 shown in figure 15.4), similar to unstratified rings found at Megiddo (Lamon and Shipton 1939:pl. 86, nos. 39–40), although the latter are closed hoops. An open ring, but with a hollow bezel, is known from Megiddo Stratum III (*ibid.*, pl. 86, no. 13), thus it is contemporary to the three late Iron Age examples from Ashkelon.

Although bracelets are difficult to date, examples from Lachish Tomb 1002 (Tufnell 1953:pl. 57, no. 19) and Achzib Tomb ZR IX (Dayagi-Mendels 2002: fig. 4:7, no. 44) are comparable to the three bronze bracelets found at Ashkelon, both in terms of their construction (plain, open-ended, and round in section,

with a diameter of ca. 5 cm) and their date (Iron Age II, broadly speaking).

Two types of fibulae are attested: those with a semicircular bow (reg. no. 49770 in figure 15.4) and those with a triangular bow (commonly known as the “knee” or “elbow” type; e.g., reg. no. 40595). Both Tufnell (1953:394) and Stronach (1959:193f.) suggested that the fibula with triangular bow appeared in the Near East in the eighth century B.C., gaining in popularity in the following century. Stronach also suggested that the semicircular bow appeared earlier, but beaded moldings were added to the bow in the seventh century B.C. (*ibid.*, p. 188). Reg. no. 49770 in figure 15.4 is an example with beaded moldings.



Figure 15.5: Types of gold jewelry

### Gold Jewelry

Seven gold<sup>2</sup> items were found in seventh-century B.C. contexts at Ashkelon. The typology of these items suggests that they were made much earlier than the context in which they were found. The gold band (reg. no. 46519; see figure 15.5) resembles pieces now in the Israel Museum that exhibit the same style and decoration, and are dated to the thirteenth century B.C. (Gonen 1997:fig. 2). The gold toggle pin (reg. no. 48220) is also of a type that one would not expect to find in an Iron Age II context. Although a gold toggle pin was found in a seventh-century context in Stratum III at Megiddo, the excavators interpreted it as having originated from a much earlier “Hyksos” or Late Bronze Age tomb, a view that was corroborated when further examples were found in Megiddo Strata

<sup>2</sup> The seven artifacts identified visually as being composed of gold were examined by Adam J. Aja in June 2010 using a Bruker Tracer III-V portable X-ray fluorescence (XRF) device. Each artifact was tested only once over 30 seconds using an aluminum-titanium filter at 40.00kV and 1.70μA. The sample testing of the Ashkelon jewelry revealed that the foil pieces (reg. nos. 11213, 16030, and 42766) were nearly pure gold, with the percentage of gold measuring over 92 percent at the sample sites. However, the beads, band, and toggle pin would be better classified as electrum. The “short melon” bead (reg. no. 47670) and toggle pin (reg. no. 48220) have silver percentages as high as 30 percent of the total composition at the sample site.

IX and VIII, but not in later contexts (Loud 1948:pl. 223, nos. 65, 72, and 73).

Two types of gold beads were identified (both shown in figure 15.5). The “short melon” bead (reg. no. 47670) has Iron Age II parallels in Lachish Tomb 4002, which the excavators dated to ca. 2000–900 B.C. (Tufnell 1953:239–40, pl. 66, no. 64, “short melon form”), and in Achzib Tomb Z VI (Dayagi-Mendels 2004:fig. 3:7, no. 13), which is dated to the tenth–seventh centuries B.C. The “standard cylinder” spacer bead (reg. no. 39566) may well have been a tubular attachment used to string a pendant.

The gold foil (reg. nos. 11213, 16030, 42766) does not constitute jewelry per se but was used to decorate objects such as garments, furniture, statues, and so on. Gold foil has been found elsewhere in Iron Age contexts, including Lachish, where the recent excavations found it in Levels IV and I (Sass 2004b:table 28:53).

Gold is reported to have become less common at the site of Lachish over the course of the Iron Age II (Tufnell 1953:46). At Ashkelon, the gold items found in seventh-century B.C. contexts did not originate in the late Iron Age but had been handed down as heirlooms or taken from earlier contexts. A potential source of the gold found in the Grid 50 excavation area is the Bronze Age tomb complex beneath the seventh-century B.C. marketplace. None of the objects shows the use of the granulation technique.

*Concluding Remarks*

There is a strong correlation between the class of the object and the material used to produce it (table 15.2). Metals were used to produce the full range of jewelry; other materials were confined to the production of pendants and beads. Of the metals, bronze was the most widely used. There is no evidence of the use of iron in the production of jewelry in the late seventh century B.C. at Ashkelon.

Sass (1997:243) has observed that the late Iron Age II jewelry in the southern Levant was mostly made of silver, gold being a rare material at that time. The best illustration of this is the three seventh-century B.C. hoards from Ekron, which contained more than four hundred pieces of silver jewelry (Golani and Sass 1998). In Ashkelon, on the other hand, very little silver survived the 604 B.C. destruction and subsequent scavenging of the ruins, or at least very little has so far been found.

Late Iron Age II jewelry from the inland regions of Palestine was strongly influenced by both Neo-Assyrian and Phoenician styles (Sass 1997: 243–44), as the jewelry from Ketef Hinnom in Jerusalem at-

tests (Barkay 1994:100–1). Along the coast, however, the Neo-Assyrian influence was much less pronounced—at Ekron, for example, Neo-Assyrianizing traits are found in only two pieces (Golani and Sass 1998:74). In Ashkelon, also, there is little evidence of Neo-Assyrian influence; the jewelry repertoire there bears a close resemblance to the material from the cemeteries of Achzib, where Phoenician influence was strong.

The mulberry-type earrings and the use of the granulation technique, which became popular at Judahite sites such as Ketef Hinnom and Tel <sup>ḥ</sup>Ira (Freud 1999), have not been found so far in Ashkelon. Stylistically, much of the jewelry in seventh-century Ashkelon is characterized by simplicity. But even though the jewelry is quite plain, there are traits in which one can see local cultural preferences at work, such as the preference for lunate earrings and wide, open bracelets. The latter also seems to be a trait in the jewelry of Tell el-Far<sup>ḥ</sup>ah South (Petrie 1930). This plain look, accentuated by the lack of elaborate ornamentation on a minute scale (e.g., mulberries and granulation), is a distinctive feature of the jewelry of the late Iron Age in Ashkelon.

Table 15.2: Distribution of the Jewelry Items By Material and Object Class (N = 154)

	<i>Pendants</i>	<i>Beads</i>	<i>Bracelets</i>	<i>Rings</i>	<i>Earrings</i>	<i>Bands</i>	<i>Fibulae</i>	<i>Pins</i>	<i>Foil</i>
<i>Gold</i>		2				1		1	3
<i>Bronze</i>		2	3	9	9		5		
<i>Stone</i>	4	22							
<i>Vitreous</i>		87							
<i>Bone</i>		5							

Table 15.3: Beads and Other Jewelry from Contexts Dated to the Seventh Century B.C. at Ashkelon

<i>Reg. No.</i>	<i>Type</i>	<i>Diam.</i> (mm)	<i>Length</i> (mm)	<i>Color</i>	<i>Intact?</i>	<i>Findspot</i>
<b>Bone Beads</b>						
39168	Circular				No	Grid 50 Square 58 Fine-grid 34 Layer 262
44211	Annular?	15	3		No	Grid 50 Square 58 Layer 262
45604	Circular	6	5		Yes	Grid 50 Square 48 Layer 452
45936	Square cylinder disk	14	6		Yes	Grid 50 Square 48 Layer 454
46504	Uncertain				No	Grid 50 Square 48 Layer 452
<b>Vitreous Beads</b>						
11239	Collared crenellated disk	6	4	Blue	No	Grid 38 Square 64 Layer 69
37718	Circular	9	9	White	No	Grid 38 Square 84 Fine-grid 2 L280 F280
39002	Uncertain				No	Grid 50 Square 58 Fine-grid 14 Layer 262
39010	Uncertain				No	Grid 50 Square 58 Fine-grid 13 Layer 262
39264	Uncertain				No	Grid 50 Square 58 Fine-grid 13 Layer 262
39405	Uncertain				No	Grid 50 Square 58 Fine-grid 23 Layer 262
39927	Uncertain				No	Grid 50 Square 58 Layer 279
40199	Annular	8	4	White	No	Grid 38 Square 74 Layer 464
40247	Ellipsoid (red spiral bands)	8	17	White	No	Grid 50 Square 49 Fine-grid 91 Layer 384
40723	Standard square cylinder	6	6	Blue	Yes	Grid 50 Square 57 Fine-grid 40 Layer 206
41045	Collared crenellated disk	9	7	Brown	Yes	Grid 50 Square 48 Layer 405
42556	Uncertain	5	5		No	Grid 38 Square 74 Fine-grid 70 L460 F460
42692	Uncertain			White	No	Grid 50 Square 48 Fine-grid 19 Layer 428
43451	Circular	5	5	White	No	Grid 50 Square 57 Layer 240
43695	Cylinder disk	5	2	White	No	Grid 38 Square 84 Fine-grid 44 Layer 299
44071	Cylinder disk	4	3	Dark blue	Yes	Grid 50 Square 57 Layer 218
44108	Cylinder disk	7	2	White	Yes	Grid 50 Square 49 Layer 432
44109	Circular	6	7	White	No	Grid 50 Square 57 Layer 256
44118	Cylinder disk	3	1.5	Turquoise	Yes	Grid 50 Square 57 Layer 256
44120	Circular	6	6	Burnt black	No	Grid 50 Square 58 Layer 302
44174	Cylinder disk	7	2.5	Turquoise	Yes	Grid 50 Square 58 Layer 302
44214	Uncertain			Blue	No	Grid 50 Square 58 Layer 262
44332	Annular	10	7	Traces of red	No	Grid 50 Square 57 Layer 256
44333	Cylinder disk	6	2.5	White	Yes	Grid 50 Square 57 Layer 256
44347	Circular	6	6		Yes	Grid 50 Square 57 Layer 256
44348	Cylinder disk	4	1	Turquoise	Yes	Grid 50 Square 57 Layer 256
44387	Uncertain (Phoenician?)			White line	No	Grid 50 Square 49 Layer 425
44413	Cylinder disk	8			No	Grid 50 Square 49 Fine-grid 19 Layer 436
44480	Uncertain			Beige	No	Grid 38 Square 84 Fine-grid 34 Layer 392
44481	Circular	11	10	White, yellow	Yes	Grid 38 Square 84 Fine-grid 34 Layer 392
44499	Annular (Phoenician)	15	11	White stripes	Yes	Grid 38 Square 84 Fine-grid 45 Layer 386
44540	Button-shaped (3 holes)	11	9	Turquoise	Yes	Grid 50 Square 48 Layer 444
44580	Circular				No	Grid 50 Square 57 Layer 256
44693	Cylinder disk			Black	No	Grid 38 Square 84 Fine-grid 25 Layer 297
44800	Circular	6	5	White	Yes	Grid 50 Square 58 Layer 316
44852	Cylinder disk	4	1	White	Yes	Grid 50 Square 57 Layer 256
44856	Cylinder disk	4	2	Gray-brown	Yes	Grid 50 Square 49 Fine-grid 39 Layer 436
44925	Uncertain			Turquoise	No	Grid 50 Square 46 Layer 75

Table 15.3: Beads and Other Jewelry from Contexts Dated to the Seventh Century B.C. (continued)

<i>Reg. No.</i>	<i>Type</i>	<i>Diam.</i> (mm)	<i>Length</i> (mm)	<i>Color</i>	<i>Intact?</i>	<i>Findspot</i>
<b>Vitreous Beads (continued)</b>						
44927	Cylinder disk	3	2		Yes	Grid 50 Square 57 Layer 256
44975	Circular	6	5	White	Yes	Grid 50 Square 57 Layer 259
44982	Uncertain	5	2		Yes	Grid 38 Square 84 Fine-grid 65 L312 F312
45012	Cylinder disk	4	2	Buff	Yes	Grid 50 Square 49 Layer 440
45013	Cylinder disk		1	Buff	No	Grid 50 Square 49 Layer 440
45140	Uncertain	4	2	Beige	Yes	Grid 50 Square 57 Layer 258
45185	Circular	7	4.5	Turquoise	No	Grid 50 Square 48 Layer 450
45340	Annular	6	2	Turquoise	Yes	Grid 50 Square 48 Layer 452
45366	Uncertain		3		No	Grid 50 Square 47 Layer 285
45522	Cylinder disk			Blue	No	Grid 50 Square 48 Layer 452
45692	Uncertain	4	2			Grid 38 Square 84 Layer 427
46105	Cylinder disk				No	Grid 50 Square 58 Layer 318 Feature 318
46180	Truncated convex bicone	6	3		Yes	Grid 38 Square 84 Layer 459 Feature 459
46306	Multi-tubular	11	11	Blue	No	Grid 50 Square 58 Layer 318 Feature 318
46327	Annular	12	5	Yellow	No	Grid 50 Square 48 Layer 453
46665	Long cylinder	5	13		No	Grid 50 Square 49 Layer 449
46814	Uncertain	3	< 1		No	Grid 50 Square 48 Layer 453
46852	Uncertain	3	< 1		No	Grid 50 Square 48 Layer 453
46908.1	Cylinder disk	4	1	Yellow	No	Grid 50 Square 48 Fine-grid 66 Layer 453
46930	Uncertain				No	Grid 50 Square 48 Layer 468
46969	Uncertain			White	No	Grid 50 Square 48 Layer 475
46970	Uncertain				No	Grid 50 Square 48 Layer 467
47001	Uncertain				No	Grid 50 Square 48 Layer 468
47334	Annular	9	5	White	Yes	Grid 50 Square 48 Fine-grid 54 Layer 468
47335	Long cylinder (Phoen.)	9	15	White bands	Yes	Grid 50 Square 48 Fine-grid 54 Layer 468
47641	Uncertain (7 frags.)				No	Grid 50 Square 48 Layer 475
47642	Cylinder disk (5 beads)	4	2	2 white, 3 red	Yes	Grid 50 Square 48 Layer 475
47669	Annular	6		Turquoise	No	Grid 50 Square 47 Layer 309
47721	Cylinder disk (2 beads)	5	2	White	Yes	Grid 50 Square 48 Layer 475
47722	Cylinder disk	4	2	Red	Yes	Grid 50 Square 48 Layer 475
47723	Cylinder disk	5	2	White	Yes	Grid 50 Square 48 Layer 475
47725	Long cylinder (crosshatch)	7	14	Glazed	Yes	Grid 50 Square 48 Layer 475
47726	Cylinder disk	6	2	White	Yes	Grid 50 Square 48 Layer 475
47736	Cylinder disk	8	2	White	Yes	Grid 50 Square 48 Layer 475
48089	Long cylinder (incised)		17		No	Grid 50 Square 49 Layer 453
48227	Cylinder disk	2	1	Yellow	Yes	Grid 50 Square 48 Layer 475
48327	Uncertain				No	Grid 50 Square 48 Layer 475
48460	Cylinder disk	5	2	White	Yes	Grid 50 Square 48 Layer 475
49272	Cylinder disk	5	2	Yellow	Yes	Grid 50 Square 48 Layer 496 Feature 496
49337	Cylinder disk	9	3	White	Yes	Grid 50 Square 67 Fine-grid 24 Layer 46
49403	Uncertain				No	Grid 50 Square 67 Fine-grid 26 Layer 46
49729	Cylinder disk	6	2	White	Yes	Grid 50 Square 48 Layer 496 Feature 496
50918	Long cylinder	6	12	Blue	Yes	Grid 38 Square 75 Layer 4
51398	Circular	6	6	White	Yes	Grid 38 Square 75 Layer 4

Table 15.3: Beads and Other Jewelry from Contexts Dated to the Seventh Century B.C. (continued)

<i>Reg. No.</i>	<i>Type</i>	<i>Diam.</i> (mm)	<i>Length</i> (mm)	<i>Intact?</i>	<i>Findspot</i>
<b>Stone Beads and Pendants</b>					
20324	Lotus seed-vessel carnelian pendant	18	5	Yes	Grid 50 Square 57 Layer 134
39503	Parallel-perforated carnelian bead	10	12	Yes	Grid 50 Square 58 Fine-grid 52 Layer 262
39593	Basalt(?) bead	20	12	No	Grid 50 Square 58 Fine-grid 53 Layer 262
39652	Truncated convex bicone carnelian bead	7	4	Yes	Grid 50 Square 49 Layer 369
39926	Carnelian bead	4	2	Yes	Grid 50 Square 58 Layer 279
40333	Carnelian toggle bead	10	5	Yes	Grid 50 Square 57 Fine-grid 20 Layer 217
42501	Long barrel chert bead	11	23	Yes	Grid 50 Square 49 Layer 376
42762	Cylinder disk soapstone(?) bead (burnt)	8	2	Yes	Grid 38 Square 83 Fine-grid 49 Layer 320
43401	Long barrel jasper bead	6	17	Yes	Grid 38 Square 84 Fine-grid 51 Layer 299
44068	Lotus seed-vessel carnelian pendant	18	4	No	Grid 50 Square 57 Layer 218
44155	Lotus-shaped agate pendant		17	Yes	Grid 50 Square 48 Layer 444
44245	Lotus carnelian pendant (flat dorsal side)	18×12×4		Yes	Grid 50 Square 47 Layer 285
44247	Truncated convex bicone carnelian bead	7	5	Yes	Grid 50 Square 57 Layer 256
44630	Oblate amethyst bead	9	8	Yes	Grid 50 Square 49 Layer 440
44850	Truncated convex bicone carnelian bead	7	5	Yes	Grid 50 Square 58 Layer 316
44853	Carnelian bead	8	6.5	Yes	Grid 38 Square 84 Layer 396 Feature 396
45441	Carnelian bead	13	7	Yes	Grid 38 Square 84 Layer 317
45740	Stone bead	12	12	Yes	Grid 38 Square 84 Layer 412 Feature 412
46268	Carnelian bead	5	2	Yes	Grid 50 Square 48 Layer 462
46354	Long barrel jasper bead	11	28	Yes	Grid 50 Square 58 Layer 318 Feature 318
46908.3	Truncated convex bicone carnelian bead	7	5	Yes	Grid 50 Square 48 Fine-grid 66 Layer 453
47478	Truncated convex bicone quartz bead	10	10	Yes	Grid 50 Square 48 Layer 475
47640	Oblate amber bead	14		Yes	Grid 50 Square 48 Fine-grid 54 Layer 468
51399	Long truncated bicone carnelian bead	7	11	No	Grid 38 Square 75 Layer 4
51400	Carnelian bead (fragment)			No	Grid 38 Square 75 Layer 4
55585	Long barrel limestone bead	12	47	Yes	Grid 50 Square 49 Layer 451
<b>Bronze Jewelry</b>					
20319	Circular bead (corroded clump of beads)	5		Yes	Grid 50 Square 57 Layer 134
20408	Lunate earring (hole for wire at one end; 2 g)	20		Yes	Grid 50 Square 57 Layer 134
39628	Bezeled ring	26		Yes	Grid 50 Square 58 Fine-grid 84 Layer 264
40586	Bezeled ring (corroded)	19		Yes	Grid 50 Square 58 Fine-grid 86 L260 F260
40595	Triangular fibula with bead-moldings		50	No	Grid 50 Square 57 Fine-grid 54 Layer 196
42379	Plain ring (2.7 g)	20		Yes	Grid 50 Square 49 Layer 389
43502	Circular bead or pellet (corroded; 0.1 g)	4		No	Grid 38 Square 83 Fine-grid 60 Layer 320
43603	Pin-shaft of a fibula (1 g)		48	Yes	Grid 50 Square 47 Layer 268 Feature 268
43905	Lunate earring	16		Yes	Grid 38 Square 84 Layer 380 Feature 380
44048	Pin-shaft of a fibula (corroded; 3.2 g)		50	Yes	Grid 50 Square 47 Layer 281
44146	Triangular fibula (corroded; 3 g)		29	Yes	Grid 38 Square 84 Fine-grid 45 Layer 386
44887	Lunate earring			No	Grid 50 Square 57 Layer 256
45327	Bracelet (open ends, round section; 8.3 g)	51		Yes	Grid 50 Square 48 Layer 452
45346.2	Bezeled ring (only the bezel is preserved)			No	Grid 50 Square 48 Layer 452
45355	Lunate earring (3 g)		30	Yes	Grid 50 Square 48 Layer 452
45549	Earring?			No	Grid 50 Square 48 Layer 452
46271	Spiral ring (rectangular section; 2.5 g)	17		Yes	Grid 50 Square 57 Layer 256

Table 15.3: Beads and Other Jewelry from Contexts Dated to the Seventh Century B.C. (continued)

<i>Reg. No.</i>	<i>Type</i>	<i>Diam.</i> (mm)	<i>Length</i> (mm)	<i>Intact?</i>	<i>Findspot</i>
<b>Bronze Jewelry</b> (continued)					
46346	Lunate earring			No	Grid 50 Square 48 Layer 453
46373	Spiral ring (rectangular section; 1.8 g)	17		Yes	Grid 50 Square 57 Layer 256 Feature 256
46629	Crescent earring (holes for wire at ends; 2 g)	16		Yes	Grid 50 Square 47 Fine-grid 50 Layer 303
47457	Ring?			No	Grid 50 Square 48 Fine-grid 43 Layer 468
47663	Lunate earring (1 g)		17	Yes	Grid 50 Square 47 Layer 309
48727	Bracelet	40		Yes	Grid 50 Square 57 Layer 274
49770	Semicircular fibula with bead-moldings (6 g)	39		No	Grid 38 Square 85 Layer 22
49968	Ring (uncertain form; 2 g)	22		No	Grid 38 Square 75 Layer 57
50878	Scoop-shaped earring (0.4 g)	14		Yes	Grid 38 Square 75 Layer 4
51363	Bracelet with cross-hatched design			No	Grid 38 Square 75 Layer 4
52038	Ring?			No	Grid 38 Square 65 Layer 22
<b>Gold Jewelry</b>					
11213	Gold foil (three pieces; 0.2 g)	30		n/a	Grid 38 Square 64 Layer 61
16030	Gold foil (0.1 g)	8		n/a	Grid 50 Square 58 Layer 99
39566	Gold spacer bead Hollow cylinder with decorative incised lines. Rolled-up rim at one end. Flattened out of shape.	7	7	Yes	Grid 50 Square 49 Layer 368
42766	Gold foil (0.1 g) Founded folded over.	9		n/a	Grid 38 Square 83 Fine-grid 49 Layer 320
46519	Gold band (3.1 g; 6 mm wide) Eight gold strands fused to form a flat strap. Decorated with herring-bone pattern.	60		Yes	Grid 50 Square 48 Layer 462
47670	“Short melon” gold bead Ribbed with wrinkles around the holes.	6	5	Yes	Grid 50 Square 48 Layer 475
48220	Gold toggle pin with beaded cylinder (2.8 g) Ringed sections and line design. Constructed from four hollow pieces. Pin is missing.	9	46	No	Grid 50 Square 48 Layer 475



## 16. TERRACOTTA FIGURINES

by Susan L. Cohen

THE ASHKELON collection of terracotta figurines from the seventh century B.C. numbers 97 pieces. Most of them date to the period immediately preceding the destruction of the site by Nebuchadrezzar II of Babylon in 604 B.C.; a few were recovered from the destruction levels themselves. All of them are broken; there are no complete terracotta figurines, anthropomorphic or zoomorphic, in the corpus. With very few exceptions, they display a homogeneity consistent with their dating to within a few decades of one another in the latter part of the seventh century. A brief analysis of current figurine typologies and interpretations is presented below, followed by a discussion of the Ashkelon collection and the catalogue of the figurines themselves.

### *Methodology and Problems of Typology and Classification*

Each figurine fragment in the collection was measured in millimeters and examined to determine the quality of firing, the inclusions in the clay, and the state of preservation. These data are presented in the catalogue below, together with the registration number, findspot, and detailed description of each figurine. Wherever possible, a classification of the object according to existing terracotta figurine typologies is also provided.

The most complete typology of terracotta figurines from ancient Palestine remains Holland's (1977) study of the figurines from Jerusalem, in which he classified both the zoomorphic and anthropomorphic figurines from Kenyon's excavations there. Kletter's (1996) more recent study is more comprehensive in scope, but he addresses only the human representations and does not provide an updated typology for zoomorphic terracottas. Finally, the typology used by Gilbert-Peretz (1996) also provides a classification system for Iron Age II terracotta figurines, based again on material found primarily at Jerusalem.

All three of these typologies attempt to provide a comprehensive classification system for Iron Age terracotta figurines; however, study of the Ashkelon material suggests that none of these established systems provides a completely adequate typology for the entire corpus of figurines from the site. This is because all three typologies were designed to catalogue figurines found in Judah, and, in the case of Holland and Gilbert-Peretz, in Jerusalem in particular. As a

result, they are not entirely suitable for a corpus of figurines from Philistia, a problem which has been noted previously (Gilbert-Peretz 1996:32).<sup>1</sup>

### *Interpretations of Figurine Function and Meaning*

The function and meaning of terracotta figurines, whether zoomorphic or anthropomorphic, remains a subject of some controversy. An early study of figurines in the Levant by Pritchard (1943) led him to the conclusion that many of the female figurines were representations of female deities, but he was unable to make direct correlations between specific figurine types and any of the female deities known in the literature at the time. Albright (1939:119) likewise interpreted the female figurines of the Levant either as depictions of female deities or as amulets with apotropaic powers pertaining to so-called feminine concerns, such as childbearing and fertility, but this influential interpretation has never been conclusively proved. As for the zoomorphic figurines, and the equids in particular, Kenyon (cited in Holland 1977: 149) suggested that they were related to the "horses of the sun" mentioned in the Bible (2 Kings 23:11), but there is no firm evidence to support this idea.

Whenever a cultic interpretation is put forward regarding the female figurines, the most common suggestion is that they are representations of the goddess Asherah, or perhaps Astarte, and (in the case of Judahite figurines) they are thought to have played a role in Judahite religious worship (Kletter 1996:81).

Other scholars have cited the lack of direct evidence for the cultic use of the figurines and have sought alternative interpretations. The most common alternative is to view them as children's toys, or at least to view the zoomorphic figurines in this way, even if some sort of cultic or religious significance is ascribed to the female figurines (see the discussion in Fowler 1985:341–42). It has also been proposed that the figurines functioned as votive objects, or were

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<sup>1</sup> A detailed analysis of terracotta figurines, and specifically of figurines from Philistia, has been produced since this chapter was written. Michael Press's Harvard Ph.D. dissertation, "Philistine Figurines and Figurines in Philistia in the Iron Age" (2007), is a comprehensive study of figurines, their typology, and methods of interpretation and analysis that places the corpus of figurines from Philistia, including the examples from Ashkelon presented here, within a solid analytical framework.

invested with magical significance, or possessed some combination of the various functions attributed to them over the years (see Kletter 1996:72).

Attempts have been made to determine whether the figurines had a cultic function by examining the contexts in which they were found (Fowler 1985; Holladay 1987). But the results are largely inconclusive because most were found in secondary fills or in other contexts that cannot be clearly identified as cultic. Moreover, even if a figurine did serve a cultic purpose, it would not necessarily be found in a cultic setting (Fowler 1985:336), because figurines with religious significance may well have been used and kept within ordinary domestic contexts.<sup>2</sup>

In keeping with this line of reasoning, Holladay (1987:267) has suggested that in every community there existed people whose beliefs and practices diverged in some respects from the norm. In his view, figurines, especially the anthropomorphic figurines found at Judahite sites where an official ban on such items might well have been in place, could reflect deviations from state-sponsored or institutionalized forms of religion. While this suggestion is perfectly reasonable, it fails to shed additional light on the meaning and usage of particular figurines, because the beliefs of those who used them remain unknown.

Ultimately, we must acknowledge that it is often impossible to determine whether a particular figurine had a cultic purpose, or, more generally, for what use it was originally intended. Despite the many plausible arguments for the religious nature of the female figurines, in particular (see Kletter 1996:81), it is difficult to make a precise and unequivocal identification of any female figurine with a particular goddess. Thus, the purpose and function of most, if not all, terracotta figurines remains obscure, and (contra Amr 1988) their supposed use in the cult and/or to represent deities remains unsubstantiated in the absence of solid evidence to bolster these interpretations (see Fowler 1985:343).

The collection from Ashkelon, although fairly large and reasonably diverse, does not contribute significant information concerning the meaning and function of these objects (but see now Press 2007 for some new suggestions on this matter). Most of the Ashkelon figurines were found in extremely large

construction-fill layers that predate the building phase destroyed in 604 B.C. These fill layers greatly increase the number of figurines in the corpus, but they constitute a mixed secondary context that provides little information about the usage, meaning, and cultic nature (or lack thereof) of these objects.

The Ashkelon figurines that were found in contexts other than the large leveling fills come from more circumscribed deposits and thus have the potential to provide information concerning their function in the Philistine culture of the period. But most of these items were found either in small deliberate fills (e.g., trash deposits in pits) or in scattered occupational debris above surfaces. None of them comes from a primary context that was clearly cultic in nature, or from a well-preserved context of any kind from which the figurine's function and meaning can be inferred with any degree of confidence.

#### *Interpretations of Figurines as Indicative of Political and Cultural Boundaries*

Similar problems of interpretation arise when attempting to utilize terracotta figurines to trace cultural or political boundaries in the Iron Age Levant. To begin with, as noted previously, most comprehensive studies of Iron Age II terracotta figurines (e.g., Holland 1977; Gilbert-Peretz 1996; Kletter 1996) are based on material found in Judah, and therefore must be used with caution when applied to material from Philistia or Phoenicia. Secondly, it is difficult to determine the extent to which these objects reflect cultural, political, or social boundaries. Their meaning, function, and usage remain unclear, so any attempt to define boundaries based on the presence or absence of particular types of figurines is problematic.

This is worth pointing out because it is often assumed that the spatial distribution of terracotta figurines reflects ancient political divisions, even though Judahite pillar figurines have been found outside of Judah (Kletter 1996:44–45) and Phoenician-style mold-made heads have been found at Judahite sites. There is little evidence for trade in figurines; indeed, if they were invested with local religious significance, they are unlikely to have served as regular items of exchange. As a result, we can only speculate about how figurines made in one region arrived in other places.

Having said this, it is worth noting that most of the Ashkelon figurines are of types traditionally identified as Phoenician and there is not a single anthropomorphic head of the classic Judahite pillar figurine type (although some of the solid torsos may fall into this category). The seventh-century B.C. figurines

<sup>2</sup> It is important to avoid circular reasoning when attempting to determine whether or not the location in which a figurine is found was cultic. For example, the presence of figurines is often used to support the argument that a particular building had cultic functions, and the "cultic" interpretation of the building is then used to interpret the figurines as cultic objects (Fowler 1985:343).

from Ashkelon are thus consistent, both typologically and chronologically, with those from other coastal and Phoenician sites, such as Ashdod (Dothan and Freedman 1967), Tell Keisan (Briend and Humbert 1980), and Sarepta (Pritchard 1975). This reflects Ashkelon's orientation toward the Phoenician cultural sphere in the seventh century B.C.<sup>3</sup>

#### *The Ashkelon Figurines*

Of the two main categories of figurines found in seventh-century B.C. contexts at Ashkelon, anthropomorphic and zoomorphic, the latter group is larger by far (see table 16.1). Of the 97 pieces, 62 are from zoomorphic figurines (64 percent), as opposed to 28 anthropomorphic figurines (29 percent).<sup>4</sup>

Note that the six "horse-and-rider" figurines are treated as a separate category from the zoomorphic and anthropomorphic figurines. Within the zoomorphic category, most of the figurines are fragments of quadrupeds, which were probably horses. Only three figurines (5 percent of the 62 zoomorphic figurines) represent other kinds of animals.<sup>5</sup>

All but one of the zoomorphic figurines are hand-made.<sup>6</sup> The main parts of the body are formed from a roll of clay, with the eyes, ears, and other details attached later and smoothed onto the main piece by hand. In almost all cases, smears of fingerprints are still visible on the object. The heads, bodies, and legs were all made separately and then joined together. The most common breakage points, therefore, are the joints where these separate pieces were combined. Although the usual method of joining the pieces was simply to smooth the clay attaching the two elements, in the case of the horse-and-rider figurine with a hollow body (cat. no. 65), the main body was pierced at the attachment points, the appendages were inserted into the holes, and the clay around the edges of the hole was then smoothed over.

In the anthropomorphic category, all but three of the figurines represent females of some kind.<sup>7</sup> The 25 female figurines make up 26 percent of the 97 pieces in the entire corpus and 89 percent of the 28 anthropomorphic figurines. Most of the female heads have molded features and are depicted wearing a veil or other type of headdress. All of the mold-made heads taper to a point for insertion into the body of the figurine. There are close similarities among all the female heads, which suggests either a standardization of representation or a single workshop or group of related workshops in which most of them were produced. The predominance of Phoenician-style mold-made female heads reflects Ashkelon's location on the Mediterranean coast and its exposure to Phoenician influence during the Iron Age.

Table 16.1: Proportions of Various Figurine Types

<i>Type</i>	<i>Quantity</i>	<i>Percentage</i>
Zoomorphic	62	63.9
<i>Equid (incl. legs only)</i>	59	60.8
<i>Nonequid</i>	3	3.1
Horse-and-rider	6	6.2
<i>Horse fragment</i>	4	4.1
<i>Rider fragment</i>	2	2.1
Anthropomorphic	28	28.9
<i>Female</i>	25	25.8
<i>Male</i>	3	3.1
Unidentifiable	1	1.0
TOTAL	97	100.0

<sup>3</sup> See Press 2007 for an updated analysis of the geographical and cultural boundaries indicated by the spatial distribution of the Ashkelon terracotta figurines.

<sup>4</sup> This number rises to 66 out of 97 figurines (68 percent) if the four horse fragments from the composite horse-and-rider figurines are included in the zoomorphic category.

<sup>5</sup> This percentage is calculated without including the four horse fragments from horse-and-rider figurines.

<sup>6</sup> The exception is catalogue no. 65 (reg. no. 44721), a hollow horse body from a horse-and-rider figurine. Although there are no visible wheel marks, the size of the hollow body suggests that it was partially wheel-made.

<sup>7</sup> The number of male figurines rises to five if the two torsos from horse-and-rider figurines are included in the anthropomorphic category.

### Catalogue of Terracotta Figurines from Contexts Dated to the Seventh Century B.C. at Ashkelon

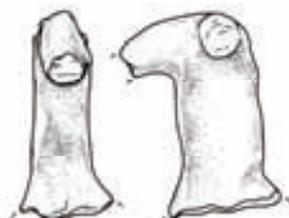
The catalogue is organized into three parts: (1) zoomorphic figurines, (2) horse-and-rider figurines, and (3) anthropomorphic figurines. All are fragmentary, so the zoomorphic pieces are further subdivided into heads (equid and nonequid) and bodies (complete bodies, forequarters only, hindquarters only, and legs). The anthropomorphic pieces are subdivided into heads (female and male) and bodies. Types of figurines are specified in terms of the typologies published by Holland (1977) and Gilbert-Peretz (1996), and, for anthropomorphic figurines, Kletter (1996).

#### ZOOMORPHIC FIGURINES—EQUID HEADS AND NECKS

##### Catalogue no. 1

Registration no.: 40173  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 (surface find)  
 Dimensions: 31.5 × 19.7 × 46.8 mm  
 Firing: Well fired.  
 Inclusions: Sand.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head of an equid figurine. Both ears are broken; the eyes are not indicated. The end of the nose is broken. The mane is pinched up from the neck, which has flat sides rather than rounded ones. The front of the neck has been squared off, and the neck flares at the base, which is concave. The piece, smoothed by hand, has traces of white slip and very faint traces of dark red paint.

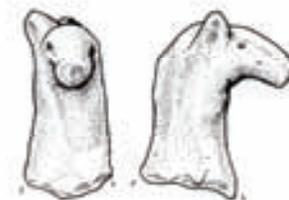


Scale 1:2

##### Catalogue no. 2

Registration no.: 40396  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Layer 302  
 Dimensions: 35.2 × 21.3 × 44.6 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head and neck of an equid figurine. One ear is preserved, and one eye is indicated by a small raised round dot of clay. The mane has been pinched up from the neck. The head curves slightly downward to a flattened or squared-off nose. The base of the neck is concave. Traces of a white slip or wash are preserved.

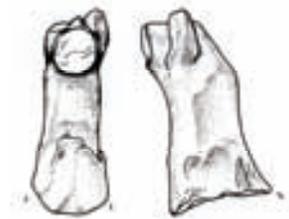


Scale 1:2

##### Catalogue no. 3

Registration no.: 42654  
 Year excavated: 1993  
 Findspot: Grid 50 Square 48 Layer 405 Fine-grid 37  
 Dimensions: 23.4 × 18.8 × 49.6 mm  
 Firing: Poorly fired.  
 Inclusions: Grit  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

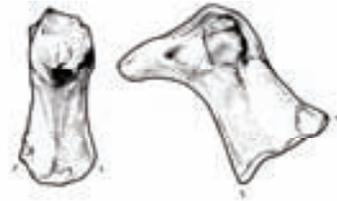
Description: Neck and partial head of an equid figurine. One ear is broken in the middle, the other is fully preserved. The head is broken just in front of the ears. The base of the neck is concave, and the entire neck has been smoothed by hand. Traces of white slip remain.



Scale 1:2

**Catalogue no. 4**

Registration no.: 42847  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Fine-grid 9 Layer 419  
 Dimensions: 40.7 × 19.5 × 44.4 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

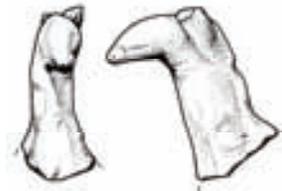


Scale 1:2

Description: Head and neck of an equid figurine. Both ears are broken. The head points slightly upward and tapers to a pointed nose. There is large dent in the head in front of the ears; a thin incised line runs down the length of the center of the horse's head. The neck has been smoothed by hand, especially in the area where the ears have been joined to the head. The piece has light slip and traces of white paint.

**Catalogue no. 5**

Registration no.: 42856  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Layer 420  
 Dimensions: 31.3 × 12 × 45.4 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.



Scale 1:2

Description: Head and neck of an equid figurine. One ear is preserved; it is broken at the tip. The rounded head tapers to a pointed nose. An indentation is present on one side of the lower neck, perhaps from being held or pinched too tightly while the clay was still wet. Traces of white slip are preserved.

**Catalogue no. 6**

Registration no.: 42901  
 Year excavated: 1993  
 Findspot: Grid 38 Square 74 Layer 493 Feature 493  
 Dimensions: 35.5 × 13.6 × 23 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head of an equid figurine. One ear is preserved and tilts forward. No eyes are indicated. The head is rounded, with a blunt nose; the head is broken just behind the ears. The mane is pinched up from the neck. Traces of white slip are preserved on the mane. No drawing or photograph is available.

**Catalogue no. 7**

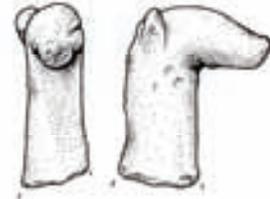
Registration no.: 42946  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Layer 423 Feature 423  
 Dimensions: 31.1 × 19.7 × 32.4 mm  
 Firing: Well fired.  
 Inclusions: None.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2/B2a.

Description: Partial head and neck of an equid figurine. The head is broken just in front of the eyes, which are indicated by two small lumps of applied clay. The ears, also applied, are both broken. The mane has been applied to the neck, rather than pinched up from it. The join of the mane to the neck has been smoothed heavily by hand. The base of the neck is concave. The piece is red-slipped, with traces of white paint. No drawing or photograph is available.

**Catalogue no. 8**

Registration no.: 44163  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 258  
 Dimensions: 35.9 × 16.2 × 47.5 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head and neck of an equid figurine. The top of the nose tilts up slightly. One ear is preserved; the eyes are not indicated. The piece has light pink slip and traces of paint are preserved.

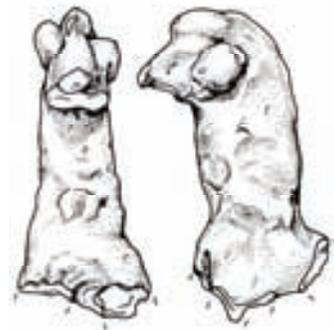


Scale 1:2

**Catalogue no. 9**

Registration no.: 44176  
 Year excavated: 1994  
 Findspot: Grid 50 Square 47 Layer 278 Feature 278  
 Dimensions: 40.1 × 30.1 × 81.6 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2/B2a.

Description: Upper shoulders, neck, and partial head of an equid figurine. One ear is set much lower on the head than the other. The neck is misshapen; large indentations are present on both sides of the lower neck, perhaps from being held or pinched too tightly. The forelock has been pinched up from the head. The eyes are not indicated; it is also possible that the head has been broken above the eyes. Traces of light pink or brown slip are preserved.

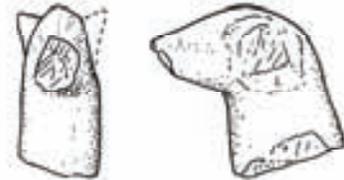


Scale 1:2

**Catalogue no. 10**

Registration no.: 44552  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 448  
 Dimensions: 24 × 10.3 × 16.1 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Partial head and neck of an equid figurine. The piece is broken in the middle of the head, and is broken halfway down the neck. One ear is still preserved; no eyes are indicated. The mane is pinched up from the neck. Traces of pink slip remain on the object.

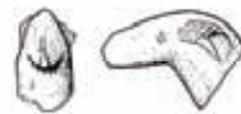


Scale 1:2

**Catalogue no. 11**

Registration no.: 44566  
 Year excavated: 1994  
 Findspot: Grid 50 Square 58 Layer 316  
 Dimensions: 26.2 × 21.1 × 13.3 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head of an equid figurine, broken just behind the head. Both ears are broken, leaving only traces of their location on the head. The nose is tapered and pinched in on both sides. The mane is pinched up from the neck. Traces of white slip or paint are preserved.



Scale 1:2

**Catalogue no. 12**

Registration no.: 44576  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Fine-grid 29 Layer 436  
 Dimensions: 45.8 × 28.4 × 51.2 mm  
 Firing: Poorly fired; core present.  
 Inclusions: Chalk; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.  
 Description: Head and neck of an equid figurine. The ears, which are both broken, are wide and flat. The head tapers to a flattened or squared-off nose; the eyes are not indicated. The figurine has light pink slip.



Scale 1:2

**Catalogue no. 13**

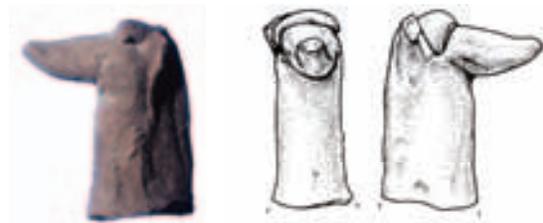
Registration no.: 45078  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 448  
 Dimensions: 37.9 × 17.6 × 37.5 mm  
 Firing: Well fired.  
 Inclusions: Grit; sand.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.  
 Description: Head and partial neck of an equid figurine. The head tapers to a pointed nose. Both ears are preserved; the eyes are not indicated. The neck is very thin and flat, with a slight pinch at the top indicating the mane. The piece has light pink slip and traces of white paint are preserved.



Scale 1:2

**Catalogue no. 14**

Registration no.: 45356  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 41.3 × 19.6 × 50.7 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2/B2a.  
 Description: Head of an equid figurine. The head ends in a long uptilted nose that is broken at the very tip. Both ears are broken; the ears and forelock have been applied separately to the head. The forelock appears as a rounded piece of clay over the top of the head just in front of the ears, and then curves down on both sides of the face. The eyes are not indicated. The mane has been pinched up from the neck. The base of the neck is slightly concave for attachment to the body. Traces of white slip are present.



Scale 1:2

**Catalogue no. 15**

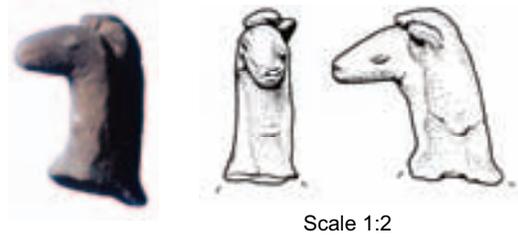
Registration no.: 45497  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 43.1 × 26.3 × 49.2 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.  
 Description: Head and neck of an equid figurine. One ear is preserved; the eyes are not indicated. The head tapers to a pointed nose. The mane has been pinched up from the neck. The base of the neck is concave. No traces of slip or other surface treatments remain.



Scale 1:2

**Catalogue no. 16**

Registration no.: 45512  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 37.1 × 17.9 × 49.3 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Yellowish-red, 5YR 5/6.  
 Preservation: Very good.  
 Type: Holland DXI; Gilbert-Peretz B2/B2a.

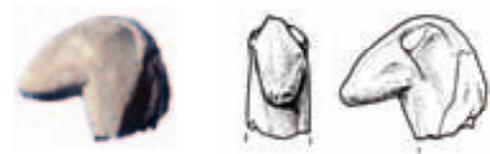


Scale 1:2

Description: Head and neck of an equid figurine. The mane and eyes have been pinched from the face. One ear is preserved, as well as the forelock; both the ear and forelock are later applications. Two very small holes pierced in the front of the nose may indicate nostrils. Faint incised lines run down the length of one side of the face from the eye to the nose. The base of the neck is concave. Traces of white slip are preserved.

**Catalogue no. 17**

Registration no.: 45601  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 37.2 × 16.2 × 31 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Yellowish-red, 5YR 5/6.  
 Preservation: Fair.  
 Type: Holland DXI/DIII; Gilbert-Peretz B2/B2a.



Scale 1:2

Description: Head and partial neck of an equid figurine. The head tapers to a pointed nose, which is broken at the tip. The mane has been pinched from the neck. A large chip has been broken off the back of the neck. Traces of white slip have been preserved.

**Catalogue no. 18**

Registration no.: 45603  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 50.9 × 16.6 × 45.2 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Very good.  
 Type: Holland DXI; Gilbert-Peretz B2.

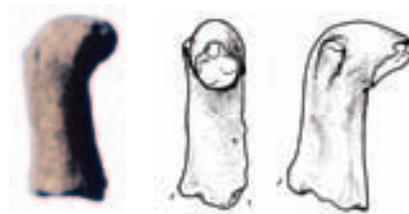


Scale 1:2

Description: Head and neck of an equid figurine. Both ears are preserved; fingerprints remain where the joins were smoothed by hand. The mane has been pinched from the neck. The head tapers to a rounded nose. The eyes are not indicated. White slip has been preserved on one side of the object.

**Catalogue no. 19**

Registration no.: 45736  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 23.3 × 16 × 46.2 mm  
 Firing: Poorly fired; core present.  
 Inclusions: Grit.  
 Munsell color: Light yellowish-brown, 2.5Y 6/4.  
 Preservation: Poor.  
 Type: Holland DXI; Gilbert-Peretz B2.



Scale 1:2

Description: Neck and partial head of an equid figurine. Both ears are broken. The mane has been formed by pinching up the clay of the neck. One side of the neck is chipped.

**Catalogue no. 20**

Registration no.: 45998  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 30 × 18.2 × 55.3 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Excellent.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head and neck of an equid figurine. Both ears are preserved; the eyes are not indicated. The mane has been pinched up from the neck. The head tapers to a pointed nose. Traces of white slip are preserved, as well as possible traces of very faded brown paint.

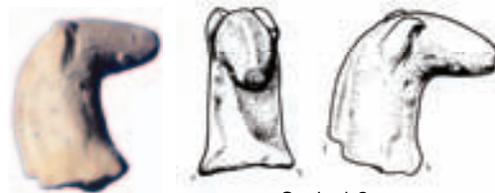


Scale 1:2

**Catalogue no. 21**

Registration no.: 46086  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 461  
 Dimensions: 41.3 × 24.4 × 43.9 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head and neck of an equid figurine. The face tapers to a blunt nose. Both ears are broken; the eyes are not indicated. The mane has been pinched up from the neck. The base of the neck is concave for attachment to the body. Traces of white slip are preserved, as well as a trace of black paint on the underside of the nose on one side of the head.



Scale 1:2

**Catalogue no. 22**

Registration no.: 46100  
 Year excavated: 1995  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions: 31.2 × 13.3 × 25.7 mm  
 Firing: Well fired.  
 Inclusions: Shell; chalk.  
 Munsell color: Red, 2.5 YR 5/6.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head and upper neck of an equid figurine. One ear is fully preserved; the other is broken in the middle. The nose tapers to a point. The mane has been pinched up from the neck. The eyes are not indicated. The figurine has light pink slip and traces of white paint are preserved.

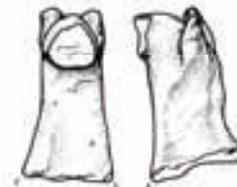


Scale 1:2

**Catalogue no. 23**

Registration no.: 46686  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 21.6 × 22.6 × 42.9 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Neck and partial head of an equid figurine. Both ears are preserved; the mane has been pinched up from the neck. The head is broken in the middle below the eyes. The base of the neck is slightly concave. Traces of white slip are preserved.

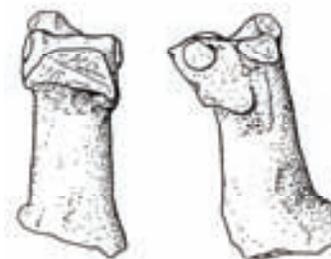


Scale 1:2

**Catalogue no. 24**

Registration no.: 46909  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 28.6 × 27.3 × 57.7 mm  
 Firing: Medium-fired; light core.  
 Inclusions: Grog; grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Poor.  
 Type: Holland DXI; Gilbert-Peretz B2/B2a.

Description: Neck and partial head of an equid figurine. The head is broken just in front of the eyes, which are indicated by an incised circle around a round flat area that is raised slightly higher than the rest of the head. Both ears are preserved; no mane indicated. The figurine is red-slipped with traces of red paint on the neck.

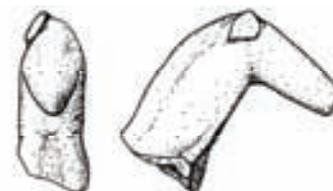


Scale 1:2

**Catalogue no. 25**

Registration no.: 51614  
 Year excavated: 1998  
 Findspot: Grid 50 Square 49 Layer 453  
 Dimensions: 28.8 × 15.3 × 48.8 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI; Gilbert-Peretz B2.

Description: Head of an equid figurine. One ear is partially preserved, no eyes are indicated. The slightly rounded face tapers to a blunt nose. The mane is slightly pinched up from the neck. The neck, with a concave base, has been smoothed over by hand. Traces of white slip are preserved.



Scale 1:2

## ZOOMORPHIC FIGURINES—NONEQUID HEADS AND NECKS

**Catalogue no. 26**

Registration no.: 39844  
 Year excavated: 1992  
 Findspot: Grid 50 Square 48 Layer 384  
 Dimensions: 48 × 53.8 × 27.7 mm  
 Firing: Well fired; no core.  
 Inclusions: Chalk; grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Excellent.  
 Type: Holland FIII; Gilbert-Peretz B1a.

Description: Head of a bull figurine. The entire head, and particularly the joins to the horns have been smoothed by hand. One horn is broken off close to the head, the other is broken 15mm from the head. Two large holes indicate the eyes, and two smaller holes represent the nostrils; a wide horizontal groove denotes the mouth. A pinched area under the head at the join to the neck may indicate a dewlap. There is a small folded and smoothed lump of clay at the back of the head, perhaps where the head was joined to the body. The top of the head is slightly flattened.



Scale 1:2

**Catalogue no. 27**

Registration no.: 45778  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 25 × 33.4 × 42.2 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Poor.  
 Type: Holland GI; Gilbert-Peretz B1.

Description: Head of zoomorphic figurine, possibly a lion. The figurine is somewhat crudely formed, and identification is uncertain. The back of the head is flat and smoothed. An incised line indicates the mouth; two worn lumps of clay denote the eyes. A thin, oblong applied line of clay runs back from the forehead over the top of the head toward the neck. Light incised lines around face may indicate lion's mane.



Scale 1:2

## ZOOMORPHIC FIGURINES—COMPLETE BODIES

*Note:* It is likely that the following zoomorphic fragments (cat. nos. 28–49), which include complete bodies as well as fragments consisting of the forequarters only and hindquarters only, are from representations of horses. This is not certain, however, so both of the possible types from Holland's typology (DXI and GIV) are cited.

**Catalogue no. 28**

Registration no.: 38823  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Layer 252 Feature 252  
 Dimensions: 26.2 × 32.7 × 62.9 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a1.  
 Description: Body of a quadruped figurine. All four legs are broken just below the body. A slightly raised ridge near the neck indicates the placement of the head. The figurine has light slip and traces of dark brown or faded black paint on the top and bottom of the body. No drawing or photograph is available.

**Catalogue no. 29**

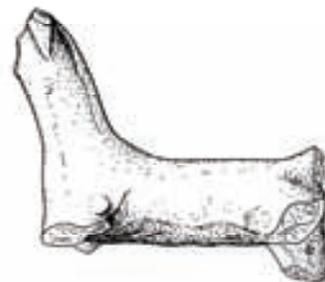
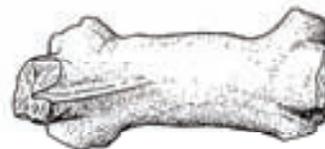
Registration no.: 40281  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Layer 274  
 Dimensions: 55.9 × 32.4 × 22.2 mm  
 Firing: Poorly fired.  
 Inclusions: Chalk; grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a1.  
 Description: Body of a quadruped figurine. The lower portion of the neck is extant; the legs are broken just below the body. The tail is broken. The piece has a light slip and traces of white paint. No drawing or photograph is available.

**Catalogue no. 30**

Registration no.: 40395  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Layer 302  
 Dimensions: 64.5 × 31.5 × 26.1 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a1.  
 Description: Body of a quadruped figurine. The tail is broken and the legs are broken approximately 10 mm below the body. A raised ridge on the body indicates the placement of the head. Traces of white slip remain. Two bands of dark red paint are on the back of the figurine; one band is just behind the neck, the second one runs over the hindquarters of the animal. No drawing or photograph is available.

**Catalogue no. 31**

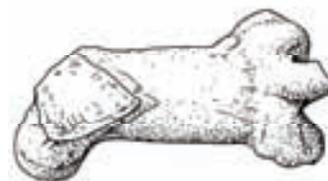
Registration no.: 40731  
 Year excavated: 1992  
 Findspot: Grid 50 Square 48 Layer 388  
 Dimensions: 80.2 × 32 × 61.2 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Pinkish-red, 7.5YR 7/2.  
 Preservation: Good.  
 Type: Holland DXI; Gilbert-Peretz B3a.  
 Description: Body and neck of a quadruped figurine, most probably equid. The mane is pinched up from the neck and is folded slightly to one side. Part of one ear is preserved, and the join has been smoothed by hand, as has the whole body. Part of one hind leg is preserved; the other legs are broken off at the body. The tail is also broken. Traces of white wash or slip have been preserved.



Scale 1:2

**Catalogue no. 32**

Registration no.: 42312  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Layer 389  
 Dimensions: 80.3 × 42.6 × 44.3 mm  
 Firing: Poorly fired.  
 Inclusions: Grit; straw.  
 Munsell color: Light reddish-brown, 5YR 6/3.  
 Preservation: Good.  
 Type: Holland DXI/GVI; Gilbert-Peretz B3a.  
 Description: Body of a quadruped figurine. Three of the legs are broken partway down from the body; the fourth is broken off at the body. The tail is almost completely preserved; it is broken at the very tip. Faint fingerprints remains on the body from where it was smoothed by hand. A depression with raised ridges around it mark where the head was attached. Traces of white slip or paint are preserved.



Scale 1:2

**Catalogue no. 33**

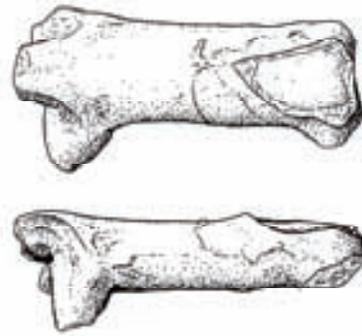
Registration no.: 44119  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 425  
 Dimensions: 56.1 × 17.3 × 16 mm  
 Firing: Well fired.  
 Inclusions: Grit; sand.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI/GVI; Gilbert-Peretz B3a.  
 Description: Body of a quadruped figurine; the body is very thin and flattened on the top and bottom. All four legs are broken at the body. Traces of a pinkish-brown slip are preserved.



Scale 1:2

**Catalogue no. 34**

Registration no.: 44474  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 439  
 Dimensions: 89.2 × 36.5 × 37.6 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3b.  
 Description: Body and part of one leg of a quadruped figurine. One leg is broken below the body; the other three are not preserved. The tail is broken just past the body. The piece has light slip and traces of white paint.



Scale 1:2

**Catalogue no. 35**

Registration no.: 46087  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 461  
 Dimensions: 68.4 × 25.7 × 33.2 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Pale red, 10R 6/4.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a.  
 Description: Body of a quadruped figurine. One front leg is preserved; the other three have been broken off at the body. A depression on the body indicates the placement of the head. The figurine has light pink slip and traces of white paint.



Scale 1:2

**Catalogue no. 36**

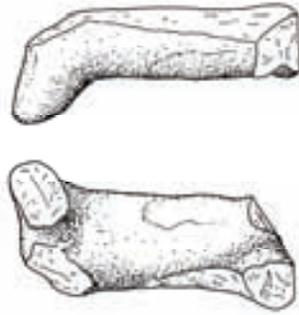
Registration no.: 46227  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 461  
 Dimensions: 59.9 × 41.5 × 19.5 mm  
 Firing: Medium-fired.  
 Inclusions: Grit; sand.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a.  
 Description: Body of a quadruped figurine. The front legs are broken in the middle; the hind legs are broken just below the body. The tail is also broken. An indentation on the top of the body indicates where the head was joined to the body. Traces of white slip remain. No drawing or photograph is available.

**Catalogue no. 37**

Registration no.: 46272  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 74.6 × 33.6 × 56.4 mm  
 Firing: Poorly fired.  
 Inclusions: Chalk; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a.  
 Description: Body and one leg of a quadruped figurine. One foreleg is completely preserved; the other three legs have been broken just below the body. The tail and end of the body are broken. Fingerprints are visible on the body where it has been smoothed by hand. Pale light red or pinkish slip covers the body. No drawing or photograph is available.

**Catalogue no. 38**

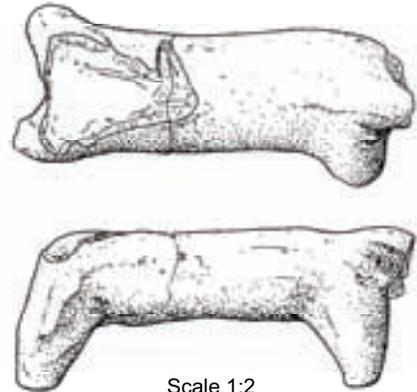
Registration no.: 46907  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 70.5 × 31.3 × 24.5 mm  
 Firing: Well fired; no core.  
 Inclusions: Sand.  
 Munsell color: Light brown, 7.5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI/GVI; Gilbert-Peretz B3a1.  
 Description: Body of a quadruped figurine. Traces of one front leg and one back leg remain; both are broken just below the body. Traces of white slip are preserved, and two spots of orange-red paint are present on the top of the body.



Scale 1:2

**Catalogue no. 39**

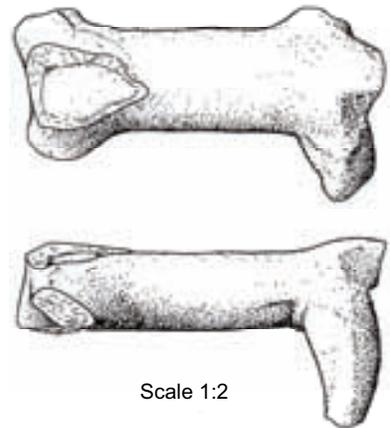
Registration no.: 47815  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 105.5 × 40.8 × 41.8 mm  
 Firing: Poorly fired; large core.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a/B3a1.  
 Description: Body of a quadruped figurine. Three legs are preserved; the fourth is broken at the body. The tail has also been broken. A raised ridge around the neck indicates the placement of the head. The figurine is covered with a pink slip and there are traces of white paint.



Scale 1:2

**Catalogue no. 40**

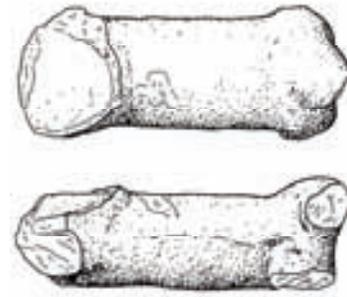
Registration no.: 47946  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 40 × 92.6 × 59.5 mm  
 Firing: Well fired.  
 Inclusions: Grit; sand.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a/B3a1.  
 Description: Body of a quadruped figurine. The left hind leg is preserved; the other legs are broken at the body. The tail is broken just beyond the body. The body has been smoothed by hand. The piece has light pink slip and faint traces of white paint.



Scale 1:2

**Catalogue no. 41**

Registration no.: 51612  
 Year excavated: 1998  
 Findspot: Grid 50 Square 49 Layer 449  
 Dimensions: 32.7 × 83.6 × 25.7 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland DXI/GIV; Gilbert-Peretz B3a/B3a1.  
 Description: Body of a quadruped figurine. All four legs are broken at the body and the tail is broken just past the body. A depressed area with a raised ridge around it indicates the placement of the head. The whole body has been smoothed by hand. The piece has a light pink slip and faint traces of white paint.



Scale 1:2

## ZOOMORPHIC FIGURINES—FOREQUARTERS

**Catalogue no. 42**

Registration no.: 40397  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Layer 302  
 Dimensions: 34.6 × 29.3 × 24.1 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Forequarters of a quadruped figurine. A raised ridge indicates the area for the head attachment. Traces of white slip remain. No drawing or photograph is available.

**Catalogue no. 43**

Registration no.: 44501  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions: 26.9 × 13.2 × 10.7 mm  
 Firing: Medium-fired; light core.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4  
 Preservation: Good.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Forequarters of a quadruped figurine. The piece is broken in the middle of the body; the location for the head attachment is clearly visible. The front legs are broken just below the body.



Scale 1:2

**Catalogue no. 44**

Registration no.: 44652  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 439  
 Dimensions: 41.4 × 31.6 × 45.3 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Partial neck and forequarters of a quadruped figurine. Both front legs are broken slightly below the body. The base of the neck shows part of a pinched mane. The join of the head to the body has been smoothed by hand. The piece has light red slip with traces of white paint preserved. No drawing or photograph is available.

**Catalogue no. 45**

Registration no.: 45999  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 26.8 × 41.5 × 30.4 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Yellowish-red, 5YR 5/6.  
 Preservation: Good.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Forequarters of quadruped figurine. The two preserved legs are broken just below the body. An indentation on the body indicates the location of the head attachment. Fingerprints are visible on the legs where the joins were smoothed by hand. Possible traces of white slip.



Scale 1:2

**Catalogue no. 46**

Registration no.: 46744  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 467  
 Dimensions: 67.6 × 38.3 × 38.1 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/3.  
 Preservation: Good.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Forequarters and lower portion of the neck of a quadruped figurine. The two front legs are broken just below the body. Fingerprints are visible where the neck has been joined to the body. The figurine is covered with a light slip. No drawing or photograph is available.

**Catalogue no. 47**

Registration no.: 51610  
 Year excavated: 1998  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 57 × 37.9 × 26.1 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/3.  
 Preservation: Fair.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Forequarters of quadruped figurine. The front legs are broken at the body; raised ridges indicate the location of the head. Traces of a light pale pink slip remain and indications of white paint.



Scale 1:2

**Catalogue no. 48**

Registration no.: 51611  
 Year excavated: 1998  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 49.3 × 34 × 52.5 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXI/GII; Gilbert-Peretz B3f.  
 Description: Forequarters of quadruped figurine. The right foreleg is preserved; the left one is broken halfway down from the body. The neck is broken off just above the body, and the body itself is broken approximately 10 mm behind the neck. The joins of the legs and neck to the body have been smoothed over by hand. Traces of white slip.



Scale 1:2

## ZOOMORPHIC FIGURINES—HINDQUARTERS

**Catalogue no. 49**

Registration no.: 45495  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 32.4 × 26.6 × 19 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-brown, 5YR 5/3.  
 Preservation: Poor.  
 Type: Holland DXI/GIII; Gilbert-Peretz B3c.  
 Description: Hindquarters of quadruped figurine. The legs are broken just below the body; the tail is also broken.



Scale 1:2

## ZOOMORPHIC FIGURINES—LEGS

**Catalogue no. 50**

Registration no.: 44677  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 259  
 Dimensions: 11.7 × 11.7 × 28.3 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light brown, 7.5YR 6/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h2.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a truncated point. No drawing or photograph is available.

**Catalogue no. 51**

Registration no.: 44820  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 259  
 Dimensions: 13.4 × 13.4 × 31.9 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light brown, 7.5YR 6/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a point. Traces of white slip or wash are preserved. No drawing or photograph is available.

**Catalogue no. 52**

Registration no.: 44972  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Fine-grid 54 Layer 299  
 Dimensions: 12.9 × 12.9 × 27.1 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a point. Traces of white slip remain. No drawing or photograph is available.

**Catalogue no. 53**

Registration no.: 45196  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 259  
 Dimensions: 12.8 × 12.8 × 28 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a point. Traces of a white slip or wash are preserved. No drawing or photograph is available.

**Catalogue no. 54**

Registration no.: 45748  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 13 × 13 × 18.2 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a point. No drawing or photograph is available.

**Catalogue no. 55**

Registration no.: 46999  
 Year excavated: 1996  
 Findspot: Grid 50 Square 47 Layer 302  
 Dimensions: 22.9 × 22.9 × 37 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Good.  
 Type: Holland GVI/PIII; Gilbert-Peretz B3h1/D.  
 Description: Possibly the leg of a zoomorphic figurine. This is a thick, round, slightly bent piece of clay, broken at one end and flat on the other. The clay has been smoothed by hand, leaving finger marks. The piece is covered with a light slip, and there is one faint line of light red paint running the length of the piece. No drawing or photograph is available.

**Catalogue no. 56**

Registration no.: 44482  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 444  
 Dimensions: 14.7 × 14.7 × 40.9 mm  
 Firing: Poorly fired; core present.  
 Inclusions: Grit.  
 Munsell color: Light brown, 7.5YR 6/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1/B3h2.  
 Description: Two legs (pieces A and B) from a zoomorphic figurine. Piece A (with dimensions above) was formed by twisting a roll of clay; the leg tapers to a point. Piece B (dimensions 16.5 × 36.5 × 33.5 mm) is a curved piece of clay, which tapers to a truncated point. Both pieces have traces of white slip. No drawing or photograph is available.

**Catalogue no. 57**

Registration no.: 45747  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 15.4 × 15.4 × 30.1 mm

Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 6/6.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h2.  
 Description: Leg of a zoomorphic figurine; slightly curved and tapering to a truncated point. Very faint traces of a white wash or slip remain. No drawing or photograph is available.

**Catalogue no. 58**

Registration no.: 45749  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 15.6 × 15.6 × 33.4 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/4.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a point. Traces of white slip are preserved. No drawing or photograph is available.

**Catalogue no. 59**

Registration no.: 45750  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 33.4 × 38.6 × 54.1 mm  
 Firing: Medium-fired.  
 Inclusions: Grit; sand.  
 Munsell color: Reddish-yellow, 5YR 6/6.  
 Preservation: Good.  
 Type: Holland GVI/PIII; Gilbert-Peretz B3h1/D.  
 Description: Leg of a zoomorphic figurine. The leg is very thick and round with a flat base, with a deep indentation halfway down on one side. The piece is covered with a light pinkish slip; faint traces of white paint. No drawing or photograph is available.

**Catalogue no. 60**

Registration no.: 45870  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 31.2 × 30.3 × 68.4 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 7/6.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h2.  
 Description: Leg of a zoomorphic figurine. The leg tapers to a truncated point, and has been smoothed over by hand. Traces of a light colored slip are preserved. No drawing or photograph is available.

**Catalogue no. 61**

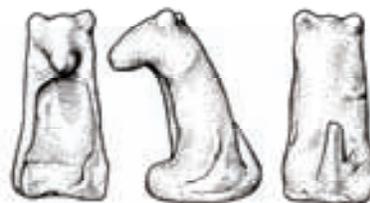
Registration no.: 46685  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 467  
 Dimensions: 12.3 × 12.3 × 35.6 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light gray, 10YR 7/2.  
 Preservation: Good.  
 Type: Holland GVI; Gilbert-Peretz B3h1.  
 Description: Leg of zoomorphic figurine. The leg is slightly curved and tapers to a rounded end. No drawing or photograph is available.

## ZOOMORPHIC FIGURINES—OTHER

**Catalogue no. 62**

Registration no.: 46603  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 449  
 Dimensions: 41.4 × 24.4 × 49 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-brown, 2.5YR 5/4.  
 Preservation: Very good.  
 Type: Holland GI/GV; Gilbert-Peretz B1e/M.

Description: Zoomorphic figurine, possibly to be identified as a hyrax or bear. The animal is sitting on its haunches with its hind feet forward. The interior of the body is concave or hollowed out. The front feet are not visible. The head tapers to a pointed nose; the ears are pinched up from the head. A short applied tail runs up the back of the animal.



Scale 1:2

## HORSE-AND-RIDER FIGURINES—HORSE FRAGMENTS

**Catalogue no. 63**

Registration no.: 40249  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Fine-grid 3 Layer 373  
 Dimensions: 48 × 53.8 × 27.7 mm  
 Firing: Poorly fired; core present.  
 Inclusions: Grit.  
 Munsell color: Yellowish-red, 5YR 5/6.  
 Preservation: Poor.  
 Type: Holland DXII; Gilbert-Peretz B3b.

Description: Body of horse from a horse-and-rider figurine. The feet of the rider are preserved as small applied lumps of clay on either side of the body. The front legs of the horse are broken off at the body, and the body of the horse is broken just behind the rider's feet. Raised ridges around the neck indicate the location of the head attachment. Traces of white slip are preserved.

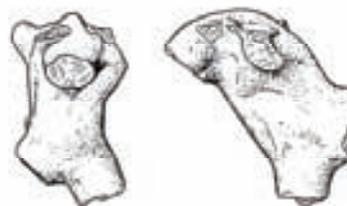


Scale 1:2

**Catalogue no. 64**

Registration no.: 44562  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 421 Feature 421  
 Dimensions: 52.2 × 18.9 × 22.2 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXII; Gilbert-Peretz B2e.

Description: Horse head from a horse-and-rider figurine. The head is broken in front of the ears, which are not preserved. The body is broken just behind the neck, and the front legs have been broken just below the body. The hands and the very end of the lower arms of the rider are still attached on either side of the neck. The mane of the horse has been pinched up from the neck in between the hands of the rider. Traces of white slip.



Scale 1:2

**Catalogue no. 65**

Registration no.: 44721  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 448  
 Dimensions: 143.3 × 49 × 40.9 mm  
 Firing: Poorly fired.  
 Inclusions: Shell; grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland HII; Gilbert-Peretz B2b1/B3b.  
 Description: Hollow body of a horse from a horse-and-rider figurine. The body has pierced holes for the head and rider attachments; indentations are present in the clay around each pierce. Indentations on the lower body indicate where the legs were attached. An applied vertical line of clay, broken where it continued downward from the body, indicates the tail. A pinched line of clay descends from where the head was joined to the body to between the two front legs, descending slightly below the body itself. This may possibly represent a harness or other ornamentation. Traces of white slip or paint remain.



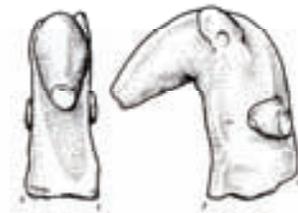
top

side

Scale 1:2

**Catalogue no. 66**

Registration no.: 46602  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 449  
 Dimensions: 44.3 × 18.5 × 52.3 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXII; Gilbert-Peretz B2e.  
 Description: Head and neck of a horse from a horse-and-rider figurine. The head is rounded and broken at the very tip of the nose. Both ears are preserved; the eyes are not indicated. The hands of the rider are present on the neck as two small round applications; the rest of the rider is not preserved. Finger marks remain on the neck where it has been smoothed by hand. Traces of white slip are preserved.



Scale 1:2

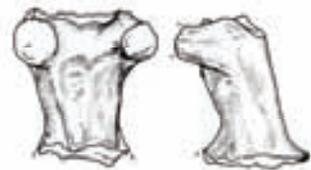
## HORSE-AND-RIDER FIGURINES—RIDER FRAGMENTS

**Catalogue no. 67**

Registration no.: 42426  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Layer 389  
 Dimensions: 14.6 × 32 × 39.3 mm  
 Firing: Well fired.  
 Inclusions: Sand; grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Good.  
 Type: Holland DXVI; Gilbert-Peretz A6/A6a.  
 Description: Solid torso of an anthropomorphic figurine, most probably a rider from a horse-and-rider figurine. The figure is broken directly above the shoulders, with both arms broken below the shoulders. A raised ridge at the top indicates the location of the head attachment. The trunk flares out slightly at the base, probably in order to attach to the horse. Traces of white slip have been preserved. No drawing or photograph is available.

**Catalogue no. 68**

Registration no.: 45494  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 29 × 34.3 × 39 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland DXVI; Gilbert-Peretz A6a.



Scale 1:2

Description: Torso of rider from a horse-and-rider figurine. The base of the figure is slightly concave in order to attach to the body of the horse. The top of the torso is also concave, presumably for the attachment of the head of the rider. Both arms are broken below the shoulders. Traces of white slip.

## ANTHROPOMORPHIC FIGURINES—MOLD-MADE FEMALE HEADS

**Catalogue no. 69**

Registration no.: 44164  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Fine-grid 58 Layer 446  
 Dimensions: 29 × 33.5 × 59.9 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Fair.  
 Type: Holland AII; Gilbert-Peretz A2b1; Kletter 5.III.3.  
 Description: Head of a female figurine wearing a wig or headdress. Two faint incised lines over the forehead indicate curls and faint traces of decoration remain in the headdress on either side of the face. The face is rounded with full cheeks; the features are slightly eroded. Traces of white wash or slip remain.



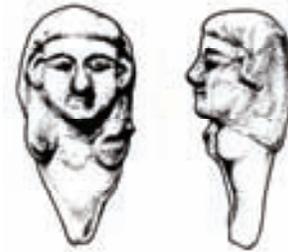
Scale 1:2

**Catalogue no. 70**

Registration no.: 44344  
 Year excavated: 1994  
 Findspot: Grid 50 Square 58 Layer 302  
 Dimensions: 27 × 29.3 × 59.6 mm  
 Firing: Well fired.  
 Inclusions: Sand.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Good.  
 Type: Holland AVIII; Gilbert-Peretz A; Kletter 5.III.8.  
 Description: Head of molded female figurine wearing a plain wig or headdress. The end of the nose is chipped; the chin is pointed. Faint lines delineate the eyes and eyebrows. The headdress is set far back on the head; the folds of the headdress originally fell forward under the cheeks on both sides of the face. The headdress has been smoothed over by hand. Traces of white slip remain. No drawing or photograph is available.

**Catalogue no. 71**

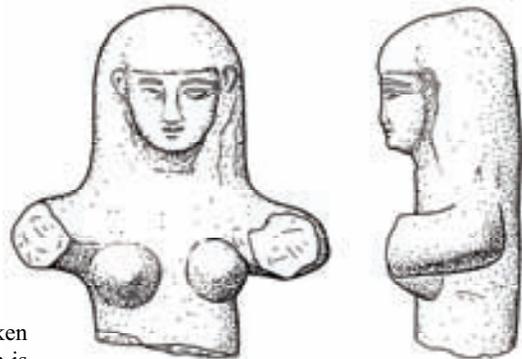
Registration no.: 44535  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 439  
 Dimensions: 27.8 × 32.4 × 56.1 mm  
 Firing: Poorly fired.  
 Inclusions: Chalk; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland AVIII; Gilbert-Peretz A; Kletter 5.III.8.  
 Description: Molded head of a female figurine wearing a plain wig or headdress. The rounded ends of the front of the headdress fall below the chin. Wide lines delineate the eyes; the nose is disproportionally large. The ears are set over the sides of the headdress. The back of the head has been smoothed by hand. Traces of white slip are preserved.



Scale 1:2

**Catalogue no. 72**

Registration no.: 44450  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 448  
 Dimensions: 28.6 × 65.5 × 73.5 mm  
 Firing: Well fired.  
 Inclusions: Sand; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Excellent.  
 Type: Holland AX; Gilbert-Peretz A3.  
 Description: Female head and torso with molded features, broken approximately 5 mm below the breasts. The left arm is broken below the elbow and the right arm is broken below the shoulder. The arms branch off from the body in straight lines, from a starting point slightly above the placement of the breasts, which are pointed and spaced widely apart. The arms then turn forward at right angles. The figurine is wearing a wig or headdress; a wide incised line separates the headdress from the forehead. The ears are indicated with delicate incised lines and are set over the headdress. The eyes are almond shaped; fine lines indicate the eyebrows. Traces of white slip are preserved. Although Kletter's Type 5.IV.1 includes "fairly whole hand-made figurines with pillar bodies" (Ketter 1996:84), he does not have a type that adequately describes a molded face on a solid body.



Scale 1:2

**Catalogue no. 73**

Registration no.: 45172  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 440  
 Dimensions: 30 × 41.2 × 62.5 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland AVIII; Gilbert-Peretz A2; Kletter 5.III.8.  
 Description: Head of molded female figurine wearing a plain headdress. The features are partially eroded, with the eyes preserved as indentation; the tip of the chin is broken. A horizontal incised line separates the headdress from the forehead. The back of the head has been smoothed by hand. The clay below the head tapers to a peg for insertion into a hollow body. Traces of white slip are preserved.



Scale 1:2

**Catalogue no. 74**

Registration no.: 45176  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 449  
 Dimensions: 28 × 32.3 × 49.6 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-brown, 5YR 5/3.  
 Preservation: Good.  
 Type: Holland AVIII; Gilbert-Peretz A2; Kletter 5.III.8.  
 Description: Head of a female figurine in a veil or headdress. The details of the headdress are badly eroded. Two hollows indicate the eyes; the front of the nose and the mouth have been worn away. A worn incised horizontal line separates the headdress from the forehead. The back of the headdress has been smoothed by hand. Traces of white slip are preserved.



Scale 1:2

**Catalogue no. 75**

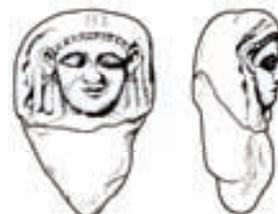
Registration no.: 45524  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 27.3 × 30 × 59.3 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Fair.  
 Type: Holland AVIII; Gilbert-Peretz A2; Kletter 5.III.8.  
 Description: Head of a female figurine wearing a plain wig or headdress. Thick lines are incised around the eyes, and the nose is disproportionately large and wide for the size of the face. The head is covered with a light pinkish-white slip.



Scale 1:2

**Catalogue no. 76**

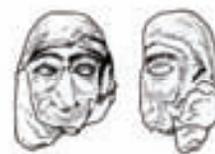
Registration no.: 46683  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 19.3 × 35.8 × 54.8 mm  
 Firing: Poorly fired; core visible.  
 Inclusions: Grit.  
 Munsell color: Light brown, 7.5YR 6/4.  
 Preservation: Very good.  
 Type: Holland AIV; Gilbert-Peretz A2a3; Kletter 5.III.3/5.III.8.  
 Description: Head of a female figurine wearing a wig or headdress. A line of small round dots indicating curls runs over the forehead; traces of short vertical lines run from the top of the curls over the top of the head, indicating the lines of the hair of the wig. Incised vertical lines run from below the ears to the bottom of the headdress, indicating folds of the headdress or locks of hair. The face has large eyes, a wide nose, and a very small mouth. A large chip or flake off the back of the headdress exposes the large dark core. Traces of white slip are preserved.



Scale 1:2

**Catalogue no. 77**

Registration no.: 46687  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 19.5 × 26.2 × 32 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5 YR 6/4.  
 Preservation: Fair.  
 Type: Holland AVIII; Gilbert-Peretz A; Kletter 5.III.8  
 Description: Head of a female figurine, wearing a veil or headdress. The nose is broken. Vertical incised lines indicate the sides of the veil or headdress. The back of the head has been smoothed by hand. Traces of white slip remain in the incised lines of the eyebrows.



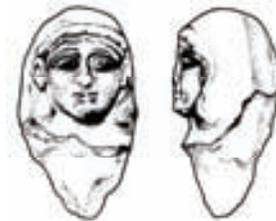
Scale 1:2

**Catalogue no. 78**

Registration no.: 46688  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 32 × 36.6 × 40 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/3.  
 Preservation: Fair.  
 Type: Holland AIV; Gilbert-Peretz A2/A3a3; Kletter 5.III.3/5.III.8.  
 Description: Head of a female figurine wearing a headdress. The features have been heavily eroded. Lightly incised lines are present around the eyes, mouth, and the preserved right ear. Slight, short vertical lines represent the hair or the decoration on the front of the headdress. The back of the head is flat and has been smoothed by hand; traces of white slip are present on the figurine. No drawing or photograph is available.

**Catalogue no. 79**

Registration no.: 46689  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 27.4 × 28.9 × 63.4 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Pink, 7/5YR 8/4.  
 Preservation: Good.  
 Type: Holland AVII; Gilbert-Peretz A2d2; Kletter 5.III.3.  
 Description: Head of a female figurine wearing a wig or headdress. The head has large eyes and the eyebrows are indicated with fine incised lines. The tip of the nose has been eroded away. The ears, indicated with incised lines, are placed over the headdress. The ends of the headdress come forward in a rounded curve just below the face. At least one row of curls is indicated over the forehead. Finger marks remain on the headdress where it has been smoothed by hand. The head has pale pink slip, and traces of white paint remain.



Scale 1:2

**Catalogue no. 80**

Registration no.: 46974  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 31.6 × 26.8 × 58.7 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland AVIII; Gilbert-Peretz A2; Kletter 5.III.8.  
 Description: Head of a female figurine with a plain veil or headdress and pinched features. An incised line separates the headdress, which has been smoothed by hand, from the forehead. Traces of white slip are preserved. No drawing or photograph is available.

**Catalogue no. 81**

Registration no.: 51609  
 Year excavated: 1998  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 15.5 × 22.3 × 31.3 mm  
 Firing: Well fired.  
 Inclusions: Sand; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Fair.  
 Type: Holland AVIII/AXII; Gilbert-Peretz A2.  
 Description: Head of a female figurine in a pointed headdress. The features are heavily eroded. The headdress or veil is set far back on the top of the head, and the back of the head is flattened. Very faint traces of white slip are preserved. No drawing or photograph is available.

**Catalogue no. 82**

Registration no.: 51613  
 Year excavated: 1998  
 Findspot: Grid 50 Square 49 Layer 453  
 Dimensions: 30.4 × 25.3 × 51.8 mm  
 Firing: Well fired.  
 Inclusions: Sand; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Fair.  
 Type: Holland AVIII; Gilbert-Peretz A2; Kletter 5.III.8.  
 Description: Head of a female figurine wearing a plain headdress. The features are eroded. Wide lines are incised around the eyes, which are set far back under the brows; the nose appears disproportionately wide and large, as does the mouth. The large ears are set back over the sides of the headdress, which comes forward over the shoulders in rounded ends. The back of the headdress has been smoothed by hand. Faint traces of white slip remain. No drawing or photograph is available.

## ANTHROPOMORPHIC FIGURINES—MOLD-MADE MALE HEADS

**Catalogue no. 83**

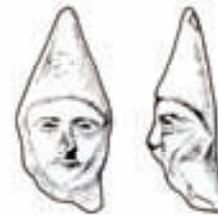
Registration no.: 45329  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 28.5 × 34.3 × 59.4 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland AXII/PI; Gilbert-Peretz E/M; Kletter 5.IV.5.  
 Description: Head of a molded figurine wearing a headdress. The figurine has large ears set high on the sides of the head, which is rounded in the back. The eyebrows and eyes are raised off the face; the tip of the nose and the mouth are eroded, and the tip of the chin is broken. The headdress bulges out slightly over the forehead. Incised lines curving down the sides of the figurine's cheeks indicate straps of the headdress that may have been attached to a false, "Egyptian-style" beard, which has not been preserved, which would explain the break at the base of the chin.



Scale 1:2

**Catalogue no. 84**

Registration no.: 45527  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 18.3 × 25.6 × 53.1 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Very pale brown, 10YR 7/4.  
 Preservation: Fair.  
 Type: Holland AXII/PI; Gilbert-Peretz E/M.  
 Description: Head of a male figurine wearing a pointed cap. The features are eroded; faint lines indicate the eyes. Wider incised lines separate the pointed cap from the forehead. A small rounded area of the right side of the head indicates one ear; the other ear is not preserved. The mouth is eroded. The figurine is broken directly below the chin. The back of the head has been flattened and is slightly concave. This type is more commonly found in Persian-period contexts, so its presence in the seventh-century B.C. assemblage from Ashkelon may indicate contamination from a later layer.

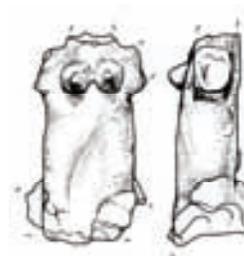


Scale 1:2

## ANTHROPOMORPHIC FIGURINES—SOLID BODIES

**Catalogue no. 85**

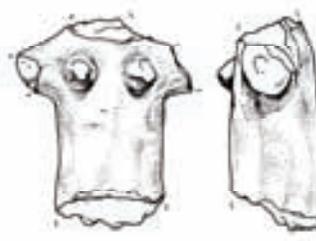
Registration no.: 44067  
 Year excavated: 1994  
 Findspot: Grid 38 Square 64 Layer 793 Feature 793 [Iron IIB/C]  
 Dimensions: 18.4 × 29 × 52.9 mm  
 Firing: Poorly fired; core present.  
 Inclusions: Shell; grit.  
 Munsell color: Red, 2.5YR 5/6.  
 Preservation: Good.  
 Type: Holland AXI; Gilbert-Peretz A3; Kletter 5.IV.7.  
 Description: Solid body of a female figurine, broken at the shoulders and neck. The base of the body is concave, indicating that it was attached to another object. The breasts are pointed and set very close together. Traces of reddish paint are preserved on the back of the figurine.



Scale 1:2

**Catalogue no. 86**

Registration no.: 44592  
 Year excavated: 1994  
 Findspot: Grid 50 Square 47 Layer 285  
 Dimensions: 23.5 × 45.9 × 54.5 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Light yellow brown, 10YR 6/4.  
 Preservation: Good.  
 Type: Holland AXI; Gilbert-Peretz A3; Kletter 5.IV.7.  
 Description: Torso and waist of a solid female figurine. The figurine has small breasts; both arms are broken off at the shoulders. The body has been smoothed by hand. The piece is covered with light brownish-pink slip and traces of white paint are preserved.



Scale 1:2

## ANTHROPOMORPHIC FIGURINES—WHEEL-MADE HOLLOW BODIES

**Catalogue no. 87**

Registration no.: 44616  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 448  
 Dimensions: 44 × 39.7 × 61.6 mm  
 Firing: Well fired.  
 Inclusions: Grit; shell.  
 Munsell color: Light red, 2.5 YR 6/6.  
 Preservation: Good.  
 Type: Holland BIX; Gilbert-Peretz A3c; Kletter 5.IV.6.  
 Description: Torso of a hollow wheel-made female figurine or bottle. One breast is preserved; an indentation remains on the torso indicating the location of the other breast application. Traces of white slip or paint.



Scale 1:2

**Catalogue no. 88**

Registration no.: 44660  
 Year excavated: 1994  
 Findspot: Grid 50 Square 58 Layer 302  
 Dimensions: 11.9 × 31.3 × 34 mm  
 Firing: Poorly fired.  
 Inclusions: Sand; grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Good.  
 Type: Holland BIX; Gilbert-Peretz M; Kletter 5.IV.6.  
 Description: Front portion of the torso of a hollow female figurine or anthropomorphic bottle. Both breasts are preserved. The piece is covered with a light pink slip. It is possible that this piece could be from a vessel with a zoomorphic spout, with the back of the head and two horns of an animal preserved, but the anthropomorphic interpretation seems more probable. If this is a zoomorphic figurine, however, it would be Holland Type HVI. No drawing or photograph is available.

**Catalogue no. 89**

Registration no.: 44698  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 259  
 Dimensions: 30.1 × 31.6 × 40.9 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Pink, 5YR 7/3.  
 Preservation: Poor.  
 Type: Holland BIX; Gilbert-Peretz M; Kletter 5.IV.6.  
 Description: Fragment of a hollow figurine torso. The broken peg of the head attachment remains inside the body. The piece is covered with a light pink slip. No drawing or photograph is available.

**Catalogue no. 90**

Registration no.: 45521  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 35.1 × 78.6 × 55.9 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Very good.  
 Type: Holland BIX; Gilbert-Peretz A3d1; Kletter 5.IV.6.  
 Description: Torso of a mother-and-child figurine. The breasts and arms of the mother are later applications. The plug from the head attachment is broken off inside the hollow torso. The child is represented by a long roll of clay attached to the mother's torso above the arms and below the breasts. The right arm of the mother is over the lower part of the roll of clay representing the child. The left arm of the child reaches over the mother's left breast to attach to her upper torso. Traces of white paint over pale reddish slip.

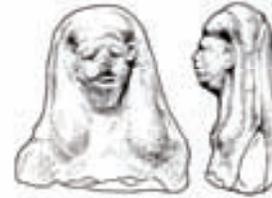


Scale 1:2

## ANTHROPOMORPHIC PLAQUE FIGURINES

**Catalogue no. 91**

Registration no.: 39692  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 41 Layer 262  
 Dimensions: 20.5 × 44.9 × 48.1 mm  
 Firing: Medium-fired; core present.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 5YR 6/4.  
 Preservation: Fair.  
 Type: Holland CVIII/NI; Gilbert-Peretz A7; Kletter 5.V.



Scale 1:2

Description: Head and shoulders of a mold-made plaque figurine. The figurine is broken just below the shoulders, above the breasts. Rounded areas on either side of the neck indicate either the end of the hair or the folds of a wig or headdress. The nose is slightly eroded, and only very faint traces of the eyes and mouth remain. Fingerprints remain on the side of the plaque where it was smoothed by hand.

**Catalogue no. 92**

Registration no.: 45575  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 17.6 × 34.4 × 33.2 mm  
 Firing: Well fired.  
 Inclusions: Grog.  
 Munsell color: Pink, 7.5YR 7/4.  
 Preservation: Fair.  
 Type: Holland CVIII; Gilbert-Peretz A7; Kletter 5.V.



Scale 1:2

Description: Handmade female head with a pointed or peaked headdress. The back of the head is flat; the bottom of the piece is slightly concave. The features are heavily eroded. The peak of the headdress is set well back on the top of the head.

**Catalogue no. 93**

Registration no.: 46274  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 22.7 × 43 × 62.6 mm  
 Firing: Medium-fired.  
 Inclusions: Grit.  
 Munsell color: Light reddish-brown, 2.5YR 6/4.  
 Preservation: Poor.  
 Type: Holland CVII; Gilbert-Peretz A7; Kletter 5.V.7/5.V.10.



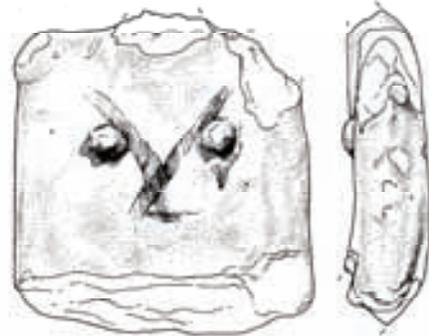
Scale 1:2

Description: Torso and upper portion of the legs of a mother-and-child figurine. The figurine is broken just below the neck of the mother, and the entire piece is very worn and eroded. The right breast of the mother is visible; the child is over the left breast. The upper legs of the mother are visible below the child. The child is formed from a roll of clay, with a slight indentation at the sides to indicate the head, which is turned upward. The eyes, nose, and mouth of the child are faintly visible as dots or indentations in the clay. The child's left arm reaches out over the mother's left breast. The sides of the figurine have been smoothed by hand, leaving visible fingerprints.

## ANTHROPOMORPHIC FIGURINES—"ASHDODA" TYPE

**Catalogue no. 94**

Registration no.: 44919  
 Year excavated: 1994  
 Findspot: Grid 50 Square 58 Layer 318 Feature 318  
 Dimensions: 22.4 × 76.9 × 81.7 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Light red, 2.5YR 6/6.  
 Preservation: Fair.  
 Type: Holland PI; Gilbert-Peretz C; Kletter 5.IV.4.  
 Description: The back and/or torso of an "Ashdoda" couch figurine. The figurine's breasts are small and widely spaced, with one breast set higher than the other. The figurine is white slipped and decorated in red paint. Both breasts are circled in red, and a net pattern runs over the chest area. There is also a faint indication of a horizontal line running at the top of the net pattern, as well as faint traces of painted lines descending at an angle from the right breast and descending vertically from the left breast.

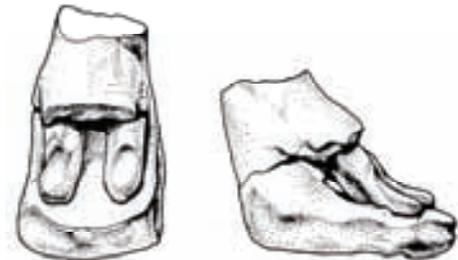


Scale 1:2

## ANTHROPOMORPHIC FIGURINES—OTHER

**Catalogue no. 95**

Registration no.: 46709  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 62.8 × 37.3 × 47.2 mm  
 Firing: Well fired; no core.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 7/6.  
 Preservation: Good.  
 Type: Holland PI; Gilbert-Peretz M.  
 Description: Lower portion of a seated figure on a rectangular base. The figure is wearing a skirt or kilt that molds into the back of the chair; the feet of the figure are applied onto the base. The left foot of the figurine is pointed, and the toe of the right foot is broken off or eroded. A dot of red paint is present on the left foot. Traces of white paint remain on the base, both feet and the skirt.



Scale 1:2

**Catalogue no. 96**

Registration no.: 45138  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 443 [Iron IIB/C]  
 Dimensions: 30.4 × 34.2 × 73.5 mm  
 Firing: Well fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 7/6.  
 Preservation: Fair.  
 Type: Holland PI/PII; Gilbert-Peretz B1/M.  
 Description: Anthropomorphic figurine, possibly representing a cat-headed figure, on a flat base. The back of the figurine is flat and smoothed. The face of the figurine appears pinched; the mouth is broken. The ears are pinched. The arms of the figurine have been broken at the shoulders; one leg is present, broken off above the foot that remains on the base. The breasts are indicated by one rounded lump of clay. The base of the figurine is broken; a small round hole has been pierced between the legs. Traces of white slip remain.



Scale 1:2

## UNIDENTIFIABLE FRAGMENT

**Catalogue no. 97**

Registration no.: 46303  
 Year excavated: 1995  
 Findspot: Grid 38 Square 84 Layer 407 Feature 407  
 Dimensions: 16 × 29.7 × 27.8 mm  
 Firing: Poorly fired.  
 Inclusions: Grit.  
 Munsell color: Reddish-yellow, 5YR 7/6.  
 Preservation: Fair.  
 Type: Holland PIII; Gilbert-Peretz M.  
 Description: Unidentifiable handmade figurine fragment with light pink slip and traces of white paint.



Scale 1:2



## 17. BALANCE WEIGHTS

by Kathleen J. Birney and Ely Levine

**I**N ANCIENT precoinage economies, commodities were often bought and sold in exchange for quantities of silver. The silver was in the form of cut-up pieces of jewelry or segments of “chocolate bar” ingots (see Thompson 2003:figs. 2–5). These were weighed out on a two-pan balance, measuring them against known weights. The desired quantity of silver was obtained when the two pans of the balance were at an even height.

Balance weights were made in several shapes and materials. The objects published in this chapter are identified as weights by comparison with objects that are depicted as weights in ancient artwork or by inscriptions on the objects themselves (Petrie 1926; Davies and Gardiner 1933; Pulak 1996). In some cases, objects are identified as weights because of their contextual association with balances, weighing, or commercial activity in general (Eran 1982:94).

In addition, there are several criteria by which objects can be included in, or excluded from, the category of balance weights:

1. The object shows signs of having been worked, indicating that it was intended to be a particular shape and size.
2. The object has a discernible base on which it could have stood in the balance pan without rolling off.
3. The object displays a combination of shape and material or inscriptional pattern known elsewhere to have been used for balance weights.
4. The object has a mass that is an integer multiple or common fraction of a known base unit.

Objects that meet only some of these criteria could undoubtedly have been used as weights. Occasionally, naturally formed pebbles whose mass fit into the metrological system were used as weights. Their identification as weights must therefore rely upon determining the local system (or systems) in use.

A total of 37 objects from contexts dated to the seventh century B.C. at Ashkelon have been identified as possible weights. Some candidates were excluded on the basis of the criteria described above, namely, unworked stones whose mass did not fit any known weight standard or multiple. Spherical objects were excluded, not only because their mass did not fit any standard but, more importantly, because it was clear that such objects would be unwieldy on a balance

pan. Some of these are better understood as hammerstones because they are pocked from repeated pounding (e.g., Eran 1994:98, no. 30—one of several such objects wrongly classified as weights).

The following catalogue presents all of the objects that can be reasonably classified as weights. They are presented typologically, according to shape, and then according to size within their respective categories. The mass for each object is given as preserved. We have noted the cases where there is reason to expect that the preserved mass is significantly different from the original intended mass. This can occur when the object is broken or otherwise incomplete (indicated by an asterisk). It can also occur when a metal object has become corroded, a circumstance that may have either increased or decreased the mass, depending on the particular chemical changes in a given object (indicated by a dagger).

In these cases, the weight cannot be studied metrologically. Attempting to reconstruct the original mass of an object is fraught with difficulty. In the case of broken objects, one must know the original shape quite accurately in order to extrapolate from it based on the density of the material, which might not have been consistent to begin with. And for metal weights, the fact that metal corrodes in different ways in different environments, sometimes gaining and sometimes losing mass, makes it impossible to guess the original mass without knowing the depositional history of each object. In such cases, because the possibility of error is high and the margin for error in metrological analysis is small, we have decided not to attempt a reconstruction.



Figure 17.1: Weights and balance from South Street in the marketplace (Grid 50 Square 58 Layer 262)

### Typology

There are several generally recognized categories of weight shapes: cuboid, domed, discoid, rectangular, sphenonoid, pyramidal, cylindrical, and zoomorphic. These categories tend to be rather fluid, however. It must always be kept in mind that function ultimately took precedence over form in shaping the weight. As a result, there is a fine line separating dome-shaped weights from discoid weights, for example, and assigning a given weight to one or the other of these categories is often a subjective decision (e.g., Petrie 1926:pls. 3–5).

Furthermore, there are weights that do not fit neatly within a single category. They are classified here as “Weights of Mixed Character.” Some of these weights might have originated as stones that naturally approximated one of the common shapes and whose mass was close to a known standard. For this reason, they were worked only partially in order to achieve the desired mass. Others were secondarily reworked from one shape to another in an effort to change their mass to match a different standard unit.

#### Cuboid Weights (cat. nos. 1–12)

The most frequent combination of shape and material among the weights found in late seventh-century B.C. contexts at Ashkelon is the bronze (copper alloy) cuboid. This type constitutes nearly a third of the corpus (12 of 37 items). Morphologically, the “cuboid” category, at Ashkelon and elsewhere, includes not just cubes but also parallelogram, trapezoidal, and flat-topped pyramidal shapes. These are classified as cuboid if the lengths of the sides are roughly equal.

Even though they are mold-cast, there is significant variation in shape within this category. Some of the weights are lopsided, although this could be due in part to corrosion. The Ashkelon cuboids range in size from 0.7 to 1.8 cm on a side. This is a rather limited range, considering that bronze cuboid weights found elsewhere can be as large as 7 cm on a side (Elayi and Elayi 1997:69). The larger examples are typically shorter than they are wide.

There are numerous typological comparanda for the Ashkelon examples. Cuboid weights are known from a wide range of sites and periods, from as far back as the fourth millennium B.C. at Mohenjo Daro, and extending as late as the Hellenistic period. Bronze cuboid weights are sometimes treated together (inappropriately) with lead cuboid weights. The latter are more characteristic of the Persian period and later, and they are metrologically more consistent with Greek than Levantine commercial stan-

dards, despite their pan-Mediterranean usage (Cour-Marty 1990:26–27). Bronze cuboid weights, on the other hand, were most common during the Iron Age II and Persian period in the Levant, as is shown by both typological and epigraphic evidence, although a paucity of stratified examples makes precise dating very difficult. The Ashkelon cuboids in fact constitute the largest collection of stratified examples of Iron Age bronze cuboid weights. The only other sites from which stratified cuboid weights have been recovered in situ are Ḥorvat Rosh Zayit, dating to the ninth century B.C. (Kletter 1994), and the underwater site of Palmaḥim (Kletter and Sharvit 2005).

There is, however, no shortage of unprovenanced collections of cuboid weights. Perhaps the largest group are the 120 or so bronze cuboids from several unpublished or only partially published nineteenth-century collections that have been presented by Josette and Alain Elayi (1997). None of these comes from a confirmed archaeological context; however, general provenances have been proposed on the basis of collectors’ notes, although these provenances are admittedly very broadly defined.

Additional (similarly unprovenanced) cuboid weights can be found among the larger collections published by Kletter (1998:59), Heltzer (2001), and Hendin (2006), as well as in other published series of inscribed “Phoenician” weights (Kletter 2000; Bron and Lemaire 1983; Lemaire 1982; etc.). All are dated between the ninth/eighth and fourth centuries B.C., based on a combination of paleography and similarity to other known weights.



Figure 17.2: Bronze cuboid weight

Cat. no. 9; reg. no. 44613; scale 1:1.

#### Dome-shaped Weights (cat. nos. 13–21)

The Ashkelon corpus includes nine dome-shaped weights. This is perhaps the most common shape of weights in the ancient Near East. The shape of the dome varies, yielding several subtypes, including a sharply carinated form, a nearly spherical form, and a thick disk with rounded edges.

It has been suggested that the carinated dome is an Egyptian form (Petrie 1926:5; Cour-Marty 1990:24–25; Kletter 1994:35). Indeed, they do constitute a surprisingly large proportion of the weights found in Egypt, perhaps as much as 40 percent. Moreover,

most of them appear to correlate to the Egyptian *qedet* standard of 9.5 g (Cour-Marty 1990). However, the Egyptian carinated domes are most often made from volcanic stone and only rarely of bronze. Raz Kletter (1994:36–37) proposes that the bronze carinated domes found at Ḥorvat Rosh Zayit were, in fact, Phoenician. This is supported to some extent by the high frequency of the carinated dome shape at Ugarit, although those weights span the Late Bronze Age to Persian period (Courtois 1990:120). More evidence is needed to resolve this question.

Rounded (uncarinated) dome-shaped weights appear all over the Levant. They were plentiful in the Late Bronze Age Uluburun and Cape Gelidonya shipwrecks (Pulak 1996), and were dominant in the Iron Age Judahite system (Kletter 1998).

Dome-shaped weights were manufactured from bronze or were carved from stone. Stone was the favored material in the southern Levant. The weights of the Judahite system from the Iron Age IIC were usually inscribed limestone domes, although other shapes and materials, as well as uninscribed examples, are also found. Six inscribed dome-shaped weights based on the Judahite system have been discovered at Ashkelon, but only one from contexts dated to the seventh century B.C.; the others were found in secondary contexts, primarily in Persian-period fills.



Figure 17.3: Dome-shaped weight  
Cat. no. 13; reg. no. 39126; scale 1:1.

#### Discoïd Weights (cat. nos. 22–24)

The three discoïd weights in our assemblage can be considered variants of the dome-shaped type. This is true especially of our catalogue no. 24 (reg. no. 46784), which is very similar to the dome-shaped examples except that the top of the dome is flattened. The discoïd weights can also be considered variants of the cylindrical type (see below), but conventionally the discoïd type has been distinguished from the cylindrical by an arbitrary ratio of base to height.

Discoïd weights have been found at other sites, including the Iron Age II levels at Ashdod (e.g., Eran 1982:pl. 31:35). One of the Ashkelon discoïd weights (cat. no. 22; reg. no. 39845), which unfortunately is incomplete, is inscribed with a single large × on one face (see figure 17.4).



Figure 17.4: Discoïd weight with incised × on one face  
Cat. no. 22; reg. no. 39845; scale 1:1.

#### Rectangular Weights (cat. nos. 25 and 26)

Another of the less common shapes is the rectangular block. More than its shape separates it from the cuboid type because the rectangular type seems to include only stone weights. Excavations at Tell Keisan produced several examples of rectangular stone weights (Briend and Humber 1980:pl. 94:10, 14). At Ashkelon, several other rectangular weights were found in addition to the seventh-century B.C. examples, mainly in Persian-period contexts.

#### Sphendonoid Weights (cat. nos. 27 and 28)

Sphendonoid weights are among the most common in the ancient Near East (Pulak 1996).<sup>1</sup> They are poorly attested at Ashkelon, however. Only two were found in contexts dated to the late seventh century B.C. Sphendonoid weights are typically made of hematite or bronze. They occupy the lighter end of the range of weight units and are often used for fractional weights. They vary in the relative sizes of their bases, from completely circular in section, with no base (e.g., Petrie 1934; 1937:no. 5963, IAA no. 1935-4298

<sup>1</sup> The term sphendonoid means “shaped like a sling-bullet,” but these weights probably imitate kernels of grain. The grain-kernel shape evokes the possible origin of the metrological system in the measuring of grain. The largest unit of weight, the talent, was probably the weight of the grain carried in a single donkey-load. The smallest fractional unit was probably the weight of a single barley kernel. In the Mesopotamian system, three barley kernels were equivalent to one carob seed (Heb. *gērā*).

[Tell el-<sup>c</sup>Ajjul]), to semicircular in section, with a flat base whose width is the maximum width of the weight (e.g., Kletter and Sharvit 2005 [Palmaḥim]).

#### Teardrop-shaped Weight (cat. no. 29)

The teardrop-shaped weight (cat. no. 29; reg. no. 39382) looks like a cross between the spondonoid and dome-shaped types. It is possible that the shape originated as a larger spondonoid but was reworked to reduce the mass. Such forms appear both in Petrie's 1926 register as well as Cour-Marty's more recent catalog (Petrie 1926:pl. 7:77–78; pl. 8 nos. 913–15; Cour-Marty 1990:figs. 6:35–40; 8:1–16, 27). Among their examples are some in which the wider end is rounded and others in which it is flat. The large number of examples and their internal variation suggest that teardrop-shaped weights should be regarded as a distinct type.

#### Pyramidal Weights (cat. no. 30)

The object classified below as pyramidal (cat. no. 30; reg. no. 39640) does not resemble the other pyramidal weights found at Ashkelon, or those found elsewhere. Its shape is more precisely described as a tetrahedron. This hematite weight has a triangular base, in contrast to most pyramidal weights, which have square or rectangular bases and are much taller than they are wide, are often truncated at the peak, and are pierced horizontally near the top.

#### Cylindrical Weights (cat. nos. 31 and 32)

Cylindrical weights are relatively rare. Sometimes they are grouped with discoid or dome-shaped weights. They are used primarily for larger multiples of a unit of mass. Catalogue no. 31 (reg. no. 40963), a heavy stone cylinder, weighs 205.66 g and probably corresponded to twenty-five Mesopotamian shekels (8.3 g per shekel).

#### Zoomorphic Weights (cat. no. 33)

The Late Bronze Age ship whose wreck was found at Uluburun off the southwestern coast of Turkey carried several bronze weights made in zoomorphic and anthropomorphic shapes (Pulak 1996). Petrie's (1926:pl. 9) catalogue of weights from Egypt contains many examples of zoomorphic weights, including some made from stone of various kinds. At Ashkelon, zoomorphic weights are underrepresented; the bronze "hedgehog" weight (cat. no. 33; reg. no. 42873) is the only example.



Figure 17.5: Zoomorphic bronze "hedgehog" weight  
Cat. no. 33; reg. no. 42873; scale 1:1.

#### Weights of Mixed Character (cat. nos. 34–37)

Four of the weights catalogued below exhibit a mixture of different morphological types. Naturally occurring water-washed pebbles, ovoid in shape, are placed in this category. Some show signs of having been worked, with the flattening of one side to make a base on which the weight could sit securely on the balance pan. Others appear to be in their natural state but are likely to have been used as weights because they have a suitable mass.

#### Metrology

Identifying the relevant unit of mass for a given weight must take into account the variance in mass among weights purporting to represent the same unit. Studies of ancient balances have shown that they permitted an error of up to 3 percent (Skinner 1967); that is, objects whose masses were within 3 percent of one other would register as equal on the scale. This means that weights replicated from an original could deviate up to 3 percent from the original weight. But that is not to say that all weights based on a single standard would have varied within only 3 percent of a hypothetical ideal weight. Ancient weights were rarely calibrated against a single standard weight. If every newly made weight diverged as much as 3 percent from the weight from which it was copied, then within a short period of time a far larger degree of error could creep into the system.

A better indication of the acceptable degree of error can be obtained by examining a group of weights that we are certain were based on the same standard and were in use during the same period of time. The Judahite inscribed weights come from a small geographical region, they have a narrow chronological range, and they are inscribed to indicate their putative value. An analysis of Kletter's (1998) catalogue of one-, two-, four-, and eight-shekel weights shows that their standard deviation is 4.7 percent of the mean (Levine 2008:19).

Few of the weights from Ashkelon are preserved well enough to determine their original mass. This

makes it difficult to obtain meaningful results by means of statistical analysis of the masses of the objects. For this reason, rather than attempting to determine inductively by statistical means the metrological standards used in this group of weights, we must rely upon knowledge of existing standards in the Near East.<sup>2</sup>

The most common weight system found in the broader Levant during the Late Bronze and Iron Ages is based on a shekel of 9.1–9.4 g. This is attested at Ugarit (Courtois 1990) and in the Late Bronze Age shipwrecks (Pulak 1996). This shekel standard is very close to the Egyptian *qedet* standard, which was typically set at 9.5 g (Cour-Marty 1990).

In contrast, the Judahite weight system was based on a shekel of 11.3 g (Kletter 1998). This corresponds to the so-called Sidonian shekel, which is attested by inscribed bronze weights (Elayi and Elayi 1997:47, nos. 3, 296, 319, 321). It also corresponds to the earlier hypothesized Hittite shekel of 11.75 g (Parise 1984:127). Despite the long history of discussion of the supposed Hittite unit, studies of Hittite weights have yet to confirm its existence (Castle 2000:158–61).<sup>3</sup> In Mesopotamia, weights were based on a shekel of 8.3 g (Parise 1991:513; Powell 1989).

Another weight unit, centered around 7.8 g, is variously identified as the unit of Ebla (Archi 1987), Carchemish (Parise 1981), or Phoenicia (Kletter 1994). It may also have been the primary subdivision of the Aegean Bronze Age unit (Petrušo 1978) and is noted at Lefkandi (Kroll 2008:41–42). A mass of 7.8 g also fits a unit defined in Egyptian mathematical texts as the twelfth part of a *deben*, called a *sniw* (Castle 2000:44), and it corresponds also to the *pym*, a common fraction in the Judahite shekel system equivalent to two-thirds of a shekel.<sup>4</sup>

<sup>2</sup> Petrie (1926) reconstructed nine different weight standards based on weights found primarily in Egypt. He demonstrated ancient origins for units of mass such as the stater, daric, sela, etc. His later studies (e.g., Petrie 1928) continued along the same lines. The data he presented can be interpreted differently, however, so we will refrain from using Petrie's terminology, except where it has been verified by other, more reliable methods. For a fuller discussion and analysis of Petrie's approach, applying statistical methods in addition to Petrie's own typological analysis, see Levine 2008:43–52.

<sup>3</sup> The initial proposal for this Hittite weight unit was based on a text that describes a 40-shekel mina (Otten 1954–1955) but does not specify the size of the mina. Parise proposed a conversion with the Syrian 50-shekel mina (Parise 1981; 1989).

<sup>4</sup> Misunderstood from the beginning of the twentieth century, the inscription of *pym*, in conjunction with 1 Sam. 13:21, led Petrie to suggest that this was an independent

In addition to these known units, we may consider the results of a statistical study of all of Ashkelon's Iron Age weights by one of the present authors, Ely Levine (2008). This study employed two separate statistical analyses to compare the masses of the Iron Age weights to a range of possible unit masses. The first was Kendall's Statistic, a periodic equation that can be used to determine how close a given mass comes to being a perfect multiple of each possible unit mass. The figures are then totaled for each unit mass and compared. Kendall (1974) initially developed the statistic to determine the greatest common factor of units of length and it has since become a common tool in metrological studies (Petrušo 1978; Pulak 1996; Castle 2000). Given its original function, however, Kendall's Statistic is poorly suited to accommodate fractional values. Moreover, it does not discriminate between values that appear in sets of weights (base units and common multiples such as 1, 2, 5, 10, etc.) and those that do not (7, 9, 13.25, etc.). Levine (2008:35–38, 345–52) addressed these difficulties by applying an equation designed to check for particular multiples and fractions, and to allow for variance. As a result, several probable unit masses were identified.

Of the 32 Iron Age weights he studied, all but five are accommodated reasonably well by a unit of mass of ca. 9.0 g, identified using Kendall's Statistic (Levine 2008:366). The 9.0-g unit may be a slightly lighter version of the Levantine shekel and the Egyptian *qedet*; in fact, when this unit appears at other Philistine sites, its average mass also seems relatively low. Other possible units of mass present at Ashkelon center around 10.00 g, 11.40 g, and 7.50 g. A unit just above 10 g was identified by Pulak in the Uluburun shipwreck (Pulak 1996) and is found among the weights at Tell Jemmeh (Levine 2008:358–62). A mass of 11.40 g approximates the mass of the Judahite shekel, but such a unit appears in Philistia throughout the Iron Age in weights that are not made of limestone, are not dome-shaped, and are not inscribed (Levine 2008:393). This seems to indicate that the Judahites adopted an existing unit of mass and developed a coherent weight system based on it. A unit near 7.5 g may correspond to the apparent Phoenician shekel; however, it is also found at other Philistine sites (Levine 2008:381).

Philistine unit. Despite several demonstrations that the *pym* is instead part of the Judahite system (Scott 1959 and Kletter 1998, inter alia), this misconception has persisted in the literature (e.g., Ben-David 1979; Pulak 1996:39; 2000:259, 261, 265 n. 13).

Assigning a given weight to only one standard can be difficult, however. Ancient weight systems, whether by design or by accident, were often related to one other by simple ratios. As Mederos and Lamber-Karlovsky (2004) point out, these simple ratios allowed for easy conversion by buyers and sellers who hailed from diverse geographical regions, from Egypt to Central Asia. The Egyptian *qedet* and Levantine shekel (9.4 g) were approximately four-fifths of the mass of a Judahite shekel (11.3 g), that is, four Judahite shekels were equivalent to five of the smaller units.<sup>5</sup> The Mesopotamian shekel (ca. 8.3 g) was, in turn, seven-eighths of the *qedet* and almost equivalent to the Egyptian *snīw* (7.8 g).

Table 17.1: Ratios of the Standard Weight Units

	7.8	8.3	9.4	11.3
7.8	1			
8.3	0.95	1		
9.4	$\frac{4}{5}$	$\frac{7}{8}$	1	
11.3	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{4}{5}$	1

These ratios take into consideration the precision of the equipment and approximations necessary when moving from one cultural group to another. With such a small amount of data, we cannot reliably infer other, hitherto unknown, standard units. We can, however, correlate our weights with the systems known to have been in use in the area at the time. Because of the conversion ratios, it is not always possible to identify a single system in which a given weight was used, but in some cases we can be relatively certain. In most cases, there was no centralized standard, especially across a large region. For this reason, preferring one standard over another based entirely on small degrees of error is methodologically faulty.

Given the prominence of the *qedet*/Levantine shekel unit of just over 9 g, catalogue no. **14** (reg. no. 39300), a carinated dome with mass of 91.09 g, is most likely equal to ten of these units. This is especially likely in light of the suspected association of carinated domes with Egypt, in which case this weight would equal one *deben*. Kletter, in his analysis of the weights from Ḥorvat Rosh Zayit (1994), suggested that this shape may instead be native to Phoenicia and may be based on a unit of ca. 7.6 g. In

<sup>5</sup> Thus, among the inscribed Judahite weights, four-, eight-, twelve-, and sixteen-shekel weights are inscribed with the hieratic numerals 5, 10, 15, and 20, respectively.

that case, our no. **14** would represent twelve units. At Ḥorvat Rosh Zayit, two carinated domes were found that have a similar mass; there is also a teardrop-shaped weight with approximately the same mass. No. **14** may also represent eight units of ca. 11.3–11.4 g. Only one of our weights, a stone discoid weighing 29.13 g (cat. no. **23**; reg. 46172), is almost certainly based on the unit of approximately 9.4 g. It represents three units of the Egyptian *qedet* or the Levantine shekel.

The teardrop-shaped weight (cat. no. **29**; reg. no. 39382; 10.93 g) and an irregularly shaped weight (cat. no. **37**; reg. no. 50775; 11.79 g) fit most closely into a system based on a unit equivalent to the Judahite shekel. These weights are not the same shape as the Judahite weights and are not inscribed (unlike cat. no. **20**; see below), so they should probably be understood as belonging to a distinct weight system with an equivalent unit mass. As mentioned above, it is possible that no. **29** was originally a larger weight that had been reworked, and when the desired mass was achieved, the craftsman stopped in the middle of reshaping it. The limestone discoid or dome-shaped weight (cat. no. **24**; reg. no. 46784), whose mass is 222.21 g, can be understood most easily as a twenty-shekel weight with the same base unit. This may be an example of a Judahite uninscribed weight (Kletter 1998:Appendix 4), but twenty-shekel weights are so uncommon as not to have been counted.

Four weights seem to fit best a system based on the Mesopotamian shekel of 8.3 g. Catalogue no. **31** (reg. no. 40963), a squat cylinder weighing 205.66 g, corresponds to twenty-five Mesopotamian shekels. No. **26** (reg. no. 48083; 79.87 g) and no. **35** (reg. no. 49731; 85.03 g) are probably ten-shekel weights, and the schist dome (cat. no. **18**; reg. no. 46543; 41.66 g) is five Mesopotamian shekels.

The small hematite dome with a mass of 2.61 g (cat. no. **17**; reg. no. 40032) cannot confidently be assigned to any one system. Fractional weights, in general, are particularly difficult to pigeonhole because smaller weights show greater variance.

Statistical analysis of the whole corpus of Iron Age weights from Ashkelon had pointed away from a base unit near 8.3 g. Closer examination of just the seventh-century weights suggests, however, that the 8.3-g base unit is the most likely choice for these four weights. Two other units that had seemed likely, one between 7.6 and 7.8 g and one near 10.0 g, turned out not to be applicable for any of the stone weights. This conclusion will guide our analysis of objects that are not obviously weights, that is, unworked or slightly modified stones of convenient mass which were probably used as weights. Identifying them as such

requires fitting them into an existing weight system. For example, the ovoid pebble (cat. no. **34**; reg. no. 45986), which weighs 23.96 g, is equivalent to three units of 8.3 g or two units of 11.3 g.

#### *Inscribed and Altered Weights*

One inscribed dome-shaped weight (cat. no. **20**; reg. no. 40873) was found in a late seventh-century B.C. context. It is made of highly polished light beige limestone and bears several lightly incised marks on the top of the dome (figure 17.6). Among these markings it is possible to recognize the Judahite shekel sign and the hieratic numeral 10. Together, these typically indicate an eight-shekel weight in the Judahite system. In this case, the two symbols are askew from one another, with what appear to have been additional attempts to incise the hieratic numeral. With a mass of 86.38 g, this piece is rather light for an eight-shekel weight; in fact, it is lighter than all but one of the eight-shekel weights in Kletter's catalogue and weighs 4.7 percent less than the mean mass for this group (Kletter 1998). This is likely due to a loss of mass resulting from damage to its base.



Figure 17.6: Inscribed dome-shaped weight  
Cat. no. 20, reg. no. 40873; scale 1:1.

Two additional inscribed weights were found in primary contexts at Ashkelon: a damaged discoid (cat. no. **22**; reg. no. 39845) and a damaged sphenonoid (cat. no. **28**; reg. no. 47039). Each is inscribed with an  $\times$  or  $+$ . Given their poor condition, it is difficult to reconstruct their original mass. At best, we can say that the sphenonoid is missing somewhat less than half its original mass and the discoid is missing perhaps 20 percent.

The inscribed sphenonoid has three nearly exact parallels in Petrie 1926 (nos. 3682, 5527, and 5621). Petrie's no. 3682 is a flattened hematite sphenonoid weighing approximately 18.93 g. Unfortunately, although the other two weights (nos. 5527 and 5621)

are illustrated, Petrie provides no information concerning their mass, material, size, or provenance. A weight from Tell el-<sup>c</sup>Ajjul with a similar marking is reported as weighing 4.763 g (Petrie 1931:pl. 36 and pl.51:5692).

Cour-Marty (1990) notes that hematite sphenonoids were popular along the Palestinian coast. Her 432 examples of this shape (in both bronze and hematite) seem to adhere for the most part to three weight standards, 8–9 g, 40–45 g, and 86–95 g, although she implies a fourth category with much smaller mass, around 2 g.

Our inscribed sphenonoid, of which slightly less than half is missing, has an extant mass of 3.38 g. It is conceivable that its intended mass, in keeping with Cour-Marty's data, was originally between 8 and 9 g, although a smaller mass is probable.

Our inscribed discoid weight appears to have more parallels in the dome-shaped category than among its fellow discoids. Petrie records six bronze domes inscribed in the same way: a rounded bronze dome (Petrie 1926:no. 5128) weighing 10.5 g; a bronze carinated dome (no. 5238) weighing 6.9 g; a bronze carinated dome (no. 5255) from Defeneh weighing 7.1 g; and three more dome-shaped weights (nos. 5436, 5479, and 5509) for which we are given no other information.

The  $\times$  markings, which were damaged when the weights were broken, may have indicated the original value of these weights. This symbol does not appear on any of the published Judahite dome-shaped stone weights. We therefore have an  $\times$  inscribed on weights with the following masses: 4.763 g, 6.9 g, 7.1 g, 10.5 g, and 18.93 g (although three are bronze weights subject to corrosion and are thus not altogether reliable). If the  $\times$  marking is to be understood in the same way in each of these cases, it may either represent the unit of mass on which these weights are based or it may represent the number of units of these weights in different systems. It is difficult at this point to construe these masses as being part of a single coherent system, as multiples or fractions of a particular unit of mass. If the latter alternative is the case, then this would have different implications for mass depending on the weight system in use. It is also possible that this symbol indicated different values in different systems. The available data are thus insufficient to determine the meaning of the  $\times$  marking.

Two weights, catalogue no. **19** (reg. no. 42526) and catalogue no. **31** (reg. no. 40963), show signs of intentional alteration for the purpose of changing their mass. There are a few other weights that show signs of scratching or minor damage, but this is

probably attributable to simple use-wear and does not appear to have significantly altered the mass of the weights (e.g., cat. no. 17; reg. no. 40032).

Catalogue no. 19 (reg. no. 42526) is a rounded stone dome into which a hole was drilled that is nearly 0.75 cm deep and roughly 1 cm in diameter at its base. Traces of lead were found in the base of the hole. The volume of the hole is equivalent to 1.5 cm<sup>3</sup>. If filled to capacity, the lead would have added an additional 17.1 g to the original mass of the weight (90.68 g), bringing the total mass to 107.78 g. Barring brazen cheating (which we are not ruling out), it is unlikely that the depression would have been filled to capacity, because 108 g does not correspond well to the established weight standards. The hole may have been only partially filled, perhaps very slightly indeed, to achieve a mass closer to ca. 95 g, which is equivalent to ten units of 9.4 g; that is, ten Egyptian *qedets* or ten Levantine (“Syrian”) shekels.

The practice of boring and filling a weight with lead is not unprecedented. Similarly altered weights were found at Tell el-<sup>c</sup>Ajjul; for example, a large sphendonoid weighing 87.37 g (Petrie 1934:pl. 23). There is also a hematite dome from Tell eṣ-Šāfi with two bronze “plugs” (Levine forthcoming) that weighs 87.25 g.

The second altered weight in the Ashkelon assemblage, catalogue no. 31 (reg. no. 40963), is somewhat more ambiguous. It is a large stone cylinder weighing 205.66 g that shows signs of gouging in the center of both the top and the base, although not to any great depth. This may reflect an abortive attempt to alter the overall mass, yet its present mass corresponds nicely to twenty-five Mesopotamian shekels of 8.3 g and actually falls on the lighter, rather than the heavier, side of this value. The gouging may instead be simply the result of use and therefore incidental and unintentional.

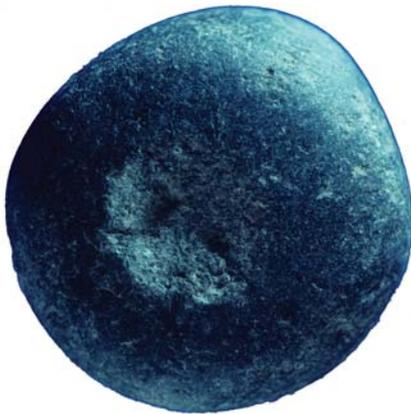


Figure 17.7: Altered cylindrical stone weight  
Cat. no. 31, reg. no. 40963; scale 1:1.

### Bronze Cuboid Weights

Finally, we turn to the bronze cuboid weights said to be representative of the “Phoenician” system. Unfortunately, the condition and composition of the bronze cuboid weights makes a reconstruction of their original mass all but impossible, even though other scholars have either attempted such reconstructions (Elayi and Elayi 1997:44) or have simply reported the extant mass as though it were the original mass, with no mention of corrosion (Kletter 1998).

Obviously, some weights are better preserved than others, but because we cannot know the density of the original metal, we cannot reliably determine what difference even a small degree of corrosion has made in the overall mass. Even a seemingly well-preserved bronze weight is likely to have suffered some change in mass. All of the Ashkelon cuboid weights exhibit some corrosion, so their extant masses cannot be considered a reliable basis for statistical metrological study. We must therefore rely primarily on typological parallels, comparing the Ashkelon examples with a broad range of bronze cuboid weights in order to note possible relationships to known categories, while still acknowledging the large potential for error. The collections of Elayi and Elayi (1997), Kletter (1994; 1998; 2000), and Hendin (2006) provide a broad corpus of parallels for this purpose.<sup>6</sup>

Of the twelve bronze cuboid weights in the Ashkelon seventh-century assemblage, eight are in sufficiently good condition to be included in this exercise. The extant masses of these better-preserved weights are, from largest to smallest: 26.02 g (cat. no. 4), 19.39 g (cat. no. 10), 17.35 g (cat. no. 9), 15.3 g (cat. no. 5), 10.84 g (cat. no. 12), 7.65 g (cat. no. 8), 5.47 g (cat. no. 1), and 1.05 g (cat. no. 2). If we assume that the same potential for corrosion exists for the larger collections of bronze cuboid weights, then we can at least identify some weight “classes” (to be distinguished from “mass units”—we are defining here groups and not systems) in which the Ashkelon weights might comfortably fit.<sup>7</sup> We have applied

<sup>6</sup> Note that these catalogues contain overlapping material and the vast majority of these weights are unfortunately unprovenanced.

<sup>7</sup> Obviously, the chemical composition of the bronze, the pH and water content of the soil, the duration of burial, and the environment at the site all play a part in corrosion. Thus, we cannot assume that they would all have undergone the same rate or kind of corrosion, in view of their diverse histories. We propose only that broad similarities might perhaps be visible across the total spectrum of known bronze cuboid weights, despite varying degrees of damage.

Kletter's 4.7-percent standard of deviation in assessing possible mass parallels for the Ashkelon bronze cuboids.

Catalogue no. **1** (reg. no. 20320), a cuboid weight of 5.47 g, has one uninscribed and six inscribed parallels that fall within the 5-percent margin of error. Of the inscribed cuboids, three are marked with *ayin* (Elayi and Elayi 1997:nos. 56 and 58; Lemaire 1980: 23 no. 7), one with *sin* (Lemaire 1980:27 no.5), one with a sign interpreted by Kletter as *sin* (Kletter 2000:no. 10), and one marked with an enigmatic semicircle or horseshoe (Kletter 2000:no. 30). The uninscribed cuboid weighs 5.42 g. All are damaged.

Catalogue no. **8** (reg. no. 43698), a cuboid weight of 7.65 g, has the following parallels: an inscribed bronze cuboid in the Elayi catalogue (Elayi and Elayi 1997:no. 53), which is inscribed with L (possibly the hieratic numeral 5); two weights inscribed with *pym* (Barkay 1978:216; Lemaire 1982:19); a single cuboid inscribed *lkryhw y>r* (Kletter 1998:210, Pym.44); and three uninscribed cuboids that weigh 7.95 g, 7.6 g, and 7.5 g (Kletter 1998:210, Pym.45–46).

Catalogue no. **12** (reg. no. 40614), which weighs 10.84 g, has the greatest number of parallels. They are also the most consistently inscribed. Each of the seven inscribed parallels is marked with *ayin* (Elayi and Elayi 1997:nos. 42–45; Kletter 2000:no. 23; Hendin 2006:nos. 256–57). There is also one additional uninscribed example published by Hendin (2006:no. 258). These weights range in mass from 10.2 to 10.9 g.

Catalogue no. **5** (reg. no. 39484), a cuboid weight of 15.3 g, has five parallels that fall within the 5-percent margin of error. Four of them are inscribed (Elayi and Elayi 1997:nos. 32–35) and all are described as being in good condition. Two of them (nos. 32 and 33) are inscribed with *het* and two with *sin*. One additional weight (Kletter 2000:no. 17) bears an unclear mark. There is also a single uninscribed weight, mildly corroded, which weighs 16 g (Elayi and Elayi 1997:no. 107).

Catalogue no. **9** (reg. no. 44613), a cuboid weight of 17.35 g, has two uninscribed parallels in the Elayi catalogue that weigh 16.9 g and 16.55 g (Elayi and Elayi 1997:nos. 105, 106).

Catalogue no. **10** (reg. no. 44680), a cuboid weight of 19.39 g, has one parallel in the Elayi catalogue: a single *ayin*-inscribed weight with a mass of exactly 20 g (Elayi and Elayi 1997:no. 29). It is described as damaged, however.

Catalogue no. **4** (reg. no. 39007), a cuboid weight of 26.02 g, has two inscribed parallels, both marked with *sin* (Elayi and Elayi 1997:no. 23; Kletter 2000: no. 5).

Catalogue no. **2** (reg. no. 38975), a cuboid weight of 1.05 g, is too small to fit any recognizable standard within a reasonable margin of error.

It appears, then, that there are some distinct weight classes into which the bronze cuboid weights from Ashkelon can be sorted. The largest classes cluster around 5.5 g, 7.65 g, 10.5 g, and 15.3 g. Mass units of ca. 5.5 g have been connected with the Persian “sigloi” (Vickers 1991:33; Kletter 2000:39) and could likewise represent half of a ca. 10.5-g unit. The prevalence of weights close to 7.65 g and weights twice as heavy that are close to 15.3 g may indicate that there was a linkage between the bronze cuboid weight system and a system based on a weight of 7.6 g, whether this was the Judahite *pym* or a Phoenician unit, as Kletter (1994) has argued. Catalogue no. **12** may likewise correspond to a known unit of roughly 10.5 g. Kletter (2000:35–40) has proposed that the inscriptions on bronze cuboids can be interpreted as markers of differing base units. In particular, he proposes that those marked with *ayin* indicate a base unit of ca. 10.5 g. It is admittedly unclear whether uninscribed cuboid weights necessarily belong to the same weight categories as inscribed cuboid weights of equivalent mass. There is the added difficulty that inscribed parallels within the same weight class are at times marked with different letters, particularly on smaller values that could serve as useful fractions of a number of different base units (see, e.g., the parallels for cat. no. **1** above). Nonetheless, we note with interest that each of the seven inscribed parallels for our catalogue no. **12** is inscribed with *ayin*, which may collectively indicate a common system. The base unit of 10.5 g has been variously associated with Tyre or Samaria (Elayi and Elayi 1997:319) and may have been the precursor to the later Persian stater (Lemaire 1980:30). We must remember that the Ashkelon weights constitute only a small percentage of the known corpus of bronze cuboids, so the “peaks” in our assemblage are mere blips in the overall spectrum. Moreover, we must acknowledge that, given the potential for changes in mass due to damage and corrosion, the groupings do not necessarily imply original standards or multipliers precisely at 5.5 g, 7.65 g, 10.5 g, and 15.3 g. Still, these peaks do match well the known mass units represented throughout the Iron Age Levant.

Although it cannot be statistically confirmed, the Ashkelon bronze cuboid weights appear to represent base units that are not well represented among the remainder of our seventh-century corpus of weights. Within the broader assemblage, peaks were noted most often at 8.3 g, 9.4 g, and 11.3 g and their multiples, suggesting interaction with the Mesopotamian,

Egyptian, and Judahite systems, respectively. The cuboids reflect a probable standard in the range of 7.6–7.8 g which, while possibly attested in the broader corpus, is relatively uncommon. However, the peak at 10.5 g and the possible half-unit at 5.47 g (cat. no. 1) appear to be unique to the bronze cuboid assemblage, and are rare among the other weight types.<sup>8</sup>

#### *Bronze Cuboid Weights and the Phoenician Question*

A substantial proportion of bronze cuboid weights (nearly 70 percent in the Elayi catalogue) bear “Phoenician” inscriptions. These range from a single letter (*ayin*, *het*, and *sin* are common), to an indicator of multiples (*rb<sup>c</sup> šql*), to what appear to be possessives (*lmg<sup>n</sup>* or the more ambiguous *lmlk*). This has led many scholars to treat these weights as representative of a “Phoenician” standard (Lemaire 1980; Bron and Lemaire 1936; Elayi and Elayi 1997). Although a Phoenician attribution is certainly possible, there is no clear evidence by which to tie these weights to a specifically Phoenician cultural sphere, nor even to a single metrological standard.

First, the language of the inscription is not always clear. There are cases in which the so-called Phoenician inscription could be Aramaic (Heltzer 2001: 133). It is thus incorrect to designate the bronze cuboid weights as representative of a Phoenician standard simply by virtue of the epigraphic evidence. Moreover, the relationship between inscriptions and the corresponding values of the weights has long been problematic because an inscription does not necessarily reflect the original intended value of a weight but may instead reflect its value in a complementary system. This is clearly demonstrated in the four-shekel dome-shaped weights of the Judahite system, which are often marked with the hieratic numeral 5, as noted above (Kletter 1998:122).

A similar principle seems to be operative among at least some of the cuboid weights, as illustrated by two unprovenanced bronze cuboids, both dated paleographically to the seventh century, which bear the inscription *pym* (Barkay 1978:216; Lemaire 1982: 19). Although the bronze cuboid is not a form typical of Judahite weights, the masses of these *pym* cuboids, both of which weigh 7.95 g, fit within the accepted standard deviation from the conventional *pym* value of 7.5 g and indicate that the merchants using them

were engaging in transactions that involved the Judahite system. These *pym* weights thus highlight the risk inherent in classifying “Phoenician” inscribed weights and, by extension, uninscribed bronze cuboids, because such weights do not necessarily reflect a Phoenician standard. They may instead have been used in several systems and the Phoenician markings simply helped the merchants to carry out the necessary conversions between systems.

Context, too, is of very limited value in determining the “ethnicity” of the bronze cuboids. To date, bronze cuboid weights have been recovered from clear archaeological contexts at only three sites: Ḥorvat Rosh Zayit (one cuboid), Palmaḥim (three cuboids), and Ashkelon, which has produced a total of 28 cuboid weights from Iron II contexts (twelve from late seventh-century contexts). Admittedly, this distributional pattern—or lack thereof—may reflect both the difficulty of discerning such tiny objects in the archaeological record and their popularity on the antiquities market. Yet we are left with the curious conundrum that not a single bronze cuboid weight has been excavated in Phoenicia, despite Kletter’s assertion that this kind of weight is typical of northern and coastal sites (Kletter 2000:35).

The metrology is no less complicated, for not only do the bronze weights fail to reflect any single system, but there is no agreement among scholars concerning what the hypothetical Phoenician unit actually was. Indeed, during the period in question (the eighth–fourth centuries B.C.), there is some evidence that each of the individual Phoenician cities had its own standard (e.g., the notorious *šql sdn* weight; Bron and Lemaire 1983:765). Kletter tentatively proposes a Phoenician weight standard of 7.6 g, which suits the weights from Ḥorvat Rosh Zayit (most of which are dome-shaped). However, the larger Elayi catalogue shows a much greater variation in possible standards, both among the inscribed and uninscribed bronze weights. Most of the weights are attributed to standards of 8.4 g, 9.5 g, or 10.5 g, which correspond to the Babylonian, Egyptian/Syrian, and Persian systems, respectively (Elayi and Elayi 1997:319). The apparent absence of a single standard at 7.6 g and the overall diversity of systems represented seem to indicate that neither the inscribed nor the uninscribed bronze cuboid weights belonged to a single system. This may explain why the bronze cuboid weights from Ashkelon, and other isolated examples, likewise fail to conform to a single system.

Kletter (2000:39) resolves this difficulty by suggesting that bronze cuboids reflect, not a single base unit, but a single set of weights, which allowed a merchant to weigh any quantity in any system. This

<sup>8</sup> Catalogue no. 29 (reg. no. 39382), which weighs 10.93 g, also fits within the accepted deviation from a ca. 10.5 g standard, although it might be better suited to the Judahite standard of 11.3 g.

may in fact be the case with respect to the group of ten weights recovered from the South Street in the marketplace at Ashkelon (Grid 50 Square 58 Layer 262). Six of the ten are bronze cuboid weights (cat. nos. 2–6 and 11). The others are a bronze carinated dome (cat. no. 13; reg. no. 39126; 27.58 g), a bronze sphenonoid (cat. no. 27; reg. no. 39259; 27.12 g), a stone dome (cat. no. 14; reg. no. 39300; 91.09 g), and a stone teardrop (cat. no. 29; reg. no. 39382; 10.93 g). With one exception (cat. no. 5; reg. no. 39484; 15.3 g), the bronze cuboid weights recovered from Layer 262 were too damaged to be metrologically useful. But even within this small group at least three standards are attested with base units at 9.1 g, 10.5 g, and 11.3 g—a testament to the international character of the transactions conducted on a single street.

In light of the paucity of excavated examples of bronze cuboid weights in Phoenician contexts and in view of the potential ambiguity in identifying the inscriptions (most of which are merely single letters) as clearly Phoenician, it seems premature to assign the bronze cuboids to any particular cultural sphere. It may well be that bronze cuboids are a category of weights deliberately designed for conversion rather than for simple assessment of weight. If so, it is not surprising that so many of them should appear at Ashkelon, or indeed any seaport, whether Phoenician, Philistine, or otherwise.

### Conclusion

Any analysis of materials excavated from a destruction context is admittedly somewhat tricky. In effect, we are taking an arbitrary slice of history and using it to extrapolate the broader conditions that obtained at the end of the seventh century B.C. However, when viewed against the wider backdrop of the other Iron Age weights discovered at Ashkelon, it is possible to reconstruct a more general picture of the economic and commercial environment in which the city played a role.

The presence in seventh-century Ashkelon of at least three different weight systems based on the Egyptian *qedet*/Levantine shekel (9.4 g), the Mesopotamian shekel (8.3 g), and the Judahite shekel (11.3 g) confirms that the city's inhabitants engaged in active commerce with people of diverse origin. It is not surprising that the merchants of Ashkelon traded with Egypt, in light of the latter's geographical proximity, its extensive natural and economic resources, and its attempts to assert its power in the region during the period of Assyrian decline. The Mesopotamian system may be a holdover from the period of Assyrian hegemony in the region, or it may be evidence of an attempt by the Babylonians to exert economic control before their ultimate destruction of Ashkelon and other kingdoms in the southern Levant. Since none of these weights appears to be obviously Mesopotamian in origin—there are no duck-shaped weights, for example—we may also consider the possibility that participation in the Mesopotamian economic system was a choice made by Ashkelonian merchants. The standard of ca. 10.5 g represented among the bronze cuboid weights might be indicative of interaction with a Mesopotamian, or at least northern (perhaps Phoenician or Syrian), trading system.

As for Judah, not only did Ashkelon share a border with the kingdom of Judah in the seventh century B.C., but Weiss and Faust (2005) have shown that the agricultural hinterland necessary to feed the population of Ashkelon must have extended well into the Judahite Shephelah. In fact, it has been demonstrated that some of the grain found in at Ashkelon came from the Judean hills (see chapter 23 in this volume). Trade with Judahites would have been essential.

Trade relations can be observed in the archaeological record through the preservation in one region of artifacts native to another. In many cases, however, the traded commodities themselves are not preserved. Fortunately, balance weights such as those presented in this chapter provide another kind of evidence of commercial relations that can give us additional information concerning the geographical zone in which the trade was conducted and on whose weight system. Weights expand our understanding of the dynamics of ancient commerce and give us a better understanding of how Ashkelon fit into the Mediterranean world.

Table 17.2: Balance Weights from Contexts Dated to the Seventh Century B.C. at Ashkelon

<i>Catalogue No.</i>	<i>Shape</i>	<i>Material</i>	<i>Findspot</i>
1	Cuboid	Bronze	Grid 50 Square 57 Layer 134
2	Cuboid	Bronze	Grid 50 Square 58 Layer 262
3	Cuboid	Bronze	Grid 50 Square 58 Fine-grid 14 Layer 262
4	Cuboid	Bronze and lead	Grid 50 Square 58 Fine-grid 34 Layer 262
5	Cuboid	Bronze	Grid 50 Square 58 Fine-grid 53 Layer 262
6	Cuboid	Bronze	Grid 50 Square 58 Fine-grid 33 Layer 262
7	Cuboid	Bronze	Grid 50 Square 48 Fine-grid 40 Layer 428
8	Cuboid	Bronze	Grid 50 Square 46 Fine-grid 68 Layer 56
9	Cuboid	Bronze	Grid 38 Square 84 Fine-grid 65 Layer 299
10	Cuboid	Bronze	Grid 50 Square 57 Layer 259
11	Cuboid	Bronze	Grid 50 Square 58 Fine-grid 23 Layer 262
12	Cuboid	Bronze	Grid 50 Square 57 Fine-grid 50 Layer 206
13	Dome	Bronze	Grid 50 Square 58 Fine-grid 34 Layer 262
14	Dome	Stone	Grid 50 Square 58 Fine-grid 33 Layer 262
15	Dome	Bronze	Grid 38 Square 74 Layer 480 Feature 480
16	Dome	Bronze	Grid 38 Square 83 Fine-grid 50 Layer 342 Feature 342
17	Dome	Hematite	Grid 50 Square 58 Fine-grid 88 Layer 291
18	Dome	Schist	Grid 50 Square 48 Layer 453
19	Dome	Stone	Grid 50 Square 48 Layer 390
20	Dome	Stone	Grid 38 Square 74 Layer 482
21	Dome	Bronze	Grid 50 Square 67 Fine-grid 36 Layer 61
22	Discoid	Stone	Grid 50 Square 48 Layer 384
23	Discoid	Stone	Grid 50 Square 48 Layer 453
24	Discoid	Stone	Grid 50 Square 49 Layer 453
25	Rectangular	Stone	Grid 50 Square 47 Layer 302
26	Rectangular	Basalt	Grid 50 Square 48 Layer 453
27	Sphendonoid	Bronze	Grid 50 Square 58 Fine-grid 54 Layer 262
28	Sphendonoid	Hematite	Grid 50 Square 47 Layer 302
29	Teardrop	Stone	Grid 50 Square 58 Fine-grid 23 Layer 262
30	Pyramidal	Hematite	Grid 50 Square 58 Fine-grid 81 Layer 264
31	Cylindrical	Stone	Grid 50 Square 49 Fine-grid 6 Layer 401
32	Cylindrical	Bronze	Grid 50 Square 49 Layer 425
33	Zoomorphic	Bronze	Grid 50 Square 49 Fine-grid 29 Layer 418
34	Mixed	Stone	Grid 50 Square 48 Layer 453
35	Mixed	Stone	Grid 50 Square 48 Layer 496 Feature 496
36	Mixed	Stone	Grid 50 Square 58 Layer 99
37	Mixed	Stone	Grid 50 Square 67 Fine-grid 36 Layer 61

### Catalogue of Balance Weights from Contexts Dated to the Seventh Century B.C. at Ashkelon

Thirty-seven objects found in contexts dated to the seventh century B.C. can be classified as weights. They are listed here by shape. An asterisk \* next to the mass indicates that it represents only the extant portion of an incomplete or damaged weight and thus cannot be used in metrological analysis without reconstruction or extrapolation. A dagger † next to the mass indicates that the figure is unreliable due to a high level of corrosion (i.e., of a metal weight). Note that the term “bronze” is used here to refer to any copper alloy.

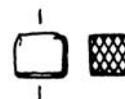
#### CUBOID WEIGHTS

##### Catalogue no. 1

Registration no.: 20320  
 Year excavated: 1987  
 Findspot: Grid 50 Square 57 Layer 134  
 Mass: 5.47 g †  
 Dimensions: Not available.  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Well preserved. No drawing or photograph available.

##### Catalogue no. 2

Registration no.: 38975  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Layer 262  
 Mass: 1.05 g \*  
 Dimensions: ca. 5 × 5 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Some wear at the corners.



Scale 1:1

##### Catalogue no. 3

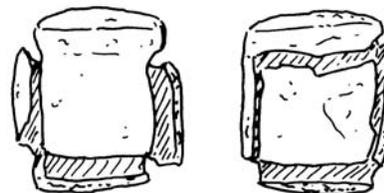
Registration no.: 38978  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 14 Layer 262  
 Mass: 13.3 g \* †  
 Dimensions: ca. 17 × 15.7 mm (before cleaning)  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Found in seven pieces, severely damaged and corroded. Outer sections and sides had broken away from the core.



Scale 1:1 (largest piece)

##### Catalogue no. 4

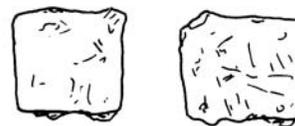
Registration no.: 39007  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 34 Layer 262  
 Mass: 26.02 g \* †  
 Dimensions: 16 × 15 mm  
 Material: Bronze and lead  
 Shape: Cuboid  
 Remarks: Large cracks at each edge and one damaged corner.



Scale 1:1

##### Catalogue no. 5

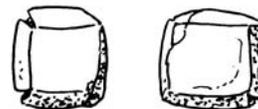
Registration no.: 39484  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 53 Layer 262  
 Mass: 15.3 g †  
 Dimensions: 16 × 16 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Surface corroded and discolored to black.



Scale 1:1

**Catalogue no. 6**

Registration no.: 40724  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 33 Layer 262  
 Mass: 6 g \* †  
 Dimensions: 14 × 13 × 12 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Poor condition. Sides cracked and bursting away from core.



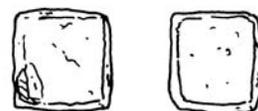
Scale 1:1

**Catalogue no. 7**

Registration no.: 42534  
 Year excavated: 1993  
 Findspot: Grid 50 Square 48 Fine-grid 40 Layer 428  
 Mass: 4.25 g †  
 Dimensions: 9 mm (longest side)  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Almost trapezoidal in shape; the top is somewhat narrower than the base. No drawing or photograph available.

**Catalogue no. 8**

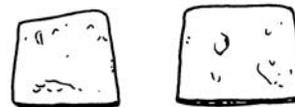
Registration no.: 43698  
 Year excavated: 1993  
 Findspot: Grid 50 Square 46 Fine-grid 68 Layer 56  
 Mass: 7.65 g †  
 Dimensions: 17 × 15 × 13 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Middling preservation with a high degree of encrusted corrosion.



Scale 1:1

**Catalogue no. 9**

Registration no.: 44613  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Fine-grid 65 Layer 299  
 Mass: 17.35g †  
 Dimensions: 16 × 15 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Very good condition but with some visible pockets of corrosion.



Scale 1:1

**Catalogue no. 10**

Registration no.: 44680  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 259  
 Mass: 19.39 g †  
 Dimensions: ca. 20 × 20 mm  
 Material: Bronze  
 Shape: Probably cuboid  
 Remarks: Very rough cube, extremely corroded on all but one side, which may be a worked, flat base.



Scale 1:1

**Catalogue no. 11**

Registration no.: 39381  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 23 Layer 262  
 Mass: Not available.  
 Dimensions: ca. 15 × 15 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: No drawing or photograph available.

**Catalogue no. 12**

Registration no.: 40614  
 Year excavated: 1992  
 Findspot: Grid 50 Square 57 Fine-grid 50 Layer 206  
 Mass: 10.84 g †  
 Dimensions: ca. 13 × 13 mm  
 Material: Bronze  
 Shape: Cuboid  
 Remarks: Cracks appear along the edges; corner is damaged. No drawing available.

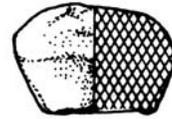


Scale 1:1

## DOME-SHAPED WEIGHTS

**Catalogue no. 13**

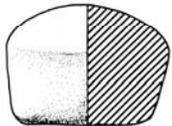
Registration no.: 39126  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 34 Layer 262  
 Mass: 27.58 g †  
 Dimensions: 23 × 16 mm  
 Material: Bronze  
 Shape: Carinated dome  
 Remarks: Dome is somewhat lopsided with shallow carination.



Scale 1:1

**Catalogue no. 14**

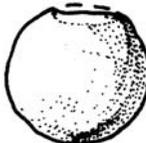
Registration no.: 39300  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 33 Layer 262  
 Mass: 91.09 g  
 Dimensions: 42 × 32 mm  
 Material: Stone  
 Shape: Carinated dome  
 Remarks: Intact greenish-gray carinated dome with some scratches on the base.



Scale 1:2

**Catalogue no. 15**

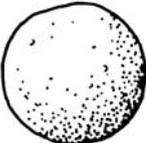
Registration no.: 40872  
 Year excavated: 1992  
 Findspot: Grid 38 Square 74 Layer 480 Feature 480  
 Mass: 18.28 g †  
 Dimensions: 20 × 15 mm  
 Material: Bronze  
 Shape: Carinated dome  
 Remarks: Dented dome with high carination. Appears to be missing a small piece from the carinated edge on one side.



Scale 1:1

**Catalogue no. 16**

Registration no.: 44591  
 Year excavated: 1994  
 Findspot: Grid 38 Square 83 Fine-grid 50 Layer 342 Feature 342  
 Mass: 18.08 g †  
 Dimensions: 18.5 × 12 mm  
 Material: Bronze  
 Shape: Carinated dome  
 Remarks: Good condition although with some encrusted corrosion, especially along the top.

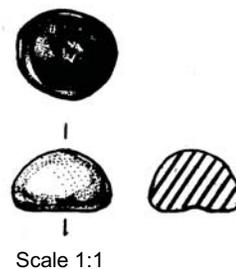


Scale 1:1

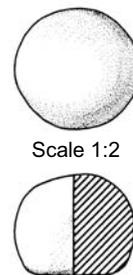


**Catalogue no. 17**

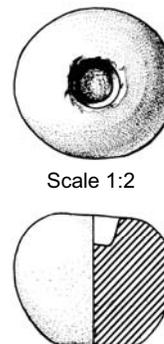
Registration no.: 40032  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 88 Layer 291  
 Mass: 2.61 g \*  
 Dimensions: 13 × 8 mm  
 Material: Hematite  
 Shape: Rounded dome  
 Remarks: Shallow dome with engraved circle just inside the edge of the base.  
 Some gouging in the middle of the base; it is impossible to reconstruct exactly how much mass was lost.

**Catalogue no. 18**

Registration no.: 46543  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 453  
 Mass: 41.66 g  
 Dimensions: 32 × 23 mm  
 Material: Schist  
 Shape: Rounded dome  
 Remarks: Grayish-green with a worked flat base.  
 Slightly worn but otherwise in good condition.  
 Short (< 1 cm) diagonal incision on one side.

**Catalogue no. 19**

Registration no.: 42526  
 Year excavated: 1993  
 Findspot: Grid 50 Square 48 Layer 390  
 Mass: 90.68 g  
 Dimensions: 42 × 34 mm  
 Material: Stone  
 Shape: Rounded dome  
 Remarks: This weight, which is made of a light-gray stone, is unusual for several reasons. The form is irregular, being rather barrel-shaped or spheroidal, although the top is narrower than the base, so it bears some resemblance to a dome weight. A well-tooled hole ca. 3 cm in circumference was carved into the top. The hole contains traces of lead.

**Catalogue no. 20**

Registration no.: 40873  
 Year excavated: 1992  
 Findspot: Grid 38 Square 74 Layer 482  
 Mass: 86.38 g  
 Dimensions: diam. 39 mm  
 Material: Stone  
 Shape: Rounded dome  
 Remarks: Light beige polished limestone. Inscribed on top of dome with a shekel sign and hieratic numeral 10; a few other stray marks. Base is slightly damaged and encrusted. No drawing available.

**Catalogue no. 21**

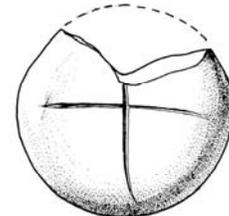
Registration no.: 50424  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Fine-grid 36 Layer 61  
 Mass: 51.74 g  
 Dimensions: Not available.  
 Material: Bronze  
 Shape: Rounded dome  
 Remarks: Cracked. No drawing available.



## DISCOID WEIGHTS

**Catalogue no. 22**

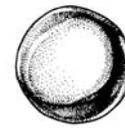
Registration no.: 39845  
 Year excavated: 1992  
 Findspot: Grid 50 Square 48 Layer 384  
 Mass: 82.06 g \*  
 Dimensions: 57 × 19 mm  
 Material: Stone  
 Shape: Discoid (incomplete)  
 Remarks: Lightly polished. Roughly 80 percent complete.  
 Inscribed on one face with a large ×.



Scale 1:2

**Catalogue no. 23**

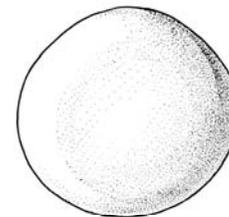
Registration no.: 46172  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 453  
 Mass: 29.13 g  
 Dimensions: 30 × 18 mm  
 Material: Stone  
 Shape: Discoid  
 Remarks: Thick disk of dark-gray stone polished on top and bottom with wear around the sides.



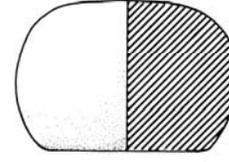
Scale 1:2

**Catalogue no. 24**

Registration no.: 46784  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 453  
 Mass: 222.21 g  
 Dimensions: 55 × 39 mm  
 Material: Stone  
 Shape: Discoid or flattened dome  
 Remarks: Either a thick discoid weight or a dome-shaped weight with an unusually flattened top. Material is pinkish stone with red striations. Lightly polished.



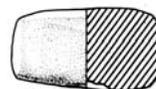
Scale 1:2



## RECTANGULAR WEIGHTS

**Catalogue no. 25**

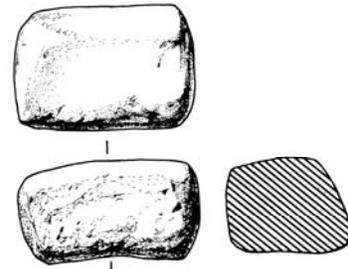
Registration no.: 47040  
 Year excavated: 1996  
 Findspot: Grid 50 Square 47 Layer 302  
 Mass: 46.49 g \*  
 Dimensions: 40 × 22 mm  
 Material: Stone  
 Shape: Rectangular  
 Remarks: Slightly rounded corners and edges. Made of polished stone, possibly diorite, with a slight, gouged indentation on one side.



Scale 1:2

**Catalogue no. 26**

Registration no.: 48083  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 453  
 Mass: 79.87 g  
 Dimensions: 48 × 26 mm  
 Material: Basalt  
 Shape: Rectangular  
 Remarks: Irregular with rounded (or poorly worked) edges and corners. One smoothed/flattened surface. Encrusted in places with whitish-brown sediment.



Scale 1:2

## SPHENDONOID WEIGHTS

**Catalogue no. 27**

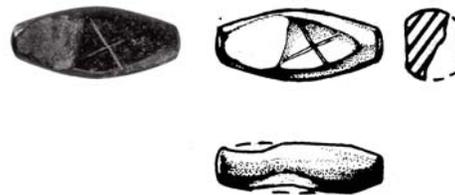
Registration no.: 39259  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 54 Layer 262  
 Mass: 27.12 g †  
 Dimensions: Length 37 mm  
 Material: Bronze  
 Shape: Sphendonoid  
 Remarks: Badly dented with a flattened base. No drawing available.



Scale 1:1

**Catalogue no. 28**

Registration no.: 47039  
 Year excavated: 1996  
 Findspot: Grid 50 Square 47 Layer 302  
 Mass: 3.38 g \*  
 Dimensions: 21 × 17 mm  
 Material: Hematite  
 Shape: Sphendonoid  
 Remarks: Polished to a high sheen. Flattened on the long sides. Both of the flattened sides are slightly damaged. One side is incised with an off-center ×. The tapered ends appear also to have been slightly flattened.

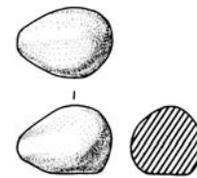


Scale 1:1

## TEARDROP WEIGHT

**Catalogue no. 29**

Registration no.: 39382  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 23 Layer 262  
 Mass: 10.93 g  
 Dimensions: 25 × 18 mm  
 Material: Stone  
 Shape: Teardrop  
 Remarks: Shaped like a teardrop with one narrower end gradually widening into a more rounded bulge. Flattened "base" on one side, which shows some wear around its edges.



Scale 1:2

## PYRAMIDAL WEIGHT

**Catalogue no. 30**

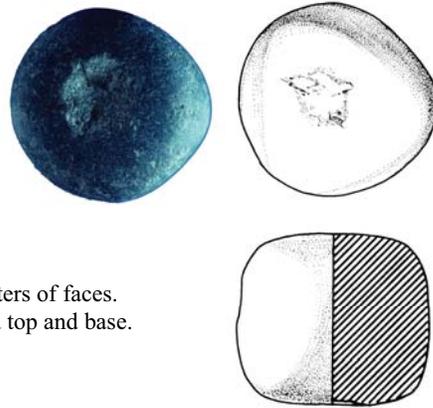
Registration no.: 39640  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 81 Layer 264  
 Mass: 13.03 g \*  
 Dimensions: Not available.  
 Material: Hematite  
 Shape: Pyramidal

Remarks: Made from a piece of black hematite from which natural grooves and irregularities were not entirely removed. There is a large natural furrow on one side. Sides are otherwise well-polished and the object has a flat, triangular base. Possible scratchings on one side but nothing that resembles an inscription. On the long side is a shallow circular impression with small central divot, very regular and tool-carved. No drawing or photograph is available.

## CYLINDRICAL WEIGHT

**Catalogue no. 31**

Registration no.: 40963  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Fine-grid 6 Layer 401  
 Mass: 205.66 g  
 Dimensions: 50 × 44 mm  
 Material: Stone  
 Shape: Cylindrical  
 Remarks: Dark-gray with slight wear around sides and centers of faces.  
 One side is irregular, faintly triangular. Flattened top and base.



Scale 1:2

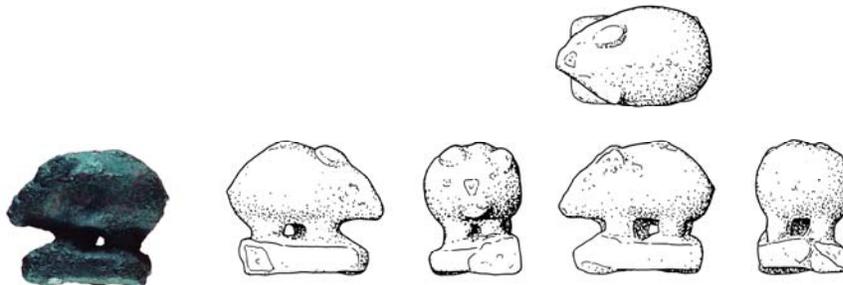
**Catalogue no. 32**

Registration no.: 44181  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 425  
 Mass: 8.99 g  
 Dimensions: Not available.  
 Material: Bronze  
 Shape: Cylindrical  
 Remarks: Cracked vertically in several places around body and along the edges. Typologically, such bronze cylinders are close to bronze cuboid weights. No drawing or photograph is available.

## ZOOMORPHIC WEIGHT

**Catalogue no. 33**

Registration no.: 42873  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Fine-grid 29 Layer 418  
 Mass: 17.6 g  
 Dimensions: 20 × 18 mm  
 Material: Bronze  
 Shape: Zoomorphic (“hedgehog”)  
 Remarks: The form is that of a hedgehog standing on an attached flat base. Apart from the ears, its features are not well-defined. The closest parallel for this weight is from the Mildenberg collection; its provenance was originally given by the collector as “the Levantine coast” and it was dated roughly to the early first millennium (Walker 1996:57). Yet the simplicity of the figure, which lacks any indication of either spines or a tail, led A. Walker to insist that the date must be earlier, perhaps as early as the late third or early second millennium B.C. Walker cites the simplified zoomorphic styles that appear in eastern Anatolia when Mesopotamian influence was prevalent, such as those known from the region of Tell Brak at that time.

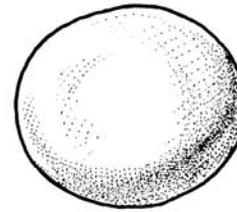


Scale 1:1

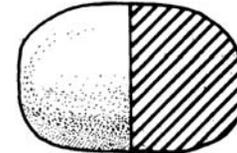
## WEIGHTS OF MIXED CHARACTER

**Catalogue no. 34**

Registration no.: 45986  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 453  
 Mass: 23.96 g  
 Dimensions: 29 × 26 × 19 mm  
 Material: Stone  
 Shape: Dome-shaped or a flattened ovoid or disk  
 Remarks: Flat base and a narrower flattened "plateau" on the top.  
 Made from black stone flecked with beige.  
 Lightly polished with some visible scratches on the sides.



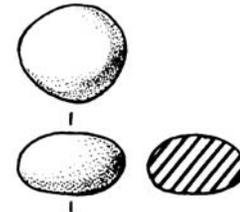
Scale 1:1

**Catalogue no. 35**

Registration no.: 49731  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 496 Feature 496  
 Mass: 85.03 g  
 Dimensions: Not available.  
 Material: Stone  
 Shape: Trapezoidal or a flattened dome  
 Remarks: Grayish-green in color. No drawing or photograph is available.

**Catalogue no. 36**

Registration no.: 15358  
 Year excavated: 1987  
 Findspot: Grid 50 Square 58 Layer 99  
 Mass: 2.1 g  
 Dimensions: 14 × 12 mm  
 Material: Stone  
 Shape: Flattened ovoid or disk  
 Remarks: It is difficult to determine whether the flattening into a disk-like ovoid was intentional or natural.  
 It may simply be a water-washed pebble.



Scale 1:1

**Catalogue no. 37**

Registration no.: 50775  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Fine-grid 36 Layer 61  
 Mass: 11.79 g  
 Dimensions: Not available.  
 Material: Stone  
 Shape: Irregular and oblong  
 Remarks: Chipped in several places. No drawing available.



Scale 1:2

## 18. LOOM WEIGHTS AND JAR STOPPERS

by Daniel M. Master

IN THE excavation of the seventh-century B.C. marketplace and winery of Ashkelon, eight sets of perforated clay spheres were uncovered—three in the Grid 50 marketplace and five in the Grid 38 winery. Such objects are common in Iron Age II contexts in Palestine, but their function is a matter of some debate. It has been variously suggested that perforated clay spheres were used for heat retention, as weights for fish nets, as jar stoppers, and as weights for weaving on a vertical loom (summarized in Shamir 1996: 141–43). Of these interpretations, only the last two have found widespread support.

### *Jar Stoppers?*

Zvi Gal (1989) first argued that the perforated clay spheres found at Ḥorvat Rosh Zayit were used as jar stoppers rather than as loom weights because of their large size and weight (10 cm diameter; 420–650 g) and the lack of wear-marks from strings tied through the perforations. In the final publication of this site, he reported that perforated clay spheres were found in situ on top of storage jars, lending support to this hypothesis (Gal and Alexandre 2000:125). At Tell el-Ḥammah, clay spheres were also found in situ in the mouths of jars (photograph in Homan 2004a:91).

In an attempt to understand why the spheres would have been pierced, thus weakening the seal on the jar, Gal speculated that the hole in the stopper was intended to allow gases to escape during the process of fermentation. This idea was picked up by Lawrence Stager (1996a; 1996b) in his discussion of the Ashkelon winery. In Stager's scenario, wine jars were sealed with spherical clay stoppers, which had probably been wrapped in some type of cloth, and the hole in the stopper was unplugged at regular intervals in order to allow the escape of gases that had built up within the jar during the process of fermentation.

More recently, Michael Homan (2004a:89–91) has argued that beer was also fermented in jars topped by perforated spheres. He notes that the Tell el-Ḥammah jars on which such spheres were found actually contained the carbonized remains of crushed wheat.

The use of perforated clay spheres as jar stoppers is attested by direct in situ evidence. It is less clear, however, that this was their primary function or even that it had anything do with fermentation. Orit Shamir argues, for instance, based upon the rest of

the clay spheres found at Tell el-Ḥammah (at least 159 of the spheres were *not* found in jars), that the “jar stoppers” were primarily loom weights that were only in secondary use as stoppers.

Furthermore, the process by which these spheres could have functioned as stoppers is not clearly understood. Although Homan reports that two of the jars from Tell el-Ḥammah contained carbonized wheat, he fails to explain which part of the beer-making process this would illustrate (see his description of the process in Homan 2004a:91). Stager and Gal are on firmer ground in their discussion of the fermentation of wine because Egyptian images show wine being made in large jars with a variety of stoppers, including those with a “secondary fermentation lock” for releasing excess gases from the slower, secondary-fermentation process (Lesko 1995:217–19). However, this Egyptian method using jars and stoppers was not the only (or even the typical) way to make wine during the first millennium B.C., as Stager himself notes (see the reference to fermentation in wineskins in Job 32:18–19, cited in Stager 1996b; see also Joshua 9:4, 13).

### *Loom Weights?*

The most common interpretation of the perforated clay spheres found in Iron Age II archaeological contexts is that these ubiquitous items were loom weights. This is based on the illustrations of warp-weighted looms on fifth-century B.C. Attic ware (see Broudy 1993:23–34). In the Levant, the perforated clay spheres are most often found in clusters or rows, with no association to storage vessels or wine presses (Sheffer 1981; Shamir 1996:141–42).

Shamir argues that signs of wear, namely, grooves worn into the perforation, are direct evidence that the spheres were tied with string and hung as weights rather than used primarily as fermentation stoppers (Shamir 1996:143). She notes, however, that there should be only a limited variation in the sizes of the individual weights within a set of loom weights, to ensure even tension during the weaving process. In modern experiments with reconstructions of ancient vertical looms, “a variation of about 200 g between the loom weights caused deformation” (Shamir 1996: 144); moreover, a single loom weight should weigh no more than about 800 g, in order to avoid snapping the string to which it is attached.

Table 18.1: Criteria for Distinguishing Perforated Clay Jar Stoppers from Loom Weights

	<i>Jar Stopper</i>	<i>Loom Weight</i>
<i>Diameter</i>	Similar to jar mouth (ca. 9–10 cm).	Less than 9 cm.
<i>Weight</i>	Greater than 800 g.	Less than 800 g.
<i>Wear marks</i>	No string marks; imprint of cloth wrapping; possibly extra clay around the midsection.	String marks in the perforation.
<i>Context</i>	In the mouth of a jar.	In rows near walls or wood remains.

In light of this discussion, we can list several criteria (table 18.1) that might be used to distinguish loom weights from jar stoppers. Not all of these are determinative for every clay sphere, but they still provide some guidance, particularly for larger collections.

#### *Grid 50 Building 58 Rooms 52 and 58*

Two unperforated pyramidal clay stoppers were found in Room 58 of Building 58 in Grid 50 Phase 7. One of them still retains the impression of a leaf or frond that was placed over the mouth of the jar before the wet clay was affixed to the top.

#### *Grid 50 Building 234 Room 221*

A group of six perforated clay spheres was found in Room 221 of Building 234 in Grid 50 Phase 7 (figure 18.2; table 18.2). Each of them has a diameter less than 9 cm; at least one of them has a string mark; and all weigh less than 800 g. They cluster into two distinct weight ranges (100–200 g and 400–500 g), forming subgroups of similarly sized spheres. They were found near a wall and the excavators noted that wood fragments were found between them, which they interpreted as remnants of a loom.

In the same room was found an unperforated conical clay stopper (figure 18.3; reg. no. 39069). The bottom of this stopper bears the impression of the storage jar on which it had been affixed. It seems best to interpret the clay spheres as loom weights, in contrast to the conical jar stopper that was found nearby.

#### *Grid 50 Building 406 Room 406*

A group of five clay spheres (four intact and one fragmentary) was found in Room 406 of Building 406 in the Grid 50 Phase 7 excavation area (figure 18.4; table 18.2). They were arranged in a row next to a wall, but they are all unperforated and are more bun-shaped than spherical so they could not have been used as weights. Their diameters suggest that they would have fit quite well into the mouths of storage jars. Thus, these should be interpreted as jar stoppers, though not of a kind used in fermentation.

#### *Grid 38 Building 776 Room 342*

Ten perforated clay spheres were found in Room 342 of Building 776 in Grid 38 Phase 14 (the “winery”). They are all the same size (ca. 5 cm diameter) and are too small to fit in the mouth of a storage jar (see table 18.2). At least one shows the wear mark of a string through the perforation. Although half of the spheres in this group are fragmentary, the better-preserved examples point to the presence of a loom.

#### *Grid 38 Building 776 Room 460*

Room 460 of Building 776 in Grid 38 Phase 14 contained four perforated clay spheres, three of which are too small to have served as jar stoppers, and one of which is probably too large for a loom (figure 18.5; table 18.2). Two of them have string marks in the perforation, so it is most likely that these two spheres, at least, are from a set of loom weights.

#### *Grid 38 Building 776 Rooms 796 and 801*

Rooms 796 and 801 of Building 776 in Grid 38 Phase 14 each contained a collection of fragmentary clay spheres that were so broken they could not be measured or weighed accurately, so their function is uncertain. In each room they were lined up along a wall.

#### *Grid 38 Building 776 Room 312 and Room 413*

Rooms 312 and 413 of Building 776 in Grid 38 Phase 14 contained the largest collection of clay spheres, forty in all, found along the same wall in two adjacent rooms (figure 18.6; table 18.2). Stager used these to support the fermentation-stopper hypothesis. Nine of them have an actual or estimated weight greater than 800 g (the upper limit for loom weights) and all have diameters greater than 9 cm and so would have been suitable for placement in the mouths of storage jars. Furthermore, their weights differ by more than the 200 g that Shamir suggests is allowable for use on a loom without distorting the woven fabric.



Figure 18.1: An unperforated pyramidal jar stopper (reg. no. 49088.1) from Grid 50 Phase 7 Building 58 Rooms 52 and 58



Figure 18.2: Perforated clay spheres from Grid 50 Phase 7 Building 234 Room 221



Figure 18.3: Conical unperforated jar stopper (reg. no. 39069) from Grid 50 Phase 7 Building 234 Room 221



*Figure 18.4:* Unperforated jar stoppers from Grid 50 Phase 7 Building 406 Room 406 (fragmentary one not shown)



*Figure 18.5:* Perforated clay spheres from Grid 38 Phase 14 Building 776 Room 460



*Figure 18.6:* Perforated clay spheres from Grid 38 Phase 14 Building 776 Rooms 312 and 413

On the other hand, nearly half of the spheres in this large collection weigh between 200 and 400 g, which is quite feasible for loom weights, and most of their diameters are too small to close the top of a storage jar. Several of them have wear marks from strings that have cut into their perforations.

Thus, the criteria we have used do not provide a clear result. Interestingly, this is typical for other collections. The forty clay spheres from Rooms 312 and 413 have the same weight distribution as the other major Iron Age collections of perforated clay spheres, including those found in Jerusalem, Tel Batash (Browning 2001), and Beth Shean (Shamir 2006). At these other sites, most of the clay spheres are too small to have been used as jar stoppers and a few are too large to have been loom weights. The various weight distributions of the largest clay sphere collections from Ashkelon, Beth Shean, and Tel Batash are presented graphically below in figure 18.7.

In light of the similar clay sphere distributions from these sites, it seems likely that the weights and sizes of the forty spheres in the Ashkelon collection have less to do with their presence in the winery than with the typical manner in which sets of clay spheres were kept together in late Iron Age households. Not only their small diameters but the wear marks on

many of the smaller spheres in the Ashkelon collection, combined with the lack of any evidence that they had been attached to storage jars, leads to the conclusion that most of these perforated clay spheres were made to serve as weights for a warp-weighted loom.

The Greek evidence, cited by Hoffmann (1974: 20), which indicates a typical weight range between 500 and 700 g, with some loom weights exceeding 1,000 g, may help us further by removing Shamir's 800 g weight limitation on loom weights. This is precisely the distribution found at Ashkelon, Tel Batash, and Beth Shean. (At Beth Shean, three pierced clay cones, much larger than the typical weights, were found with many smaller loom weights; Shamir is hesitant to relate these to weaving because of their size and shape, but to treat them as three jar stoppers thrown in with loom weights is even less convincing because they show no evidence of having been placed on jars and their perforations run transversely through the cone.) Of course, as the Ḥorvat Rosh Zayit and Tell el-Ḥammah examples have shown, the fact that perforated clay spheres were used primarily as loom weights does not rule out the possibility that larger spheres found a secondary use, in certain cases, as jar stoppers.

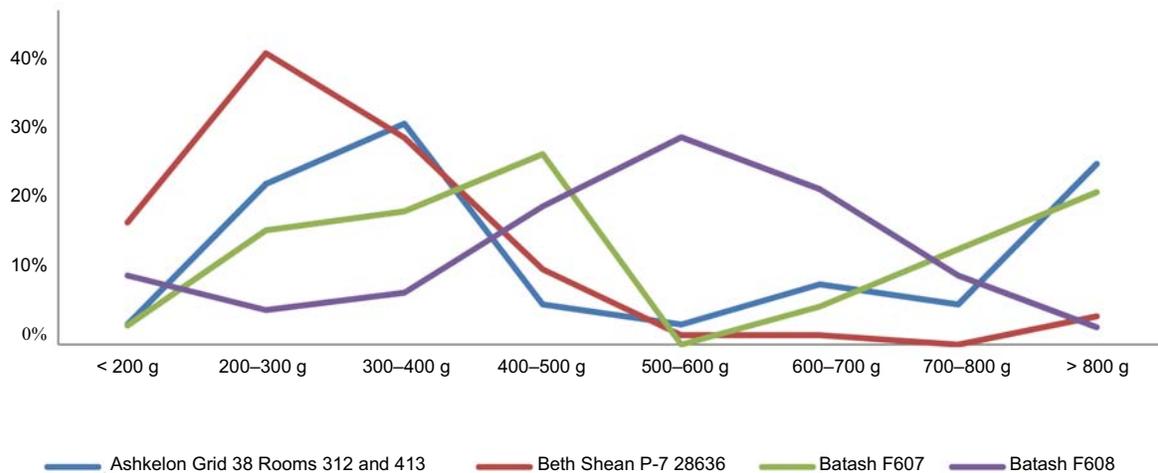


Figure 18.7: Graph of the weight distributions of clay spheres at Ashkelon, Beth Shean, and Tel Batash  
Sources: Browning 2001 (Tel Batash) and Shamir 2006 (Beth Shean)

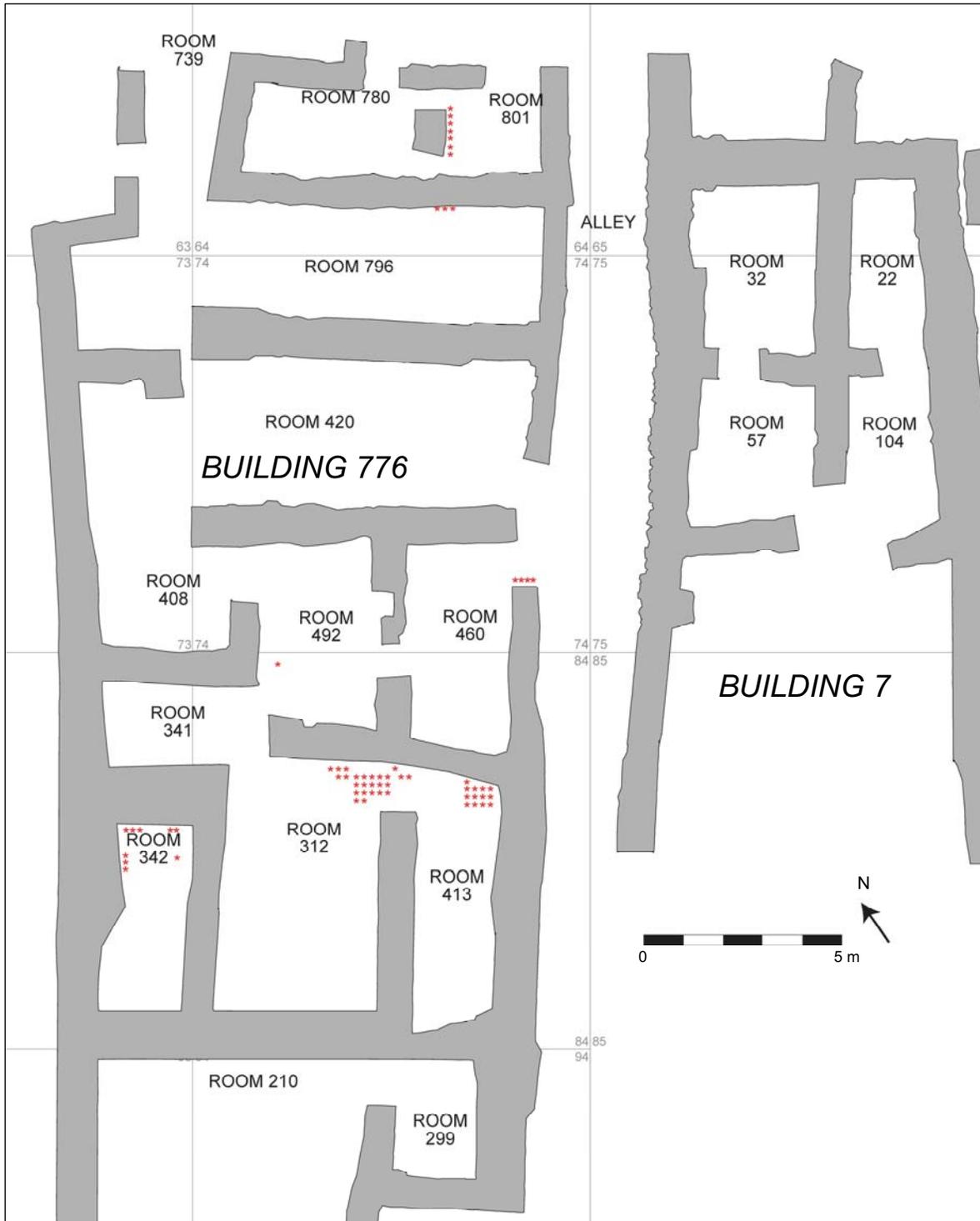


Figure 18.8: Plan showing the locations of perforated clay spheres in Grid 38 Phase 14  
 Locations of perforated clay spheres are marked with red asterisks \*.

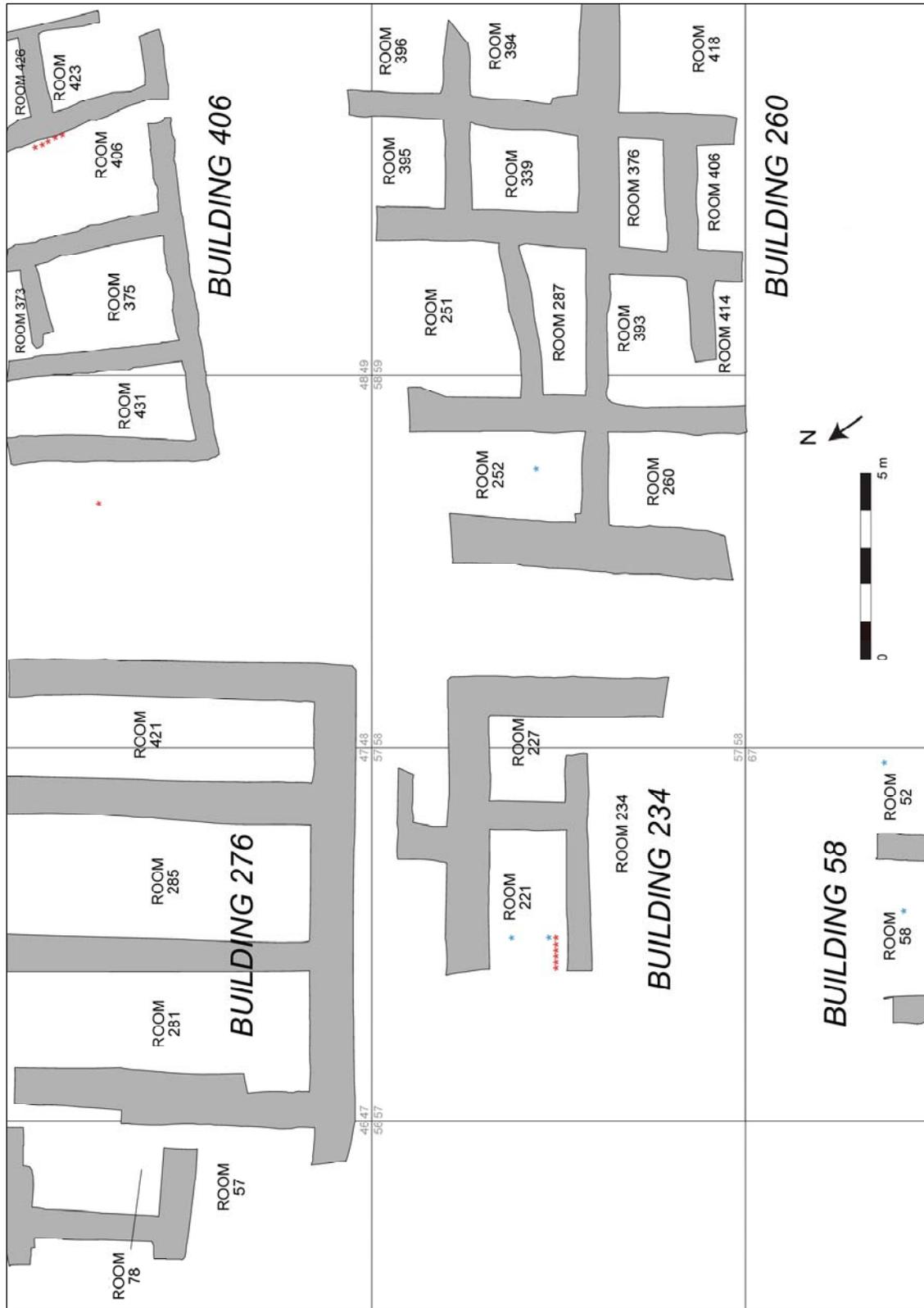


Figure 18.9: Plan showing the locations of perforated clay spheres and other clay objects in Grid 50 Phase 7. Locations of perforated clay spheres are marked with red asterisks \* and unperforated clay objects with blue asterisks \*.

Table 18.2: Loom Weights and Jar Stoppers from the Ashkelon Winery and Marketplace Destroyed in 604 B.C.

<i>Reg. No.</i>	<i>Weight (g)</i>	<i>Diameter (mm)</i>	<i>Length (mm)</i>	<i>Perforated?</i>	<i>String marks?</i>	<i>Preser- vation</i>	<i>Findspot</i>
<b>Grid 38 Phase 14 Building 776 Rooms 312 and 413</b>							
41046	245	58	59	Yes	Maybe	100%	Grid 38 Square 84 Fine-grid 36 Layer 295
43911	997	95	98	Yes	Maybe	100%	Grid 38 Square 84 Layer 383 Feature 383
43912	253		88			35%	Grid 38 Square 84 Layer 383 Feature 383
43913	690	77	93	Yes	Maybe	100%	Grid 38 Square 84 Layer 383 Feature 383
43914	252	65		Yes	No	85%	Grid 38 Square 84 Layer 383 Feature 383
43915	316					35%	Grid 38 Square 84 Layer 383 Feature 383
43916	871	90	105	Yes	No	100%	Grid 38 Square 84 Layer 383 Feature 383
43917	112	47	55	Yes	No	100%	Grid 38 Square 84 Layer 383 Feature 383
43918	311	60	90	Yes	Yes	100%	Grid 38 Square 84 Layer 383 Feature 383
43919	264	70	82	Yes	No	25%	Grid 38 Square 84 Layer 383 Feature 383
43920	711	90	97	Yes	No	90%	Grid 38 Square 84 Layer 383 Feature 383
43921	145			Yes		30%	Grid 38 Square 84 Layer 383 Feature 383
43926	231	65	75	Yes	No	100%	Grid 38 Square 84 Layer 383 Feature 383
44219	182					7 frags.	Grid 38 Square 84 Fine-grid 37 Layer 295
44266	975	97	108	Yes	No	100%	Grid 38 Square 84 Fine-grid 36 Layer 295
44339	295	62	65	Yes	No	100%	Grid 38 Square 84 Layer 391 Feature 391
44452	328	69	71	Yes	Yes	95%	Grid 38 Square 84 Fine-grid 35 Layer 297
44453	233	60	70	Yes	Yes	85%	Grid 38 Square 84 Fine-grid 35 Layer 297
44454	879	95	109	Yes	No	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44455	245	59	67	Yes	No	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44456	245	60	70	Yes	No	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44457	272					fragmentary	Grid 38 Square 84 Fine-grid 35 Layer 297
44458	340			Yes		85%	Grid 38 Square 84 Fine-grid 35 Layer 297
44459	353	71	73	Yes	Yes	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44460	193		67	Yes		35%	Grid 38 Square 84 Fine-grid 35 Layer 297
44461	278	63	73	Yes	No	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44462	435					fragmentary	Grid 38 Square 84 Fine-grid 34 Layer 392
44596	301	70	70	Yes	No	95%	Grid 38 Square 84 Fine-grid 35 Layer 297
44597	312	66	82	Yes	No	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44598	363	68	82	Yes	Yes	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44599	384	72	84	Yes	No	100%	Grid 38 Square 84 Fine-grid 35 Layer 297
44600	536	98	102	Yes	No	60%	Grid 38 Square 84 Fine-grid 35 Layer 297
44601	627	84	94	Yes	No	90%	Grid 38 Square 84 Fine-grid 35 Layer 297
44602	357	73	70	Yes	No	90%	Grid 38 Square 84 Fine-grid 35 Layer 297
44603	859	90	114	Yes	No	100%	Grid 38 Square 84 Fine-grid 34 Layer 392
44604	317	69	75	Yes	Yes	100%	Grid 38 Square 84 Fine-grid 24 Layer 392
44605	333	64	82	Yes	No	100%	Grid 38 Square 84 Fine-grid 24 Layer 392
44606	604	80	97	Yes	No	100%	Grid 38 Square 84 Fine-grid 24 Layer 392
45457	895	98	105	Yes	No	100%	Grid 38 Square 84 Layer 391 Feature 391

Table 18.2: Loom Weights and Jar Stoppers from the Ashkelon Winery and Marketplace (continued)

<i>Reg. No.</i>	<i>Weight (g)</i>	<i>Diameter (mm)</i>	<i>Length (mm)</i>	<i>Perforated?</i>	<i>String marks?</i>	<i>Preser- vation</i>	<i>Findspot</i>
<b>Grid 38 Phase 14 Building 776 Room 342</b>							
38423	100			Yes	Yes	fragmentary	Grid 38 Square 83 Layer 272 Feature 272
42770				Yes		fragmentary	Grid 38 Square 83 Fine-grid 49 Layer 320
43173				Yes		fragmentary	Grid 38 Square 83 Layer 320
43617	140	51	37	Yes	No	100%	Grid 38 Square 83 Fine-grid 59 Layer 320
43714	140	51	50	Yes	No	100%	Grid 38 Square 83 Fine-grid 60 Layer 320
43720	150	53	45	Yes	No	90%	Grid 38 Square 83 Fine-grid 59 Layer 320
43724				Yes		fragmentary	Grid 38 Square 83 Fine-grid 49 Layer 320
43725						fragmentary	Grid 38 Square 83 Fine-grid 59 Layer 320
43735						fragmentary	Grid 38 Square 83 Fine-grid 50 Layer 320
43736	110	51	51	Yes	No	100%	Grid 38 Square 83 Fine-grid 50 Layer 320
<b>Grid 38 Phase 14 Building 776 Room 460</b>							
41027	600	85	95	Yes	No	60%	Grid 38 Square 74 Fine-grid 89 Layer 482
41028	220	66	68	Yes	Maybe	80%	Grid 38 Square 74 Fine-grid 89 Layer 482
41029	300	65	78	Yes	Yes	100%	Grid 38 Square 74 Fine-grid 89 Layer 482
42638	260	63	73	Yes	Yes	100%	Grid 38 Square 74 Layer 482
<b>Grid 38 Phase 14 Building 776 Room 492</b>							
38563	230			Yes		60%	Grid 38 Square 84 Fine-grid 3 L280 F280
<b>Grid 38 Phase 14 Building 776 Rooms 796 and 801</b>							
42966						10 frags.	Grid 38 Square 64 Fine-grid 87 Layer 785
45199		115	97			fragmentary	Grid 38 Square 64 Fine-grid 87 L801 F801
45204						16 frags.	Grid 38 Square 64 Fine-grid 87 Layer 785
<b>Grid 50 Phase 7 Building 58 Rooms 52 and 58</b>							
49088.1				No	No		Grid 50 Square 67 Fine-grid 39 Layer 42
49088.2				No	No		Grid 50 Square 67 Fine-grid 46 Layer 46
<b>Grid 50 Phase 7 Building 234 Room 221</b>							
39061	160	53	58	Yes	No	95%	Grid 50 Square 57 Fine-grid 45 Layer 196
39062	180	56	58	Yes	No	100%	Grid 50 Square 57 Fine-grid 45 Layer 196
39063	395	68	78	Yes	No	100%	Grid 50 Square 57 Fine-grid 45 Layer 196
39064	400	76	72	Yes	Maybe	100%	Grid 50 Square 57 Fine-grid 45 Layer 196
39065	490	71	69	Yes	Yes	100%	Grid 50 Square 57 Fine-grid 45 Layer 196
39066	450	115	90	Yes	No	95%	Grid 50 Square 57 Fine-grid 45 Layer 196
39067	270		77	No	No	50%	Grid 50 Square 57 Fine-grid 45 Layer 196
39069	159	179		No	No	100%	Grid 50 Square 57 Fine-grid 45 Layer 196
<b>Grid 50 Phase 7 Building 406 Room 406</b>							
41090	350	95	54	No		90%	Grid 50 Square 49 Fine-grid 17 Layer 401
41091	300	70	71	No		100%	Grid 50 Square 49 Fine-grid 17 Layer 401
41092	500	90		No		60%	Grid 50 Square 49 Fine-grid 17 Layer 401
41093						fragmentary	Grid 50 Square 49 Fine-grid 17 Layer 401
41094	300	95	55	No		70%	Grid 50 Square 49 Fine-grid 17 Layer 401



## 19. METAL WEAPONS AND TOOLS

by Adam J. Aja

HUNDREDS OF metal items were recovered from seventh-century B.C. contexts at Ashkelon. Most of them are too poorly preserved for any reasonably secure identification. Moreover, the post-excavation deterioration of some artifacts, even to the point of complete disintegration, has prevented the reexamination of certain pieces that were only tentatively identified at the time of their discovery. In these cases, the classification is based solely upon the preliminary measurements and descriptions, which are insufficient for detailed typological comparisons.

At the end of this chapter is a catalogue of 124 metal items that are sufficiently well preserved to merit classification. The discussion that precedes it is divided into three parts, each corresponding to a different metal, namely, iron, bronze (i.e., copper alloy), and lead. In each part, the best-preserved items are discussed and parallels are cited. The comparanda are intended to be representative and not comprehensive.

The 124 identifiable items can be classified either as weapons (blades or points) or as tools of various kinds, such as chisels, saws, nails, hooks, pins, needles, and fishing weights. Given the poor condition of the metal finds, the identification of many items is uncertain. The least certain classifications are indicated by a question mark in the catalogue.

Not all of the metal objects recovered at Ashkelon are dealt with here. The many amorphous lumps, thin sheets, iron splinters, and small shaft fragments (both round and square), which make up the bulk of the assemblage, have been excluded. The items presented here are the metal weapons and tools from seventh-century B.C. Ashkelon that are the most well preserved or represent a general class of artifact.<sup>1</sup>

In the interest of standardizing terms, the following definitions are taken from the report on metal objects from Timnah (Mazar and Panitz-Cohen 2001: 212) and from the extremely useful survey of Iron Age II weaponry by Emery (1998):

- Butt: Thick or handle end of a tool or weapon.
- Haft: Handle of a tool or weapon.
- Shaft: Long handle of a spear or similar weapon.
- Socket: Opening or hollow that holds something.
- Tang: A projecting shank, prong, fang, or tongue.
- Tip: Tapering pointed end of an implement.

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<sup>1</sup> Bronze situlae are discussed in chapter 13, metal jewelry in chapter 15, and metal scale weights in chapter 17.

A weapon or tool was usually composed of a metal head or cutting edge attached to a handle or shaft of biodegradable material such as wood. The secure attachment of a metal blade or point to its handle was a matter of some importance in order to prevent the head from flying off during use. If the butt of the metal head was inserted into the body of the shaft or haft, it is known as a tang. Alternatively, the metal head might have had a socket, if the shaft or handle was fitted into the base (Yadin 1963:9). The tang or socket could be further secured by rivets that pierced both the metal and the shaft or handle. Although there are traces of wood preserved in the corroded metal of a few of the Ashkelon artifacts, no complete handle or shaft has survived.

### *Iron Weapons and Tools*

In the eastern Mediterranean region in the Iron Age II, iron-working technology was not sufficiently developed to allow the creation of cast-iron objects; however, the available technology was more than adequate for the production of thin blades and heavy tools. The thickness of some iron pieces has likely ensured their survival, though many have deteriorated to unidentifiable flakes, splinters, or lumps.

#### Iron Blades (cat. nos. 1–21)

Shock weapons, which include daggers, swords, maces, and spears, were employed for striking and thrusting in hand-to-hand combat (Ferrill 1997:38). The blades of daggers and swords are relatively thin in relation to their width and length. Blades longer than 30 cm are usually classified as swords and those from 12 to 30 cm in length are classified as daggers. The term “knife” is generally reserved for single-edged blades used for domestic, agricultural, and industrial purposes (Emery 1998:68).

Blades can vary greatly in size, with a variety of specialized forms and functions. Blades shorter than 10 cm were probably not intended for warfare, despite the similarity of form to larger daggers and swords. It is possible, however, that the larger domestic blades were sometimes used as fighting blades, if this was necessary (Emery 1998:69).

The main parts of a sword, dagger, or knife are the metal blade and the handle (the hilt or haft). Most blades would have had a flattened tang to be riveted

into a wooden handle. Emery (1998) suggests that the typical handle for a large blade was 10 cm in length, in order to fit the hand of a man of average size. This is a plausible assumption for most blades, even for some of the smallest. The 10-cm estimate does not include the length of the pommel, however. A pommel is often placed on the end of a handle to provide balance for longer blades and a knob to improve the grip. No pommel has been identified in the Ashkelon assemblage. Furthermore, none of the handle fragments is preserved to a length of 10 cm.



Cat. no. 17 (reg. no. 49402)

Figure 19.1: Wooden handle adhering to iron tang (scale 1:1)

Cat. no. 17 (figure 19.1) is the longest preserved handle remnant (ca. 7 cm) in the Ashkelon assemblage. It is likely that the handles were longer than the metal tangs to which they affixed, in most cases, although no example has been preserved to its original length. The height of the rivets found in several handle fragments from Ashkelon does indicate, however, the original thickness of the decayed wooden handles (see cat. nos. 1, 5, 17; and also the saws, cat. nos. 40 and 69). Rivets were made of either iron or bronze; both iron rivets and bronze rivets are found in cat. no. 17, shown above.

The form of the blade would have dictated its use. A stabbing sword has a straight blade tapering to its tip. To give it strength, it is thickest along the center

of the blade and tapers toward the edges. Such a sword could also be used to slash one's opponent.

A striking sword has only one sharp edge with the thickest part along the blunt side (Yadin 1963:11). The sharp edge may have either a convex or a concave curve, and the angle of this curve can range from slight to severe.

Swords and daggers require large amounts of metal in comparison to other weapons. No complete Iron Age example of a sword has been excavated at Ashkelon, although several broad, flat fragments might be incomplete examples (see cat. nos. 6, 15, 21, and possibly 53). The fragmentary condition of these pieces makes their identification extremely tenuous.

The only complete dagger blade recovered from the 604 B.C. destruction of Ashkelon is cat. no. 18 (figure 19.2), which has a square tang and symmetrical straight sides tapering to the tip. It is unclear if the point of the blade was broken off in antiquity, or whether the blade had a sharpened round tip. Sharp and round-tipped daggers are both found in seventh-century B.C. contexts with similar frequency (see Emery 1998:pls. 78–86).

The straightness of this blade's edges indicates that it was rarely sharpened, which was normal for a weapon of war. Knives for daily use needed sharpening far more often (Petrie 1928:30; see Emery 1998:76). The blade appears to be of uniform thickness, with no thickening at the center to enhance its strength.

There is no exact seventh-century parallel for this blade. A close parallel is an iron blade from Tell Jemmeh Stratum IIB, although that weapon appears wider and, if complete, possibly longer (Petrie 1928: pl. 28:10). Moreover, the tang on the Tell Jemmeh blade is longer and more tapered. Comparison is impeded because the tip of that piece is lost and the cross section is not provided.



Cat. no. 18 (reg. no. 49536)

Figure 19.2: Iron blade of a dagger with symmetrical sides and a square tang (scale 1:1)



Cat. no. 16 (reg. no. 47431)

Figure 19.3: Curved iron blade with broad convex back (scale 1:1)

The same Stratum IIB at Tell Jemmeh yielded another iron dagger that can be compared to cat. no. **18** (see Petrie 1928:pl. 30:9). No tang is preserved on this piece, although it does have a rounded tip and a flat cross section 3 mm thick. The taper to this second Tell Jemmeh dagger is far more slight than on the Ashkelon dagger. A ninth-century B.C. dagger from Megiddo is nearer in length and width, and may be the closest parallel to the Ashkelon dagger (Lamon 1935:pl. 6:2). No cross-section profile is available, unfortunately.

A bronze blade from Megiddo Stratum III, dating to the eighth-seventh centuries B.C. and measuring  $14.2 \times 2.7$  cm, is similar in form and even has a rounded tip, although it is a smaller example (Lamon and Shipton 1939:pl. 81:43). Another bronze blade excavated more recently from Megiddo (Level K-4) is of comparable size with a square tang (Finkelstein, Ussishkin and Halpern 2006:18.25:573).

In view of the scarcity of close parallels from the seventh century B.C., it is possible that the Ashkelon dagger is an heirloom; however, the general form of the double-sided dagger seems to have been fairly consistent throughout the Iron Age II and it is possible that the lack of parallels is simply due to the accident of discovery.<sup>2</sup>

<sup>2</sup> See Emery 1998 for discussion and conveniently collected examples, especially his no. 3015 (an iron blade from Tell Jemmeh Stratum IIB, seventh century B.C.; Petrie 1928:pl. 30:8), no. 3014 (a bronze blade from Megiddo Stratum IV, tenth-ninth centuries B.C.; Lamon and Shipton 1939:pl. 81:45), no. 3017 (a bronze blade from Tell en-Nasbeh Tomb 14; McCown 1947:pl. 104:4), and nos. 3019 and 3033 (iron blades from Abu Salima Stratum J, tenth-ninth centuries B.C.; Petrie 1937:fig. 23:57 and fig. 22:49).

Cat. no. **16** (figure 19.3) has no precise parallel for its slightly curved cutting blade and broad convex back. The upswept tip is unusual, but it may have facilitated its use as a stabbing weapon in addition to its use as a chopping blade (see Petrie 1917:25, pl. K). A comparable blade, identified as a sickle, was found in a tenth-century B.C. context at Tel Michal; it has both a concave cutting edge and an upturned tip, similar to cat. no. **16**, but it is wider and longer, and its curves are more exaggerated, than the Ashkelon example. Sickle blades appear throughout the Iron Age at multiple sites. Most display a cutting edge with a continuous concave curve that is more consistent with the form of the iron sickle from Ashkelon (cat. no. **2**), which is shown below in figure 19.4 (see Herzog, Rapp, and Negbi 1989:25.3:51; Gal and Alexandre 2000:fig. 3.118:1-5; Sass 2004b:pl. 28.13:5-6; Albright 1943:pl. 61:8, 9, 13).



Cat. no. 2 (reg. no. 42758)

Figure 19.4: Iron sickle (scale 1:2)



Figure 19.5: Two fragments of a long iron blade fused by corrosion onto an iron spike (scale 1:2)

While the fragmentary nature of the Ashkelon material often prevents a definitive identification, some items can be classified with a fair degree of confidence. Cat. no. **9** (figure 19.5) is one of the longest blades found (ca. 18.3 cm), although its original full length is unknown. The preserved tip makes it clear that it is properly identified as a blade.

Cat. no. **21** is a possible dagger fragment that has lost both its tip and its tang. It is similar in thickness to the dagger shown in figure 19.2 (cat. no. **18**) and likewise lacks a central rib. Although the corrosion of one edge has destroyed its symmetry, the remaining side displays a slight convex line. It is impossible to reconstruct an accurate length due to the loss of symmetry. It is likely, however, that this dagger was originally quite a bit longer than cat. no. **18**. The existing portion shows no evidence of tapering toward a tip. Published examples of Iron Age long blades, which measure at least 25 cm prior to restoration, demonstrate a similar straight, nontapering shape.<sup>3</sup>

Cat. nos. **6** and **15** are in worse condition than cat. no. **21**. Both are extremely thin in relation to their width. All three are good candidates for classification as straight-sided stabbing daggers or swords, although a nonmilitary function cannot be entirely ruled out.

<sup>3</sup> See Emery 1998:pls. 84–86, especially no. 3036 (a bronze blade from Tell en-Nasbeh, seventh–fifth century B.C.; McCown 1947:pl. 104:2), no. 3038 (an iron blade from Hazor Stratum V, eighth century B.C.; Yadin 1989:pl. 234:2), and no. 3045 (an iron blade from Tell Far‘ah South Tomb 201, tenth century B.C.; Petrie 1930:pl. 41:268).

Cat. no. **17** is a knife fragment with four preserved rivets and holes for two additional rivets that were used to secure the handle (figure 19.1). The bronze rivets clearly do not mark the end of the handle because they are precariously placed at the broken edge of the blade. At least one additional centimeter should thus be reconstructed, if not more. The drawn section reveals a triangular profile, suggesting that one edge was sharpened. Examination shows a slight narrowing of the fragment, with the thickest part of the blade near the rivet pair, and a slight convex curve on one edge. This curve could have extended along the length of the blade.

Of the published examples of Iron Age II knives, only a handful show a pair of rivets placed side by side in the handle, as they are in this Ashkelon knife.<sup>4</sup> In only one of these blades (Petrie 1928:pl. 31:45) was the rivet pair placed at the butt end of the handle; however, this blade also had a rivet pair at the top of the handle. It is thus reasonable to suggest that the bronze rivet pair in the Ashkelon example stood not at the rear of the handle but at the base of the cutting blade. Likewise, it is quite normal for the tang or

<sup>4</sup> See Emery 1998:no. 3125, pl. 89 (a straight-backed iron blade from Tell Jemmeh Stratum IV, seventh century B.C.; Petrie 1928:pl. 31:46), no. 3216, pl. 102 (a straight-edged iron blade from Tell Far‘ah North Stratum VIII, ninth–eighth centuries B.C.; Chambon 1984:247, pl. 69:9); no. 3227, pl. 105 (a straight-edged iron blade from Hazor Stratum VII–VI, eighth century B.C.; Yadin 1989:pl. 220:35), no. 3357, pl. 111 (a hollow-edged iron blade from Tell es-Sa‘idiyeh Stratum VI, eighth century B.C.; Pritchard 1985:fig. 8:18), and no. 3372, pl. 115 (a hollow-edged iron blade from Tell Jemmeh, seventh or sixth century B.C.; Petrie 1928:pl. 31:45).

handle to taper toward the base. These parallels indicate, albeit not conclusively, that the Ashkelon blade was “hollow-backed.” The published examples show that this type of knife was used throughout the Iron Age II over a wide area (Emery 1998:87). Obviously, it is impossible to determine the original length of our example and its form cannot be fully reconstructed. The blade might have changed direction at any point after the rivet pair and, indeed, no other hollow-backed knife with a rivet pair has been identified and published.

Several other flat iron fragments may also have been blades, although the absence of a clear tip, tang, or sharpened edge makes such identification extremely difficult and the discovery of parallels impossible. The presence of a rivet is helpful, since it indicates that a handle was once attached to the artifact. Cat. no. **5** consists of an iron tang pierced by at least one iron rivet. This fragment is too small to determine shape or orientation but its construction suggests the handle of a small blade. A small knife such as this would likely have served a domestic function.

The rivets of cat. nos. **1** and **20** likewise indicate that these were small domestic knives. The drawn sections of cat. nos. **3** and **14** shows that these were “straight-backed” knives.<sup>5</sup> Their triangular profiles reveal the thick, flat “back” of the blade, which tapers widthwise toward the sharpened cutting edge. They are too corroded, however, to allow detection of any tapering lengthwise toward the tip. In the seventh century B.C., a blade might taper gradually to its tip, or it might not taper but instead have a relatively parallel back and cutting edge.<sup>6</sup>

Small domestic knives are found in Iron Age II contexts throughout the southern Levant, with artifacts from Tell Jemmeh, Lachish, and Tell Far'ah South accounting for a substantial portion of the published examples (Emery 1998:79).

<sup>5</sup> Iron Age II examples abound, including numerous parallels that date to the seventh century B.C. (see Emery 1998: pls. 87–98). One iron example from Tell Jemmeh Stratum III (Petrie 1928:30:22 = Emery no. 3122) is similar in width and has a triangular cross section.

<sup>6</sup> Tell Jemmeh provides numerous examples of both types in seventh-century B.C. strata; e.g., a parallel-sided iron example with pointed tip from Stratum IV (Petrie 1928:pl. 31:49 = Emery no. 3119) and a blade that tapers to a pointed tip from Stratum III (Petrie 1928:pl. 30:21 = Emery no. 3121), both of which have a triangular section.

### Iron Points (cat. nos. 22–38)

Missile weapons such as javelins, bows, and slings were employed for shooting and throwing (Ferrill 1997:38). The body of an arrow was designed to “direct the energy transmitted from [a bow’s] string on release. [It] had to be long, thin, hard, straight and light and was made of wood or reed” (Yadin 1963: 8). The tail, made of feathers, was designed to keep the arrow on its course in smooth and straight flight. The feathers of eagles, vultures, kites, or sea-fowl were the most effective for this purpose.

Javelins (light throwing spears) were constructed in a similar fashion. They were composed of a straight wooden shaft to which was affixed a hard point for piercing flesh. Javelins were hurled by hand and each soldier was equipped with several of them. To increase the javelin’s range, a cord could be attached that was wound around the shaft with the loop held so that as the javelin was hurled “the swift unwinding of the cord would give it a spin and therefore a steadier flight” (Yadin 1963:10). The base of a javelin’s shaft might be fitted with a metal point to allow it to be stuck into the ground during rest periods. This base would also have contributed speed and balance to its flight.

Points that are reconstructed as having a length of less than 9 cm are usually identified as arrowheads, whereas points 9–12 cm in length are identified as javelin heads or light spear points, and points that are considerably longer and heavier than this are spearheads (Emery 1998:22–23). Heavy spears were used for thrusting, like very long stabbing swords. They had stout wooden shafts that were sometimes capped with a metal base (Yadin 1963:12). The effectiveness of the spearhead in piercing armor was determined by its shape and structure, which were dictated by the nature of the enemy armor (Yadin 1963:10).

Three well-preserved iron points from Ashkelon, cat. nos. **29**, **33**, and **36**, exhibit the same elliptical shape and are of comparable size (Emery 1998:32–33, especially pl. 39–40, nos. 1454, 1458–59). They are wider than linear projectiles but not as wide as the broad “ovate” type, which is not found at Ashkelon. Elliptical points may have been used to penetrate heavy clothing (Emery 1998:32).

Cat. no. **33** is slightly larger than cat. no. **36**, and apparently thicker (see figure 19.6). Given the size and thickness of cat. no. **33**, it is more likely that this point was used in a light spear for close combat, rather than as an arrowhead (it is published in King and Stager 2001:ill. 106 as a “spearpoint”). It is unclear whether a tang projected from this item or whether the butt of the point was itself the tang.



Cat. no. 33 (reg. no. 44270)



Cat. no. 36 (reg. no. 45402)

*Figure 19.6: Elliptical iron spearheads (scale 1:1)*

Cat. no. 32 (reg. no. 44098)

*Figure 19.7: Lanceolate iron arrowhead (scale 1:1)*

A stout weapon such as cat. no. **33** could easily have penetrated armor in a spear-thrust or spear-throw at close quarters. The closest parallels are from Megiddo in the seventh century B.C.<sup>7</sup> Cat. no. **36** is almost the same size and may also have served as a spearhead, although it has the remnant of a tang and a thinner profile. Cat. no. **29** is slightly smaller and may have functioned as either a javelin head or an arrowhead. It is possible that cat. no. **36** was not a spearhead but was used as an arrowhead with a powerful bow capable of carrying its weight, as Emery (1998:52) has suggested was the case for heavier iron points. A possible southern parallel is a seventh-century B.C. iron point from Tell Jemmeh (Petrie 1928:pl. 29:56a; cf. the Persian-period example from Tel Michal in Herzog, Rapp and Negbi 1989: 25.1: 34). There are many parallels at Lachish (Gottlieb 2004).

<sup>7</sup> See Lamon and Shipton 1939:pl. 80:61, 80:64, and 80:38c for eighth- or seventh-century B.C. iron parallels to cat. no. **33**; *ibid.*, pl. 80:49 and 80:36 for eighth- or seventh-century bronze and iron parallels to cat. no. **36**.

Lachish provides a large corpus of arrowhead types. The length of many of them verges on the size suggested for javelin heads. Most display a flattened profile, but several were thickened with square or round shafts. In the case of incomplete preservation, such variety complicates identification. There is little doubt, however, concerning the identification of the lanceolate iron arrowhead from Ashkelon (cat. no. **32**, shown in figure 19.7), which has numerous parallels at Lachish (see Gottlieb 2004).

Several ambiguous shaft fragments from Ashkelon are harder to identify (e.g., cat. nos. **30**, **35**, **37**, or **38**). These may be linear arrowheads, such as those from Lachish (Type VII-1, IV, or V—see Gottlieb 2004:27:16), or perhaps just simple nail or spike fragments. The linear artifacts of greater length are less likely to be arrowheads. Some of these have been tentatively identified as light spearheads (e.g., cat. nos. **22** and **24**). Alternatively, they could be fragmentary chisels, awls, engravers, or some other kind of hafted tool or handle fragment (see Ussishkin 2004:pl. 28:16 and Petrie 1917 for numerous examples of long-handled tools).

## Iron Tools (cat. nos. 39–73)

The remaining iron objects are classified as “tools,” including both hand-wielded tools and passive tools such as attachment devices (nails, spikes, pins, and brackets). Cat. nos. **40**, **45**, **57**, and **69** have been identified as fragments of straight-backed saws (the first three are shown below in figure 19.8). Cat. no. **45** is severely damaged and its serrated edge might be the result of corrosion. Cat. nos. **40** and **69** both bear traces of carved wooden handles that were held in place by three iron rivets. Cat. no. **57** appears to be the tip of saw, probably a small one-handed tool unlike the large (ca. 80-cm) two-person saw found at Ḥorvat Rosh Zayit (Gal and Alexandre 2000:pls. 3:107 and 117:10).

It is unclear whether all four of the Ashkelon saws had pointed blades, but their relatively small blade width (less than 4 cm) suggests that they were small tools, perhaps bone saws (see Petrie 1917:pl. 50 for numerous examples of small one-handed saws). They were clearly made with some skill and attention to detail, judging by the delicately carved wooden han-

dles of cat. nos. **40** and **69**. It is possible, given the similarity of their handles and rivet patterns, that those two saws were made by the same craftsman. They were found less than 10 m apart.

Cat. no. **68** is a socketed iron artifact that might be a remnant of a spear butt or sapper’s tool, but is more likely an agricultural tool. The large socket contained traces of wood from the presumably quite large wooden handle to which it had been attached. Below the socket is a flattened region. No trace of attachment rivets was detected on this piece, although they may have existed in the part that was broken away. Alternatively, the handle was held in place simply by friction or a wedge.

A ninth-century B.C. example from Hazor shows a similarly sized socket and blade, although it was identified as a goad (Yadin 1960:pl. 78:14). Emery (1998:60) notes that a tool like this is depicted on the ninth-century orthostats from Nimrud (see the line drawings of the orthostats in Yadin 1963:388—the items held by the two sappers depicted in a siege scene are clearly specialized tools and are not the butts of spears).

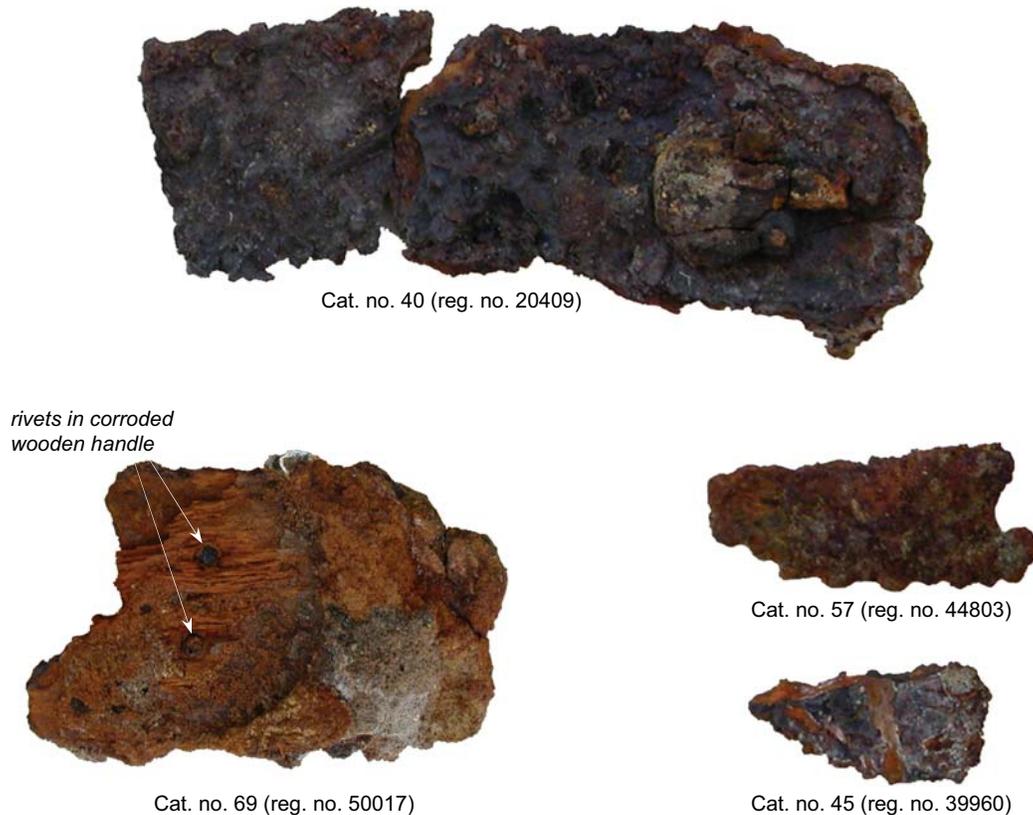


Figure 19.8: Iron saw fragments with serrated edges (scale 1:1)



Cat. no. 28 (reg. no. 40733)



Figure 19.9: Socketed iron point (scale 1:2)

Cat. nos. 27 and 28 are socketed iron points that can be interpreted as either tools or weapons. Cat. no. 28 (shown in figure 19.9) is approximately 5 cm longer than the reconstructed length of cat. no. 27. Socketed points of comparable size and shape from Ḥorvat Rosh Zayit (Gal and Alexandre:pl. 3.117:3–9; cf. Albright 1943:pl. 61:1–4) were identified as digging tools, used either by hand, attached to a handle, or as a plow point. A possible bronze parallel from Megiddo Level K-4 (Finkelstein, Ussishkin and Halpern 2006:pl. 18:25) was identified as a chisel.

The sockets on both Ashkelon examples would have completely encased their hafts rather than being only partially wrapped around them, as in the plow points found at Lachish (Ussishkin 2004:pl. 28:14, 31). One iron socket from Lachish was tentatively identified as a “spearhead socket” (ibid., pl. 28:16, 17). Alternatively, the Ashkelon examples may be spear butts (cf. Herzog, Rapp and Negbi 1989: 25.2:42–44; Waldbaum 1983:no. 16). A longer variant from Tel Batash, 30 cm in length, was interpreted as a spear- or javelin head (Mazar and Panitz-Cohen 2001:pl. 70:5).

Cat. no. 55, a large iron wedge, can be quite certainly identified as a splitting maul. The broad upper surface would have been struck by a second tool (a hammer or mallet) to drive the narrow cutting edge into a surface. Several broad, flattened iron chisels were discovered at Ḥorvat Rosh Zayit (Gal and Alexandre 2000:III.118:7–9; see also Petrie 1917 for numerous examples). The thick, square shaft of cat. no. 41 is reminiscent of the iron chisel from Tel Batash (Mazar and Panitz-Cohen 2001:pl. 51:15, photo 145).

Other cutting or splitting chisels from the iron assemblage of Ashkelon are not so easily distinguished. Most are fragmentary and cannot be reconstructed with confidence. Their identification is often based upon their relative thickness or the presence of a possible striking or cutting surface. Long, narrow iron shafts that are tentatively classified as chisels (e.g.,

cat. nos. 48, 51, 59, or 73) are similar in many ways to the linear fragments tentatively identified as points (discussed above), and they might also be classified as nails or spikes whose heads are not preserved, or even as borers (see Petrie 1917:52).

Although cat. no. 54 (figure 19.10) was broken on both ends, its distinctive central rib strongly suggests that it is a fragment of an armor scale. Several bronze and iron examples of armor scales have been recovered at Lachish (Ussishkin 2004:pl. 27:24–25), where they are associated with Assyrian soldiers.



Cat. no. 54 (reg. no. 44187)

Figure 19.10: Iron armor scale (scale 1:1)

### Bronze Weapons and Tools

Copper is an extremely versatile metal with properties that allow it to be easily melted and poured into molds or worked cold to produce intricate objects. Alloying it with other metals, such as tin, increases its strength and durability. In this chapter, the term “bronze” is used to refer to copper alloy of any kind.

Bronze objects were often recycled to create new pieces. This fact, coupled with the thinness of many pieces, has probably affected the preservation and archaeological discovery of bronze artifacts. Most of the artifacts recovered were quite small, measuring a few centimeters or less. The majority were too poorly preserved to be identified definitively.

## Bronze Points (cat. nos. 74–86)

Cat. no. **83** is a straight sided, double-edged bronze point of indeterminate length. Assuming a gradual reduction in width toward a pointed tip, the object may originally have measured 9 cm or more. There is no evidence for an attachment rivet in the rounded tang. The rounded tang is more indicative of a large arrowhead or light spear point than a knife.

Nine nearly complete bronze artifacts and several fragmentary pieces could be reasonably identified as arrowheads. Five of them are classified as “oblanceolate” (cat. nos. **74**, **75**, **80**, **81**, and **82**). The first (cat. no. **74**) was found in the Grid 38 “winery” and the other four in the Grid 50 “marketplace.” Two of the oblanceolate arrowheads (cat. nos. **80** and **81**) were found clustered together with two linear arrowheads (cat. nos. **78** and **79**; see figure 19.11). It is tempting to imagine these four objects together in a quiver made of a more perishable material.

Oblanceolate projectiles are long and they are widest near the tip, which tapers toward the tang. It is possible that they were designed for use against unprotected flesh rather than armor. All of the arrowheads of this form that were found in Iron Age II contexts at Ashkelon are made of bronze. Although iron

oblanceolate arrowheads have been found at other sites, bronze points constitute “an unusually high percentage” of the Iron Age II examples published by 1998, according to Emery, in comparison to iron points of the same form.

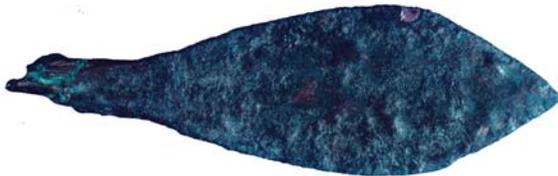
Only one other type, the ogee-shaped arrowhead, was more commonly made in bronze than in iron (Emery 1998:38). Ogee-shaped arrowheads have been discovered at Tell Beit Mirsim, Tell en-Nasbeh, and Tell Far'ah South, and especially Megiddo, which produced 17 of 21 examples (*ibid.*, p. 29). Ashkelon has produced no examples of ogee-shaped points, in either bronze or iron, in contexts related to the 604 B.C. destruction of the city.

The lack of oblanceolate iron arrowheads at Ashkelon seems to indicate a preference for the use of bronze over iron for this form in the late seventh century B.C. In contrast, few of the arrowheads in the very large assemblage from Iron Age Lachish were made of bronze (see Tufnell 1953 and Gottlieb 2004), and of those that were, none provides a clear parallel to the Ashkelon examples with their broad tips and squared tangs. Furthermore, there is only one possible parallel to this form among the many iron arrowheads of Lachish, and its tang is round in section rather than rectangular (Ussishkin 2004:27.1.16).



Figure 19.11: Linear and oblanceolate bronze arrowheads found together in a cluster in the Grid 50 marketplace (scale 1:1)

The five ob lanceolate bronze arrowheads found at Ashkelon are not uniform in size. The finest example (cat. no. **74**, shown in figure 19.12), which was discovered in Grid 38, is wider in proportion to its length than cat. nos. **80** and **81** from Grid 50. Cat. no. **75** has an even wider blade, although it is similar to cat. no. **74** in terms of the ratio of its length to its width.



Cat. no. 74 (reg. no. 40809)

Figure 19.12: Oblanceolate bronze arrowhead (scale 1:1)

Oblanceolate arrowheads made of both iron and bronze have been discovered at many different sites, though not in great numbers, in contexts ranging in date from the tenth to the sixth centuries B.C. (Emery 1998:pls. 60–63). Of the published examples, four from Tell Jemmeh are definitively attributed to the seventh century B.C. Several were found at Megiddo, mostly in strata of the early Iron Age II (see especially Finkelstein, Ussishkin and Halpern 2000: 12.23.4). The remainder are scattered across other sites (Emery 1998:38).

Only one of the four seventh-century Tell Jemmeh examples is made of bronze (Petrie 1928:pl. 23:29). This piece, measuring  $9.8 \times 1.8$  cm, has a long tang 3.1 cm in length. The blade does not taper smoothly into the tang but abruptly turns to meet the shaft. Although many ob lanceolate blades change shape at the tang with a similarly abrupt transition, the Ashkelon examples all appear to have a smooth transition from blade to tang.

The shortest and widest ob lanceolate arrowheads from Ashkelon, cat. nos. **74** and **75**, have their closest parallels in seventh-century B.C. arrowheads found at southern and central sites. One iron point from Tell en-Nasbeh (McCown 1947:fig. 71:20) is similar in cross section and size ( $6.2 \times 1.7$  cm) to cat. no. **74**. The wide blade of the arrowhead tapers to a round tang, although it is unclear if it proceeds through a squared-off transitional segment to reach the tang, as in cat. no. **74**. This Tell en-Nasbeh point, however, can be dated only roughly to the eighth–sixth centuries B.C. A seventh-century B.C. iron point from Tell Jemmeh (Petrie 1928:pl. 29:52) has a form similar to that of cat. no. **74** (it measures  $6.5 \times 2.0$  cm), but its

thickness and the shape of its tang are unclear. Other parallels to the shorter and wider ob lanceolate form are found in earlier strata of the Iron Age II (e.g., tenth-century B.C. examples from Megiddo—Lamon and Shipton 1939:pls. 80:54 and 81:13; and a tenth-century point from Tell el-Far'ah South—Petrie 1930:pl. 50:596b).

The other three seventh-century B.C. ob lanceolate arrowheads from Tell Jemmeh vary slightly in form (Petrie 1928:pls. 29:60 and 23:29) and more closely resemble cat. nos. **80**, **81**, and **82** from Ashkelon, although they do not provide an exact parallel. The Ashkelon points display a gentler, more continuously rounded curve than the Tell Jemmeh points, and so are more similar to ob lanceolates from earlier Iron Age II strata.<sup>8</sup>

Linear arrowheads are among the most difficult to categorize. They can resemble other types, although they are usually much narrower with a smaller width in relation to the overall length of the blade (Emery 1998:34). Linear arrowheads are light enough that they may be as much as 12 cm in length and still be shot from a bow, although the Ashkelon examples are shorter than this. They could penetrate clothing and light armor.

The only complete example of a linear arrowhead from seventh-century B.C. Ashkelon is cat. no. **79** (shown in figure 19.11). Cat. no. **78**, which was found with it, appears to belong to the same type, although it is only partially preserved. The clustering of these two arrowheads with two ob lanceolate arrowheads, all in one warrior's kit, as suggested above, suggests two possible interpretations. Either the warrior chose a particular type of arrows depending on the armor of his target, or the ob lanceolate and linear types were considered to be equivalent in function and were equally effective in penetrating an enemy's defenses. Another incomplete bronze point, cat. no. **84**, might also belong to this class of arrowhead.

Curiously, although the ob lanceolate parallels are from southern and central sites, the seventh-century B.C. parallels for linear points are predominantly from northern sites. Published points from Megiddo, in-

<sup>8</sup> Compare, in particular, the tenth-century B.C. examples from Megiddo (Loud 1948:pl. 176:66) and Samaria (Crowfoot, Crowfoot, and Kenyon 1957:451, fig. 110:22), and the ninth–eighth century examples from Tell el-Far'ah North (Chambon 1984:245, pls. 68:3 and 68:2). These earlier examples show the length and gentle convex curves of the ob lanceolate form, with the weight of the arrowhead concentrated near the tip. A possible Late Bronze Age II iron example was found at Tel Michal (Herzog, Rapp and Negbi 1989:25.1:35).

cluding those from the early centuries of the Iron Age II, provide the closest parallels. One iron point from an eighth–seventh century B.C. context at Megiddo (Lamon and Shipton 1939:pl. 80:65) features a rounded tip and size ( $9.8 \times 1.5$  cm) comparable to cat. no. **79** from Ashkelon. The thickness and the cross section were not published, unfortunately. A bronze example from the same period at Megiddo (Lamon and Shipton 1939:pl. 80:29) measures  $10.4$  cm  $\times$   $1.4$  cm and includes the full tang (the thickness and section are also unavailable for this piece). Several parallels occur in the large assemblage of iron arrowheads found at Lachish (see Gottlieb 2004, e.g., 27.2:14; 27.5:8; 27.8:5; etc.). A Late Bronze Age II arrowhead from Tel Michal (Herzog, Rapp and Negbi 1989:25.1:21), though incomplete, is a rare bronze parallel with a tang similar to the Ashkelon examples.

It is worthwhile to include a brief excursus here on tang shapes. The tang remnants on all four arrowheads in the cluster shown in figure 19.11 are rectangular in cross section. Their long tang-shafts have been broken off. It is unclear whether these shafts would have maintained their rectangular profiles or been rounded into shafts of the kind found on cat. no. **74** (figure 19.12).<sup>9</sup> Cat. no. **75**, an ob lanceolate arrowhead discovered within 20 m of the arrow cluster in Grid 50, has a tang-transition with a rectangular cross section, but its shaft diameter is larger than that of any other arrowhead in the same stratum and may indicate the typical rounding of the tang shaft below the rectilinear transition into the blade.

Special mention should be made of cat. no. **86** (figure 19.13), whose find context should be reconsidered. This arrowhead has the three-bladed appearance of the so-called Scythian type. Although some triple-bladed points are attributed to seventh-century B.C. contexts at other sites, all other examples of this form found at Ashkelon come from Persian-period strata. Van der Kooij and Ibrahim (1989:56) note that “the so-called Irano-Scythian arrowhead occurs quite frequently” after the seventh century B.C. The piece in question was discovered during the excavation of a wall regarded as originally a seventh-century B.C. construction, but this wall was largely robbed out during the Persian period and it is quite possible that the arrowhead comes from this later phase.

<sup>9</sup> Some of the items identified as fragments of bronze and iron “shafts,” “nails,” or “pins” may in fact be the broken-off tangs or tips of arrowheads, although this is nearly impossible to prove without additional contextual information. Emery notes that thick, narrow points were used as arrow “bolts” for the piercing of armor (Emery 1998:30).

Cat. no. **76** (figure 19.13) has a long leading edge with a slight convex curve from the tip to its widest point. This leading edge is long in relation to the rear of the blade as it returns from the widest part to become the tang. The tang is long and rectangular in section. This is a clear example of the common lanceolate type of arrowhead used to penetrate light clothing (Emery 1998:30, pls. 9–15). It was discovered on the coastal side of the tell, not far from the arrow cluster discussed above. Emery notes that this form was used throughout the Iron Age II period, and with greatest frequency after the Assyrian incursions of the late eighth century B.C. It is found from the north to the south in the seventh century B.C. A seventh-century bronze example from Megiddo (Lamon and Shipton 1939:245, pl. 68:21) has a long tang roughly equal in length to the blade, as does an iron point from Lachish that dates to the seventh–sixth centuries (Tufnell 1953:pl. 54:51). Numerous iron examples were recovered at Lachish (Gottlieb 2004). An iron point from Tell en-Nasbeh (McCown 1947:pl. 104:22), dated ca. seventh–fifth centuries B.C., has lost its tang but preserves the curve of the lanceolate blade. An iron point from Tell en-Nasbeh (*ibid.*, fig. 71:22) of the seventh–sixth centuries has a larger blade ( $5.5 \times 2.1$  cm compared to the  $4.5 \times 1.8$  cm of cat. no. **76**), but it has a similar rectilinear tang.

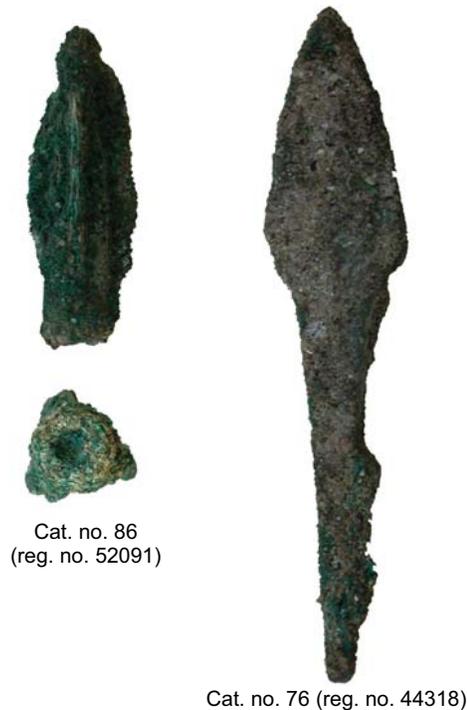


Figure 19.13: Three-bladed “Scythian” arrowhead (on left) and lanceolate arrowhead (on right) (scale 1:1)

## Bronze Tools (cat. nos. 87–116)

Although some of the recognizable bronze artifacts that are classified as “tools” were common hand-held tools, most served a more passive function as attachment devices. In the latter category are many highly fragmentary nails and hooks that are not published here.

Cat. no. **100** (figure 19.14) is a chisel that is nearly identical to a bronze chisel found in Megiddo Stratum VIB and dated to the Iron Age I (Finkelstein, Ussishkin and Halpern 2006:18.25:579), although it is slightly thinner. Both have a flaring blade and tapered end, which may originally have been inserted into a wooden handle. A slightly smaller tool (ca. 7.0 cm) from the Persian-period stratum of Tel Michal has been identified as an engraving tool rather than a chisel (Herzog, Rapp and Negbi 1989:25.4:68). It is possible that cat. no. **100** should be similarly classified. A possible parallel from Lachish may also have been an engraving tool, in view of its small size (Ussishkin 2004:28.13.14). It is incomplete, however, and does not have the wide, flaring blade of the example from Ashkelon. Several bladed and straight chisels are illustrated by Petrie (1917:pls. 21–22).

Numerous narrow bronze shaft fragments of various sizes were recovered at Ashkelon. These included both squared and rounded shafts. In the absence of a head, it is difficult to identify the original function of most of these pieces. In general, for purposes of classification, squared shaft fragments are identified as nails and rounded shafts are identified as pins or needles. Muhly and Muhly (1989), however,

identify some narrow, rounded bronze shafts as cosmetic sticks (e.g., Herzog, Rapp and Negbi 1989: 25:14).

Cat. nos. **94** and **116** from Ashkelon both have “eyes,” clearly indicating their function as needles. It is unclear whether the eyes were made by piercing the shaft or by folding a tang-like extension over, as in cat. no. **107** (shown in figure 19.15 below), although the large rolled eye of the latter piece would probably have snagged if it were used as a needle, so its identification is uncertain.

Although bent, cat. no. **94** appears to be an intact bronze needle. Parallels have been found at Lachish (Ussishkin 2004:28.13:1–4), Megiddo (Finkelstein, Ussishkin and Halpern 2006:18.26:587, 589), and Tel Michal (Herzog, Rapp and Negbi 1989:25.4:69, 71). In addition, several examples are illustrated by Petrie (1917: pl. 65).

Several bronze tacks and other attachment devices from Tel Michal are illustrated by Muhly and Muhly (Herzog, Rapp and Negbi 1989:25:8). Most of these date to the Persian period, however. These bronze artifacts include numerous small “plaques” pierced by rivets, similar to cat. no. **90** from Ashkelon. A cotter pin from Tel Michal (*ibid.*, 25.8:148) is comparable in form to cat. no. **98**, with a rounded shaft flattened at the pinch point. The original lengths of various ornamental tacks from Ashkelon (cat. nos. **87**, **103**, and **114**) are uncertain. Their heads do not appear to be flattened, as might be expected for longer nails that had been hammered into place, and the thinness of the shaft fragment in cat. no. **114** suggests that it was not very substantial.



Cat. no. 100 (reg. no. 42918)

Figure 19.14: Bronze chisel or engraving tool (scale 1:1)



Cat. no. 107 (reg. no. 45344)

Figure 19.15: Bronze needle(?) with rolled “eye” (scale 1:1)

*Lead Objects* (cat. nos. 117–124)

Lead is a very dense, soft, and malleable metal that melts at a relatively low temperature and can be easily cast in a mold. Molten lead was apparently poured into a socket around one of the iron objects (cat. no. 22), probably in order to secure the iron point to its handle.

Four of the eight lead artifacts found in seventh-century B.C. contexts at Ashkelon are readily identifiable as fishing weights that were used either as net-sinkers or as line-sinkers (cat. nos. 117, 120, 121, and

123, all shown in figure 19.16). These are simple lead sheets, cut into rectangular shapes and folded over to be attached to a fishing net or line.

Several parallels of various sizes were found in Persian-period strata at Tel Michal (Herzog, Rapp and Negbi 1989:pl. 25.9:153–59). Muhly and Muhly (1989:282) indicate that additional examples of lead weights were recovered from the Late Bronze Age Cape Gelidonya shipwreck. All of the clearly identifiable examples from Ashkelon were recovered in the Grid 50 excavation area, close to the sea, which supports their identification as fishing weights.



*Figure 19.16:* Folded lead fishing weights—net-sinkers or line-sinkers (scale 1:1)

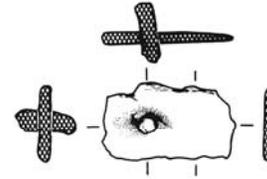
### Catalogue of Metal Weapons and Tools from Contexts Dated to the Seventh Century B.C. at Ashkelon

The catalogue is organized by the type of metal (iron, bronze, or lead) and by the type of artifact within each metal category (blade, point, or tool). Uncertain identifications are indicated by a question mark. The dimensions given are the preserved dimensions of the artifacts (usually length  $\times$  width  $\times$  thickness, in millimeters). The term “bronze” is used to refer to copper alloy, in general.

#### IRON BLADES

##### Catalogue no. 1

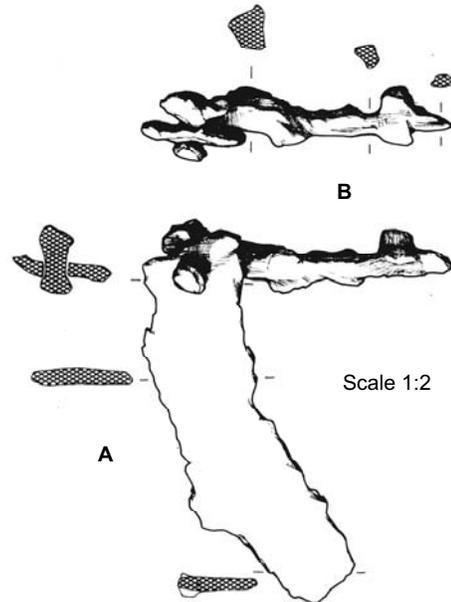
Registration no.: 42623  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Layer 420  
 Dimensions: 34  $\times$  18  $\times$  3 mm  
 Type: Iron blade tang with rivet and wooden handle remnants.  
 Description: A flat, symmetrical piece consisting of remnants of a wooden handle adhering to an iron tang. One iron rivet pierces the tang approximately 10 mm from the base of the hilt. The rivet currently stands 17 mm high, indicating the approximate thickness of the handle. The blade increases in width slightly from the hilt, indicating a broader blade. The remainder of the handle and blade are broken off.



Scale 1:2

##### Catalogue no. 2 (figure 19.4)

Registration no.: 42758  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Layer 418  
 Dimensions: **A**: 103  $\times$  27  $\times$  4 mm; **B**: 76  $\times$  8 mm  
 Type: Iron blade or sickle(?).  
 Description: Two pieces corroded together. Piece **A** is a curved, flat blade with a broken tip and an iron rivet at the butt. The rivet is approximately 18 mm long, indicating the thickness of the wooden handle. The blade tapers slightly along the curve toward the tip. It is likely the blade was sharpened along the inner curve to create the cutting edge. Piece **B**, a shaft with rectangular cross section that is corroded to the rivet and butt of blade **A** at a roughly 90-degree angle, may be unrelated or may be the tang of the blade. Heavy corrosion prevents an accurate measurement of this shaft. It appears to taper to a point from an initial width of approximately 8 mm at the rivet.



Scale 1:2

##### Catalogue no. 3

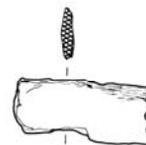
Registration no.: 42888  
 Year excavated: 1993  
 Findspot: Grid 38 Square 74 Layer 514  
 Dimensions: 70  $\times$  25  $\times$  9 mm  
 Type: Iron blade.  
 Description: A straight-backed, one-sided blade fragment with a narrow, off-center tang. The back of the blade is thicker and tapers across to the cutting edge. The butt of the blade is the widest part of the artifact. From this point, the blade tapers toward the now-broken tip with diminishing width and thickness. The tang proceeds directly along the same line as the back of the blade, with no apparent loss of thickness. The transition into the tang is more dramatic along the cutting edge. Although the blade is broken at this transition, it appears that the cutting blade quickly decreased in width to meet the 12-mm-wide tang.



Scale 1:2

**Catalogue no. 4**

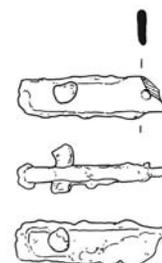
Registration no.: 43890  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Layer 317  
 Dimensions:  $37 \times 16 \times 3$  mm  
 Type: Iron blade(?).  
 Description: Approximately 16 mm of the original width remains intact, although this is too little to provide orientation. Slight thickening at the center along the length of the blade, tapering to the edges. Its size suggests a small, straight-sided, double-edged knife rather than a projectile point, but its thinness leaves open the possibility it is a linear or elliptical arrowhead.



Scale 1:2

**Catalogue no. 5**

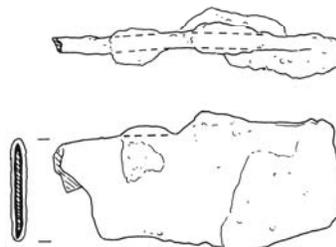
Registration no.: 44016  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 218  
 Dimensions:  $40 \times 12 \times 2$  mm  
 Type: Iron blade tang with rivet and wooden handle remnants.  
 Description: A small rectangular fragment. A single iron rivet (12 mm long) pierces the iron band near the butt of the tang, indicating the thickness of the wooden handle. The original width is unclear, but traces of wood trapped in the corrosion suggest that the full extent was similar to the surviving artifact width.



Scale 1:2

**Catalogue no. 6**

Registration no.: 44382  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions:  $75 \times 28 \times 2$  (core) mm; thickness 4 mm, incl. corrosion.  
 Type: Iron blade.  
 Description: Segment of a large blade. A slight taper is apparent. The drawing reveals a thin, double-edged profile. The blade is extremely thin in proportion to its width.



Scale 1:2

**Catalogue no. 7**

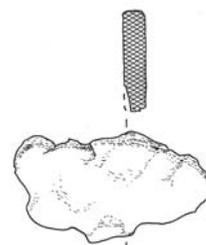
Registration no.: 44518  
 Year excavated: 1994  
 Findspot: Grid 50 Square 47 Layer 285  
 Dimensions:  $88 \times 20? \times 5$  mm  
 Type: Iron blade(?).  
 Description: Appears to be a flat bar ca. 5 mm thick. Heavy corrosion prevents accurate width measurement. The exposed core at one end reveals a blade approximately 15 mm wide. It is uncertain whether the blade tapers at all; however, the corrosion appears to taper slightly toward the broken end where the core is exposed.



Scale 1:2

**Catalogue no. 8**

Registration no.: 44527  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions:  $52 \times 27 \times 9$  mm  
 Type: Iron blade(?).  
 Description: Highly corroded. Flat with a roughly symmetrical taper toward a point. Possibly the tip of a straight-sided blade. Corrosion makes identification tentative.



Scale 1:2

**Catalogue no. 9** (figure 19.5)

Registration no.: 44746

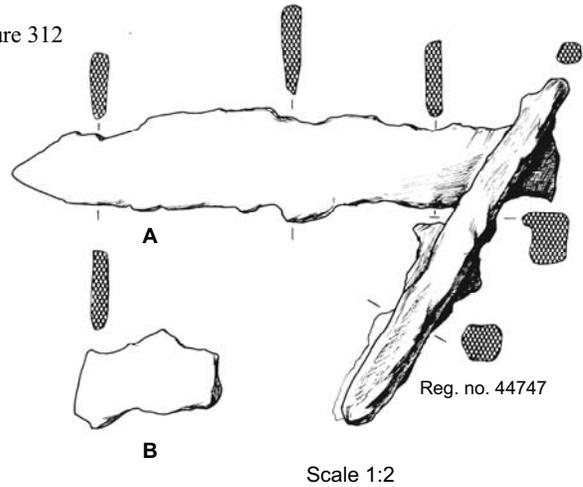
Year excavated: 1994

Findspot: Grid 38 Square 84 Fine-grid 65 Layer 312 Feature 312

Dimensions: 183 (combined length) × 25 × 5 mm

Type: Iron blade.

Description: Two fragments of the same blade found together. Fragment **A** is fused by corrosion to an iron spike or chisel (cat. no. **56** = reg. no. 44747). Fragment **A** is a flat, symmetrical blade (144 mm long) that was collected with an additional, nonjoining fragment (**B**) that is very likely from the same artifact—probably the butt of the tang. Although corrosion has destroyed the sharpened edges, it is likely that this was a double-edged blade. The edges swell from the tip in matching convex curves for ca. 36 mm along the length of the blade to the widest portion of the weapon (25 mm). From this point, the edges taper to the tang in straight lines, diminishing the blade's width to ca. 20 mm. The width of the smaller fragment (**B**) is 14 mm, which may represent the minimum width of the tang.

**Catalogue no. 10**

Registration no.: 44920

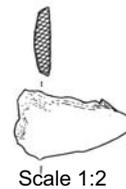
Year excavated: 1994

Findspot: Grid 50 Square 49 Layer 422 Feature 422

Dimensions: 30 × 17 × 4 mm

Type: Iron blade(?).

Description: Possibly the tip of a straight-backed blade. The straight back curves down slightly at the tip to meet the up-swept opposite edge.

**Catalogue no. 11**

Registration no.: 45087

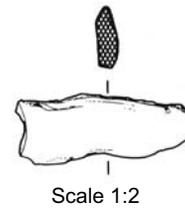
Year excavated: 1994

Findspot: Grid 50 Square 46 Layer 75

Dimensions: 47 × 17 × 7 mm

Type: Iron blade(?).

Description: Fragment of a double-edged knife blade. Flat blade has parallel sides that symmetrically taper to a point. Original length unknown.

**Catalogue no. 12**

Registration no.: 45460

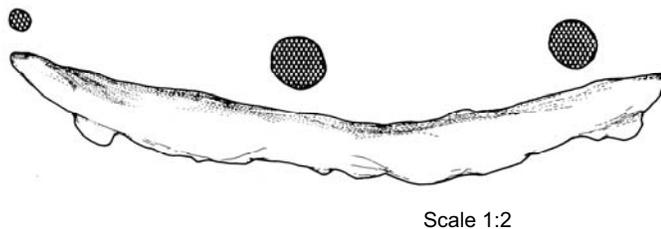
Year excavated: 1995

Findspot: Grid 50 Square 48 Layer 452

Dimensions: 143 × 30 mm (including corrosion)

Type: Iron dagger blade(?).

Description: Highly corroded. The corrosion prevents an accurate description of the blade's original shape and thus its identification as a dagger remains tentative. The corroded piece suggests a straight blade with a narrow tang joined to the widest portion of the blade. The artifact tapers slightly from the hilt toward the point. A break near the center of the piece reveals a roughly symmetrical core of metal. Blade here appears flat, ca. 120 mm wide and 3 mm thick.



**Catalogue no. 13**

Registration no.: 45461  
 Year excavated: 1995  
 Findspot: Grid 38 Square 83 Layer 352 [Iron IIC]  
 Dimensions: 32 × 19 × 5 mm  
 Type: Iron blade tang with wooden handle remnants(?).  
 Description: Originally identified as a “knife haft,” this piece is too fragmentary for secure identification. Some traces of wood remain adhering to the corrosion and may have comprised the original handle. Additionally, a small depression in the corrosion, at the center of the blade, may indicate the location of a lost rivet.



Scale 1:2

**Catalogue no. 14**

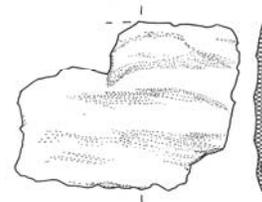
Registration no.: 46334  
 Year excavated: 1995  
 Findspot: Grid 50 Square 58 Layer 318 Feature 318  
 Dimensions: 91 × 15 × 3 (core thickness) mm  
 Type: Iron knife blade.  
 Description: Highly corroded. Slight taper from 16 to 14 mm. Cross section reveals a triangular profile suggestive of a single-edged blade, possibly a straight-backed knife. Tip and tang are lost.



Scale 1:2

**Catalogue no. 15**

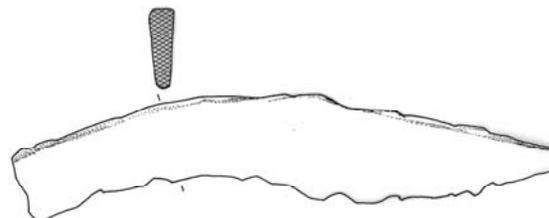
Registration no.: 46647  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 449  
 Dimensions: 55 (restored length) × 45 × 3 mm  
 Type: Iron blade(?).  
 Description: Heavy corrosion. Three fragments join to form part of a long, thin blade (only one fragment is illustrated here). There appears to be a slight taper, indicating the blade's orientation, although restoration of the full length is impossible. The core visible in the break suggests a slight tapering toward one edge, so this may be a straight-backed blade. Given the width and thinness of the blade it is unlikely it extended for any great length. The tip of the blade probably did not continue along the current taper to a point, but sloped up quickly to meet the thicker straight back of the blade, yielding a rounded tip.



Scale 1:2

**Catalogue no. 16** (figure 19.3)

Registration no.: 47431  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 143 × 18 mm  
 Type: Curved iron blade.  
 Description: This remarkable curved blade is intact, despite heavy corrosion, except for the tang. The blade clearly demonstrates a thicker convex back (8 mm) that tapers to the cutting edge. This curved cutting edge proceeds from the handle, paralleling the thick back of the blade, then gracefully reverses direction to rise and meet the back edge at the pointed tip.



Scale 1:2

**Catalogue no. 17** (figure 19.1)

Registration no.: 49402

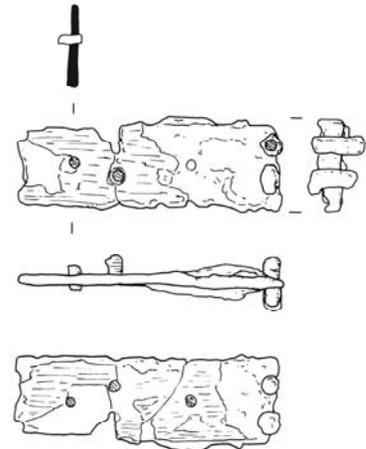
Year excavated: 1997

Findspot: Grid 50 Square 67 Fine-grid 27 Layer 46

Dimensions: 70 × 23 × 3 mm

Type: Iron blade tang with rivets and wooden handle remnants.

Description: Iron tang of a blade with traces of wood left in the corroded metal. There are four extant rivets and two voids left by missing rivets, all presumably used to secure a handle. The rivet spacing is rather artfully arranged in two triangular patterns. The tang tapers slightly away from a pair of bronze rivets. All other rivets are iron. Above the bronze pair is either the remnant of an iron rivet or a hole filled in by later iron corrosion. There is no stain of copper corrosion around the vacant rivet holes, suggesting that the rivets were either originally iron, or lost long before the corrosion process began. The rivet size suggests the thickness of the handle. The drawn section reveals a slightly triangular profile, indicating one edge was sharpened. This sharpened edge displays a slight convex curve.



Scale 1:2

**Catalogue no. 18** (figure 19.2)

Registration no.: 49536

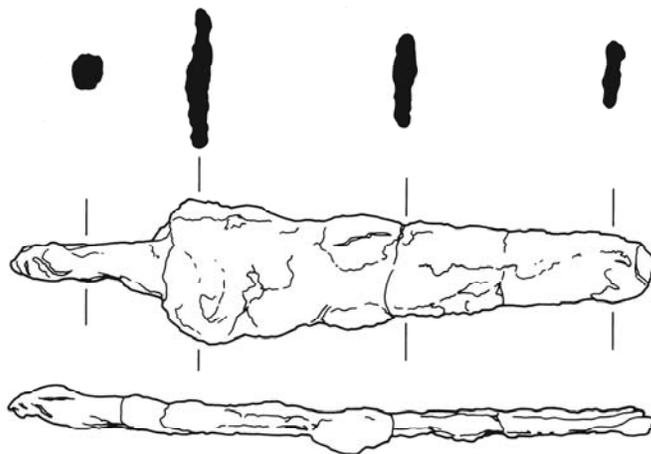
Year excavated: 1997

Findspot: Grid 50 Square 67 Fine-grid 26 Layer 46

Dimensions: 172 × 37 × 6 mm

Type: Iron blade.

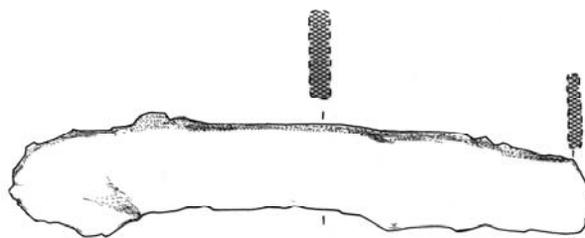
Description: Highly corroded but the form of the blade is clear. A tang with square cross section (8 × 8 mm) joins the widest end of the blade, which tapers to the tip. It is unclear whether the tip of the blade was broken off in antiquity or whether it had a sharpened round tip. The blade appears to be of uniform thickness, suggesting a double-edged weapon. The reconstructed length of the complete blade may equal 230 mm.



Scale 1:2

**Catalogue no. 19**

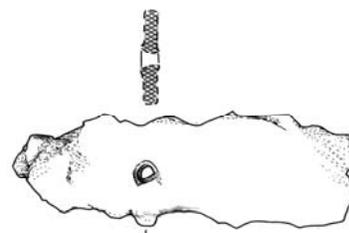
Registration no.: 50904  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Fine-grid 36 Layer 61  
 Dimensions: 153 × 22 × 12 mm  
 Type: Iron blade.  
 Description: Highly corroded. The tip of the blade is bent slightly out of alignment. The blade appears to possess a concave cutting edge and a thicker back. The tip appears slightly tapered, although it is difficult to determine whether it was a rounded or pointed tip. It is difficult to determine whether any of the handle is preserved under the corrosion. Possibly a sickle.



Scale 1:2

**Catalogue no. 20**

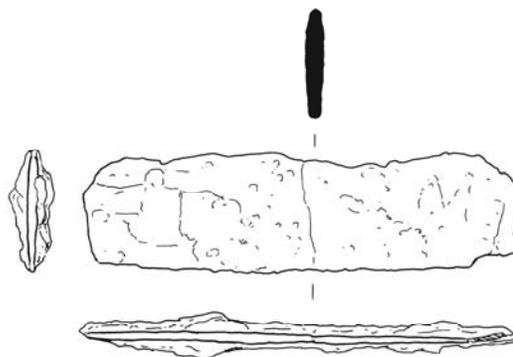
Registration no.: 51000  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Layer 77  
 Dimensions: 98 × 26 mm  
 Type: Iron blade tang with rivet and wooden handle remnants.  
 Description: Tang pierced by at least one bronze rivet. The rivet has decayed, leaving a greenish copper stain in the perforation. A break at the rivet location reveals a core thickness of ca. 3 mm. The artifact tapers, probably to the butt of the handle. There is a trace of a possible iron rivet 15 mm from the bronze rivet and ca. 10 mm from the butt of the artifact. Corrosion makes it difficult to reconstruct the blade's full original form. The blade side of the artifact is bent slightly.



Scale 1:2

**Catalogue no. 21**

Registration no.: 55514  
 Year excavated: 2000  
 Findspot: Grid 50 Square 49 Layer 451  
 Dimensions: 114 × 31 × 5 mm  
 Type: Iron blade.  
 Description: Corrosion has destroyed the blade's symmetry but the remaining edge displays a slight convex line. Tip and tang are lost. The existing portion reveals no clear evidence for reduction toward a tip, suggesting that it is a fragment from a large blade. Irregularity at the end of the artifact appears to be the result of breakage and not the beginning of a tang.

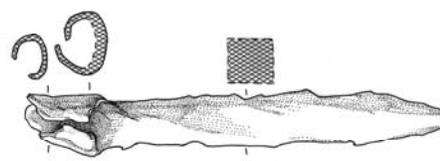


Scale 1:2

## IRON POINTS

**Catalogue no. 22**

Registration no.: 20234  
 Year excavated: 1988  
 Findspot: Grid 50 Square 57 Layer 134  
 Dimensions: 112 × 12 × 12 mm  
 Type: Linear iron spearhead.  
 Description: Light spearhead that tapers to a point on both ends. Linear in shape. Shaft is square in cross section. There is no obvious transition from blade to tang. The tang appears to be covered by a thin sheet of lead (approximately 2 mm thick) that may have been poured into a socket to secure the iron point and remained on the spearhead after the wooden handle decayed.



Scale 1:2

**Catalogue no. 23**

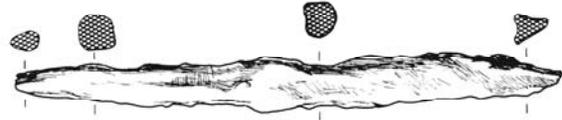
Registration no.: 39471  
 Year excavated: 1992  
 Findspot: Grid 50 Square 57 Layer 196  
 Dimensions: 29 (length) × 7 (diameter) mm  
 Type: Iron arrowhead tang(?).  
 Description: Iron fragment tapers to a point. Identification is not certain; possibly just a nail fragment.



Scale 1:2

**Catalogue no. 24**

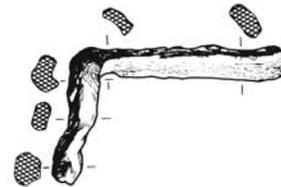
Registration no.: 40350  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 53 Layer 262  
 Dimensions: 146 × 10 mm  
 Type: Iron spearhead(?).  
 Description: Square iron shaft that tapers at both ends. Possibly a light spearhead. One end terminates in a point, but corrosion and a possible break obscure the other end. Identification as a spearhead is uncertain. Possibly a chisel.



Scale 1:2

**Catalogue no. 25**

Registration no.: 40584  
 Year excavated: 1992  
 Findspot: Grid 50 Square 57 Fine-grid 35 Layer 196  
 Dimensions: 73 (unbent length) × 10 × 5 mm  
 Type: Iron spearhead tang(?).  
 Description: Thin band of iron bent into an "L." The short leg is additionally twisted out of square and ca. 9 mm of its tip is folded back on itself. The longer leg is broken. The initial description reported evidence of a rivet, although there is no longer any evidence of either a rivet or a perforation. It is possible that this artifact was the tang of a larger spearhead or blade, but its incomplete condition makes this identification conjectural.



Scale 1:2

**Catalogue no. 26**

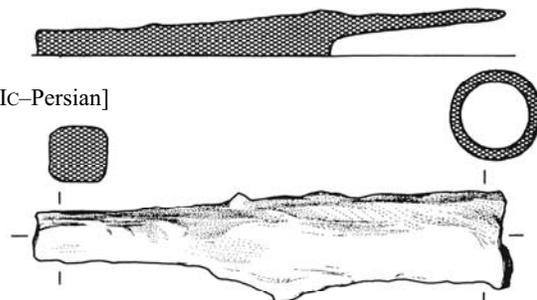
Registration no.: 40593  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Layer 360  
 Dimensions: 38 × 12 × 3 mm  
 Type: Iron arrowhead tang(?).  
 Description: Tang of an iron arrowhead. Tang transitions directly into the arrowhead's blade. The thin blade fragment suggests either a linear or elliptical arrowhead. The blade is ca. 4 mm thick, although corrosion prevents accurate measurement. The tang tapers to a point.



Scale 1:2

**Catalogue no. 27**

Registration no.: 40677  
 Year excavated: 1992  
 Findspot: Grid 38 Square 74 Layer 478 Feature 478 [Iron IIC-Persian]  
 Dimensions: 126 × 25 (socket width) × 13 (tip width) mm  
 Type: Socketed iron spearhead(?).  
 Description: Socket has an inner diameter of 18 mm and a depth of 45 mm. Traces of wood are attached to the inner wall of the socket. The artifact tapers from the socket to its broken tip. The shaft of the tip is roughly square in section.



Scale 1:2

**Catalogue no. 28** (figure 19.9)

Registration no.: 40733

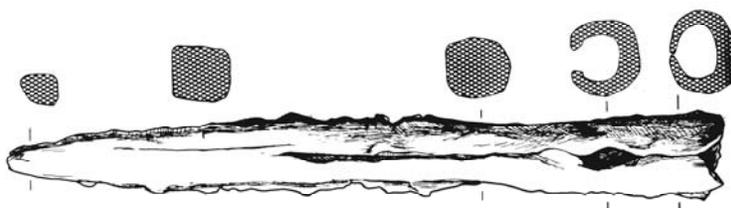
Year excavated: 1992

Findspot: Grid 50 Square 57 Fine-grid 40 Layer 206

Dimensions: 191 × 23 (socket width) × 15 (shaft width) mm

Type: Socketed iron spearhead(?).

Description: This complete artifact features a split, rounded socket (extant depth 45 mm) that presumably held a wooden handle. The socket is joined to a shaft that is square in cross section (15 × 15 mm) and tapers to a point. Ca. 22 mm from the butt end of the socket, the seam is marred by a crack, marking the end of the round socket and the transition to the solid square shaft.



Scale 1:2

**Catalogue no. 29**

Registration no.: 42277

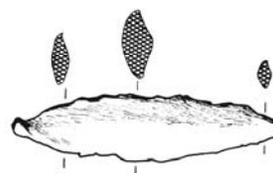
Year excavated: 1993

Findspot: Grid 38 Square 73 Layer 362 Feature 362

Dimensions: 73 × 19 × 8 mm

Type: Iron spearhead.

Description: Highly corroded. Elliptical light spearhead with round-sectioned tang, which is broken off.



Scale 1:2

**Catalogue no. 30**

Registration no.: 43581

Year excavated: 1993

Findspot: Grid 38 Square 73 Layer 415 Feature 415

Dimensions: 66 × 12 mm

Type: Linear iron arrowhead(?).

Description: Heavy corrosion. Linear shape. Round-sectioned tang transitions smoothly into a thicker, squared shaft and tapers smoothly to a point. Possibly not an arrowhead but a highly corroded nail or spike.



Scale 1:2

**Catalogue no. 31**

Registration no.: 44054

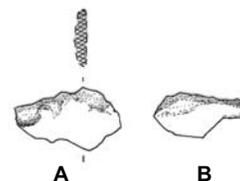
Year excavated: 1994

Findspot: Grid 50 Square 48 Layer 444

Dimensions: **A:** 28 × 17 × 6 mm; **B:** 24 × 12 mm

Type: Iron arrowheads(?).

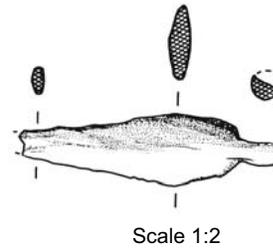
Description: Two artifacts were assigned the same registration number. Arrowhead **A** is lanceolate. Its leading edge is ca. 20 mm long and return edge is ca. 10 mm. Its tang is missing. Arrowhead **B** has heavy corrosion preventing a clear understanding of the artifact. It appears to have ca. 6 mm of a bent tang and the remnant of a thick, narrow arrowhead, or it may be the heavily corroded tang of arrowhead **A**. Field records do not record the relationship of these two artifacts to one another.



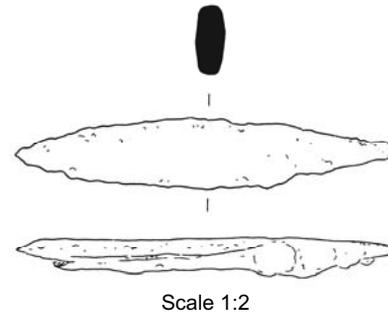
Scale 1:2

**Catalogue no. 32** (figure 19.7)

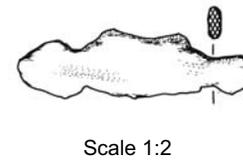
Registration no.: 44098  
 Year excavated: 1994  
 Findspot: Grid 38 Square 64 Feature 767  
 Dimensions:  $69 \times 19 \times 7$  mm  
 Type: Lanceolate iron arrowhead.  
 Description: Long leading edge increases in width from the tip (now broken) to the widest point of the blade. From this point, the edge turns sharply and decreases in width toward the tang. The transition from blade to tang remains unclear due to the corrosion; however, it appears to curve sharply from the blade to join the tang. The tang was likely round, although its current condition is very damaged. The blade is thickest at the center and tapers to the edges. The tang appears to match the thickness at the center of the blade.

**Catalogue no. 33** (figure 19.6)

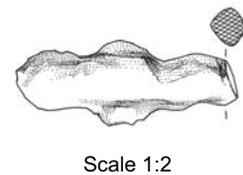
Registration no.: 44270  
 Year excavated: 1994  
 Findspot: Grid 50 Square 47 Layer 285  
 Dimensions:  $101 \times 18 \times 8$  mm  
 Type: Iron spearhead.  
 Description: Elliptical light spearhead with round-sectioned tang. Symmetry has been preserved. The tang is lost except for a fragment joined to the body of the point.

**Catalogue no. 34**

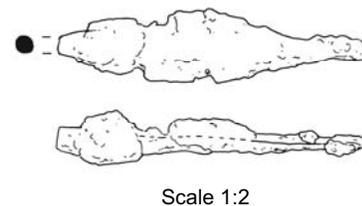
Registration no.: 44573  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 425  
 Dimensions:  $63 \times 21$  mm  
 Type: Iron arrowhead(?).  
 Description: Possibly a linear arrowhead. Heavy corrosion prevents accurate measurement or identification. Modern breaks near both ends reveal a "tip" ca. 4 mm thick and 8 mm wide. The edges taper away from the thickest portion at the center of the blade. The "tang" on one end is a flat segment measuring ca.  $4 \times 2$  mm. The corrosion at the center prevents an understanding of profile.

**Catalogue no. 35**

Registration no.: 44795  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 446  
 Dimensions:  $59 \times 22$  mm  
 Type: Iron arrowhead(?).  
 Description: Three fragments (only one is illustrated here). Irregular corrosion prevents certain identification. Break in the end exposes shaft with square section (ca.  $5 \times 5$  mm).

**Catalogue no. 36** (figure 19.6)

Registration no.: 45402  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions:  $84 \times 19 \times 4$  mm  
 Type: Iron spearhead.  
 Description: Highly corroded. Elliptical light spearhead with round-sectioned tang. Corrosion prevents accurate measurement of thickness, although the profile appears to be thin. The tang is lost except for a fragment joined to the body of the point.



**Catalogue no. 37**

Registration no.: 45508

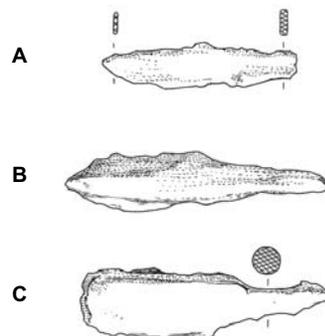
Year excavated: 1995

Findspot: Grid 50 Square 48 Layer 452

Dimensions: **A:** 52 × 10 × 4 mm; **B:** 70 × 12 mm; **C:** 66 × 12 mm

Type: Linear iron arrowheads(?).

Description: Three pieces collected together and given the same registration number. Piece **A** is a thin, narrow, flat iron fragment, possibly the blade of a linear arrowhead. It has a shallow S-shaped curve on its point, perhaps due to impact. The blade is roughly symmetrical although one side of the tip displays a greater convex curve than the opposite side, giving the vague impression of a straight-backed knife. Piece **B** is also probably a linear arrowhead, though heavy corrosion makes identification difficult. Its width increases at one end, suggesting an arrowhead blade. It tapers at both ends to a point. The tip tapers rapidly from the greatest width of the blade, while the tang is drawn out over a greater length. Its section profile is roughly square. It is similar to piece **C**, which is also most likely a linear arrowhead but is more corroded than piece **B**. A break near the center of piece **C** reveals a roughly square core measuring ca. 6 × 6 mm. There is no evidence for a tip. The piece is weighted toward one end, like Piece **B**, and similarly tapers to a pointed tang. A break in the tang reveals a core ca. 3 × 3 mm.



Scale 1:2

**Catalogue no. 38**

Registration no.: 49166

Year excavated: 1997

Findspot: Grid 50 Square 67 Fine-grid 30 Layer 42

Dimensions: 66 × 17 × 13 mm

Type: Lanceolate spearhead or arrowhead.

Description: Diamond-shaped cross section could be interpreted as a midrib. The artifact has a long leading edge in relation to the rear of the weapon. It increases in width in a straight line from its tip to its widest point near the butt, then quickly reverses direction to meet the tang (broken). Its short length suggests it may be an arrowhead rather than a spearhead.



Scale 1:2

## IRON TOOLS

**Catalogue no. 39**

Registration no.: 20343

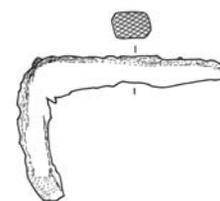
Year excavated: 1988

Findspot: Grid 50 Square 57 Layer 134

Dimensions: 55 × 37 × 7 mm

Type: Iron bracket(?).

Description: Flattened iron bar bent at a right angle. Heavily corroded. One end is broken.



Scale 1:2

**Catalogue no. 40** (figure 19.8)

Registration no.: 20409

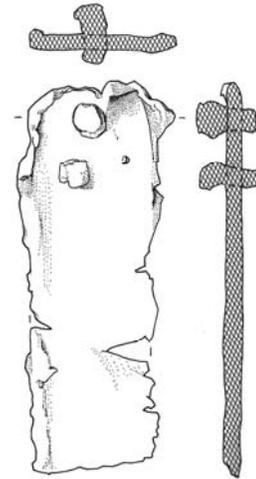
Year excavated: 1988

Findspot: Grid 50 Square 57 Layer 134

Dimensions: 104 × 37 mm

Type: Iron saw.

Description: Flat iron fragment of a straight-backed, serrated blade with a riveted wooden handle. The artifact appears to have possessed a wooden handle 36 mm wide, with three iron rivets set in a triangular pattern to secure it to the saw blade (two rivets at the top of the handle and one centrally placed ca. 6 mm closer to the butt of the blade). The handle obviously extended further than the end of the metal tang. The existing wooden handle fragment has a rounded front that extends 10 mm in front of the rivet pair (not shown in the line drawing but clearly visible in the photograph in figure 19.8). The wood is 4 mm thick at the rounded front end and slowly increases in thickness to the thickness of the rearmost rivet (7 mm). The blade is broken into two fragments and the tip is missing. The smaller fragment, which has six extant teeth, tenuously joins the larger handle fragment (nine extant teeth), showing that it was a straight-backed blade. The cutting edge tapers in from the wider handle to a width of 32 mm over a distance of five teeth and then maintains this width for the remainder of the extant blade. No apparent thickening at back of blade.



Scale 1:2

**Catalogue no. 41**

Registration no.: 38967

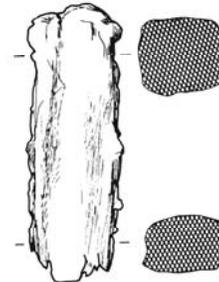
Year excavated: 1992

Findspot: Grid 50 Square 58 Fine-grid 24 Layer 262

Dimensions: 74 × 22 × 20 mm

Type: Iron chisel.

Description: A thick, iron, wedge-shaped artifact. The top (striking) end is square. Its edges display flattening, possibly from ancient use rather than corrosion. The other end of the wedge flattens to a cutting blade. The tip is broken.



Scale 1:2

**Catalogue no. 42**

Registration no.: 39100

Year excavated: 1992

Findspot: Grid 50 Square 58 Layer 278 Feature 278

Dimensions: 73 × 11 mm

Type: Iron chisel(?).

Description: Corroded. Squared shaft, flattened at one end and tapered at the other end. Corrosion obscures the end. Uncertain whether there remains a point or blunted striking end for a chisel. Identification uncertain. Possibly a nail without its head. (No illustration.)

**Catalogue no. 43**

Registration no.: 39734

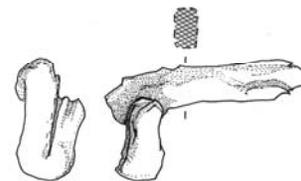
Year excavated: 1992

Findspot: Grid 50 Square 57 Fine-grid 45 Layer 196

Dimensions: 51 × 30 × 9 mm

Type: Iron bracket(?).

Description: An iron bar bent approximately at a right angle. No evidence for a tip or head. Identified originally as a spike. One end folded over onto itself (cf. cat. no. 49).



Scale 1:2

**Catalogue no. 44**

Registration no.: 39907  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Layer 375  
 Dimensions:  $81 \times 19 \times 10$  mm  
 Type: Iron nail or spike(?).  
 Description: Very heavy corrosion. The current corroded form displays a blade-like form, with a wider portion at one end, tapering to a point. Possibly a nail with a missing head. Alternatively, the artifact may be a linear-shaped arrowhead, although the current condition of the artifact makes such identification uncertain.



Scale 1:2

**Catalogue no. 45** (figure 19.8)

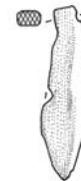
Registration no.: 39960  
 Year excavated: 1992  
 Findspot: Grid 38 Square 73 Layer 362 Feature 362  
 Dimensions:  $31 \times 16 \times 5$  mm  
 Type: Iron saw(?).  
 Description: Possible tip of a toothed blade. Seven apparent teeth extant. The cutting blade curves up along a steep convex curve to meet the straight back(?) of the blade at a point. The fragment, however, is broken both along the back and at the end of the blade. The full width of the blade remains uncertain.



Scale 1:2

**Catalogue no. 46**

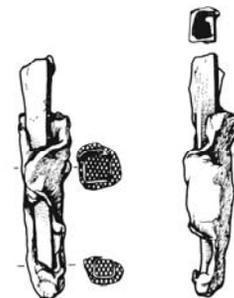
Registration no.: 40036  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Fine-grid 32 Layer 374  
 Dimensions: 45 (length)  $\times$  11 (width) mm  
 Type: Iron nail(?).  
 Description: One end is rectangular in cross section ( $4 \times 6$  mm) and the artifact tapers to a point at the other end, which is slightly bent. Extreme corrosion hinders identification. Corrosion gives a wide, blade-like appearance to the artifact. No visible head for the nail. Possible tip of a squared nail shaft.



Scale 1:2

**Catalogue no. 47**

Registration no.: 40405  
 Year excavated: 1992  
 Findspot: Grid 50 Square 57 Fine-grid 48 Layer 206  
 Dimensions:  $67 \times 9$  mm (width including sheath: 15 mm)  
 Type: Iron chisel and sheath(?).  
 Description: Appears to be a socketed square shaft wrapped in a separate iron sheet. The socket contains fragments of wood. The smooth shaft is square in cross section at one end ( $9 \times 7$  mm) and tapers to a point ca. 4 mm wide that is obscured by the iron sheet. The relationship of the shaft to the sheet is uncertain; the latter may be some form of sheath intended to protect the tip of the shaft. The function of this tool is uncertain.



Scale 1:2

**Catalogue no. 48**

Registration no.: 40589

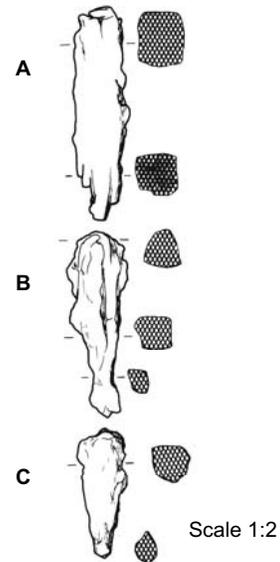
Year excavated: 1992

Findspot: Grid 50 Square 49 Layer 364

Dimensions: **A:** 57 × 13 mm; **B:** 52 × 11 mm; **C:** 36 × 10 mm

Type: Iron chisel(?).

Description: Three highly corroded fragments found together. See cat. no. **51** (reg. no. 40999) for a comparable chisel, if these three fragments are from the same object (the relationship between them is uncertain). **A** is a squared shaft fragment that tapers slightly to the broken end. **B** is a squared shaft fragment that tapers to a point. **C** is a small shaft fragment that tapers to a point. These may be separate nails or spikes rather than fragments of a larger chisel.

**Catalogue no. 49**

Registration no.: 40693

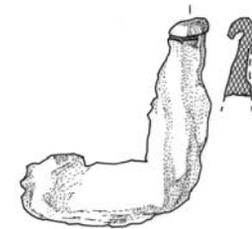
Year excavated: 1992

Findspot: Grid 50 Square 57 Layer 206

Dimensions: 58 × 48 × 14 mm

Type: Iron bracket(?).

Description: Heavy corrosion. Apparently flat band bent into an L-shaped hook or bracket. Possibly thickened at one end. The opposite, thin end is ca. 10 mm wide and 4 mm thick. Its tip is folded over, perhaps unintentionally by an impact.

**Catalogue no. 50**

Registration no.: 40943

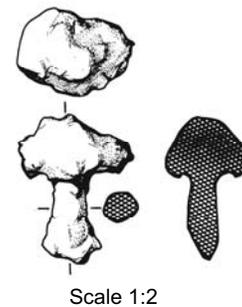
Year excavated: 1992

Findspot: Grid 50 Square 48 Layer 415

Dimensions: 37 × 29 (head width) mm

Type: Iron nail or spike.

Description: Highly corroded. Head and shaft of a large nail or spike. Possible traces of wood in shaft corrosion. Head appears domed with the shaft attached to the flat side of the dome. It is unclear if the extant length was the original length. No evidence of a broken shaft is visible through the corrosion. Shaft is 22 mm long and 10 mm in diameter.

**Catalogue no. 51**

Registration no.: 40999

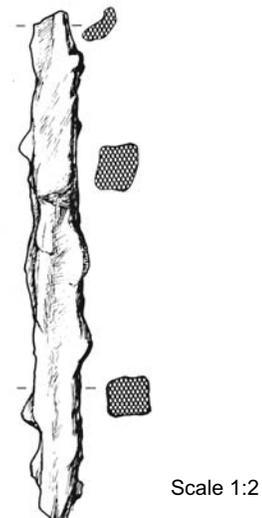
Year excavated: 1992

Findspot: Grid 50 Square 57 Fine-grid 70 Layer 206

Dimensions: 136 × 13 mm

Type: Iron chisel(?).

Description: Long squared shaft tapers to a point at one end. The other end flattens and is broken off before its full extent is reached.



**Catalogue no. 52**

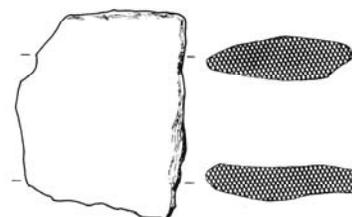
Registration no.: 42853  
 Year excavated: 1993  
 Findspot: Grid 50 Square 48 Fine-grid 18 Layer 405  
 Dimensions: 76 × 8 mm  
 Type: Iron nail(?).  
 Description: Highly corroded. Long shaft with square cross section. Appears to taper to a point on one end with a squared-end blade at the other. Possibly a nail with a missing head, or perhaps a chisel.



Scale 1:2

**Catalogue no. 53**

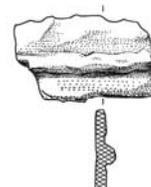
Registration no.: 44103  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 439  
 Dimensions: 55 × 45 × 10 mm  
 Type: Iron ax-head(?).  
 Description: Flattened iron bar. Highly corroded. At least two edges have been broken, although two original edges appear to be preserved, roughly at right angles to each other. The flat artifact is of generally uniform thickness. Its corrosion and fragmentary condition prevent a clear understanding of the form or original length. Possibly a sword blade, rather than an ax-head.



Scale 1:2

**Catalogue no. 54** (figure 19.10)

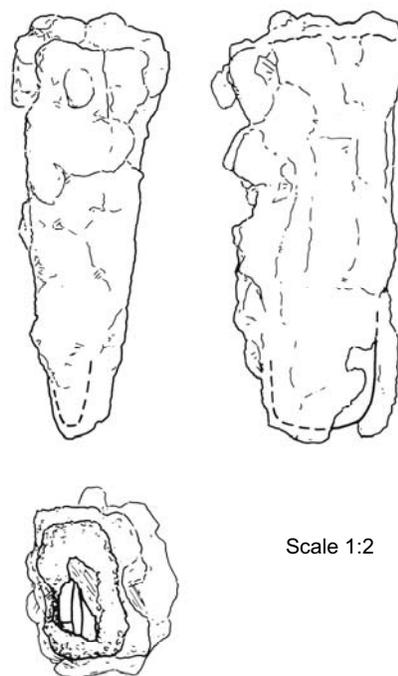
Registration no.: 44187  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 427 Feature 427  
 Dimensions: 37 × 23 × 5 mm  
 Type: Iron armor scale.  
 Description: Broken at both ends. A rounded midrib runs the length of the artifact on one side only, leading to the identification as a fragment of an armor scale. The shortness and poor condition of the piece makes its orientation difficult to determine.



Scale 1:2

**Catalogue no. 55**

Registration no.: 44338  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions: 113 × 48 × 38 mm  
 Type: Iron splitting maul or large chisel.  
 Description: Highly corroded. Butt end provides a rectangular hammering surface that tapers to the squared-off tip, yielding a triangular section. No means of attachment or handle is apparent.



Scale 1:2

**Catalogue no. 56** (figure 19.5)

Registration no.: 44747

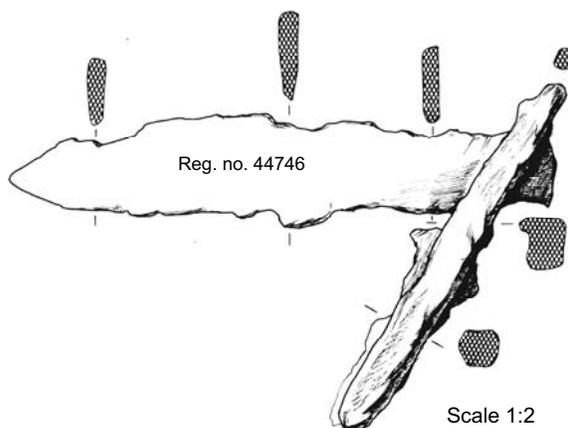
Year excavated: 1994

Findspot: Grid 38 Square 84 Fine-grid 65 LF 312

Dimensions: 110 × 12 mm

Type: Iron spike or chisel(?).

Description: Fused by corrosion onto an iron blade (cat. no. 9 = reg. no. 44746). Heavy corrosion prevents accurate measurement. Shaft is square in cross section and tapers to a point at one end. The other end is obscured by corrosion.

**Catalogue no. 57** (figure 19.8)

Registration no.: 44803

Year excavated: 1994

Findspot: Grid 50 Square 48 Fine-grid 29 Layer 449

Dimensions: 43 × 19 × 4 mm

Type: Iron saw.

Description: Flattened iron fragment with heavy corrosion. Appears to be the tip of a straight-backed saw. The cutting blade has nine teeth, rounded now by corrosion. The cutting edge curves from the tip along a convex curve. It is bent slightly out of true. The tip and butt of the blade are broken.

**Catalogue no. 58**

Registration no.: 44889

Year excavated: 1994

Findspot: Grid 50 Square 48 Fine-grid 68 Layer 449

Dimensions: 55 × 27 (head width) × 10 (shaft width) mm

Type: Iron nail or spike.

Description: Shaft with dome-shaped head. The shaft may have tapered to a point. Heavy corrosion.

**Catalogue no. 59**

Registration no.: 45008

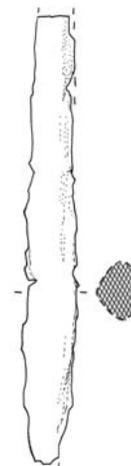
Year excavated: 1994

Findspot: Grid 50 Square 57 Layer 259

Dimensions: 117 × 13 mm

Type: Iron chisel(?).

Description: Thick iron shaft tapers from a diameter of 13 to 9 mm. No evidence of a head or tip. Slightly rounded shaft. Either a chisel or a large nail or spike without its head.

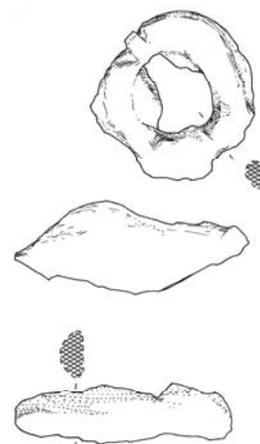


**Catalogue no. 60**

Registration no.: 45324  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 103 (combined length) × 3 (diameter) mm  
 Type: Iron pin or needle(?).  
 Description: Five fragments of a long, thin iron pin (its length and thinness make it unlikely that this is a nail). Possibly a needle or ornamental pin. No head was recovered, although one fragment clearly tapers to a point. All other fragments have broken ends. Corrosion obscures the shape of the core, although it appears to be circular in cross section. (No illustration.)

**Catalogue no. 61**

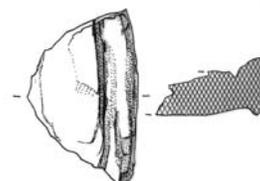
Registration no.: 45352  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: *Ring only*: 37 (outer diam.) × 22 (inner diam.) × 7 mm  
 Type: Iron ring with attachments(?).  
 Description: Multiple pieces collected together. Extremely heavy corrosion. Three possible nails and one slightly flattened iron ring that may originally have been attached to one or more other fragments. Function is unknown.



Scale 1:2

**Catalogue no. 62**

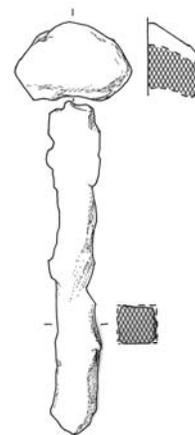
Registration no.: 45405  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 45 × 31 × 14 mm  
 Type: Unidentified iron artifact.  
 Description: Fragment of a circular artifact. The radius of the complete circle might equal 110 mm. Possibly a vessel fragment.



Scale 1:2

**Catalogue no. 63**

Registration no.: 45420  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 89 × 10 mm  
 Type: Iron nail or spike(?).  
 Description: Heavy corrosion. Possible nail shaft. The core visible in a break at one end is approximately 5 × 5 mm square. A dome-shaped piece (width 29 mm) collected with the shaft fragment may be the head of the nail; however, it does not show any evidence of an attachment site and may be unrelated.



Scale 1:2

**Catalogue no. 64**

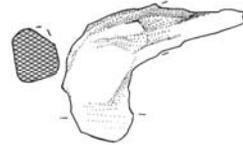
Registration no.: 45879  
 Year excavated: 1995  
 Findspot: Grid 38 Square 84 Layer 412 Feature 412  
 Dimensions: 59 × 15 mm (8 mm core)  
 Type: Iron nail(?).  
 Description: Partial shaft, broken at each end. Corrosion prevents clear identification of form although the wider end appears roughly square in section and the narrower end appears round in section.



Scale 1:2

**Catalogue no. 65**

Registration no.: 47811  
 Year excavated: 1996  
 Findspot: Grid 50 Square 49 Layer 451 [Iron IIB/C]  
 Dimensions: 50 × 34 × 15 mm  
 Type: Iron bracket(?).  
 Description: Flattened iron bar bent at a right angle. Extreme corrosion. The longer end tapers to a point. Possibly a headless nail.



Scale 1:2

**Catalogue no. 66**

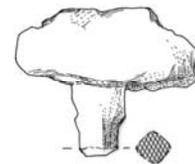
Registration no.: 48050  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 82 × 19 × 20 mm  
 Type: Iron chisel(?).  
 Description: Extreme corrosion obscures the form of the artifact. Squared shaft is flattened at one end and tapers at the opposite end. Collected together with a large lump of iron slag.



Scale 1:2

**Catalogue no. 67**

Registration no.: 48970  
 Year excavated: 1997  
 Findspot: Grid 38 Square 75 Fine-grid 71 Layer 29  
 Dimensions: 37 × 40 (head diam.) mm  
 Type: Iron nail.  
 Description: Two fragments were collected together. One includes a shaft attached to a dome-shaped head. An additional nonjoining squared shaft fragment tapers to a point (not illustrated here). The shaft diameter is 8 mm. The combined length of the two fragments, assuming they are from the same artifact, would have been 60 mm.



Scale 1:2

**Catalogue no. 68**

Registration no.: 49797

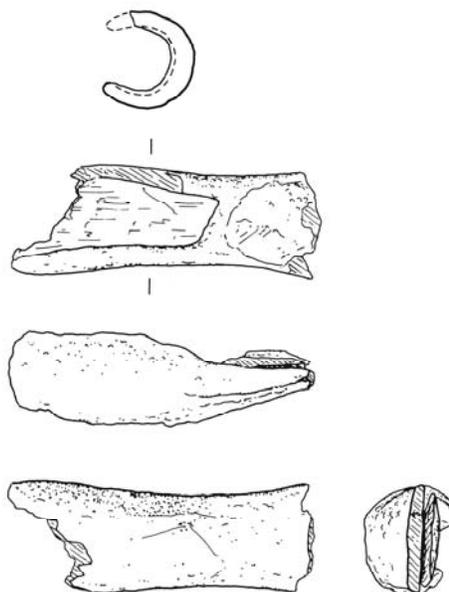
Year excavated: 1997

Findspot: Grid 50 Square 67 Fine-grid 24 Layer 46

Dimensions: 82 (length) × 28 (diameter) × 6 (socket wall thickness) mm

Type: Socketed iron tool (plowpoint scraper?).

Description: The artifact is a cylinder with a slightly pinched waist. The cylinder has a socket at one end and a blade on the other end. Traces of wood remain in the socket. The diameter of the socket decreases from ca. 23 mm near the opening to 12 mm at the bottom. The blade is not symmetrical. One face rises from its tip along a convex curve to join the socket, leaving a concave profile for the opposite face. No trace of attachment rivets was found; however, they may have existed in the portion of the socket that was broken away. Alternatively, the wooden shaft was held in place simply by friction or a wedge. This tool may have been a plowpoint scraper that would have been attached to the butt end of an ox goad.



Scale 1:2

**Catalogue no. 69** (figure 19.8)

Registration no.: 50017

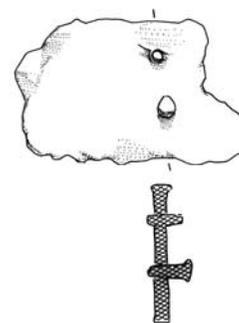
Year excavated: 1998

Findspot: Grid 50 Square 67 Fine-grid 37 Layer 59

Dimensions: 59 × 38 mm

Type: Iron saw.

Description: Flat iron fragment of a one-sided serrated saw and riveted wooden handle. The piece has a 27-mm blade length with five extant saw teeth. Two iron rivets stand side-by-side at the top of the wooden handle. The handle possessed at least one additional, centrally placed rivet (the break occurred at the point of perforation, leaving half of the rivet hole). The rivets appear in a triangular formation. The surviving fragments of the wooden handle and the impression it has left in the corrosion on both sides of the blade leave no doubt that the top of the handle was carved to present a rounded edge. The core of the blade, visible in a break, was flat with an even thickness of ca. 2 mm. The shape of the saw is difficult to determine, although the five extant teeth appear to taper in from the handle.



Scale 1:2

**Catalogue no. 70**

Registration no.: 50104

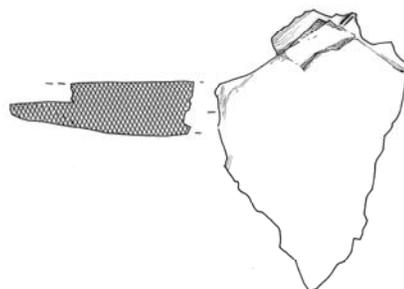
Year excavated: 1998

Findspot: Grid 38 Square 75 Layer 57

Dimensions: 75 × 50 × 14 mm

Type: Iron splitting maul or chisel(?).

Description: Heavy wedge-shaped fragment whose thickness and weight suggest it was used for splitting, either in a hafted ax or as a maul, which would have required a separate striking tool. However, severe damage to the artifact makes this identification uncertain. Most edges are broken, making it difficult to determine its proper orientation. The tapered side of the "wedge" displays a slight curve, which may have been the original cutting edge.



Scale 1:2

**Catalogue no. 71**

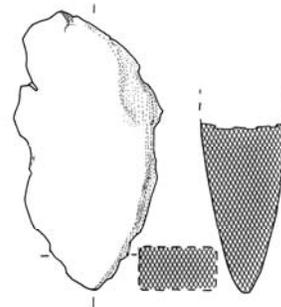
Registration no.: 50882  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Fine-grid 37 Layer 61  
 Dimensions:  $74 \times 33$  (loop width)  $\times 8$  mm  
 Type: Iron cotter pin or attachment ring.  
 Description: Highly corroded. Traces of wood survive along the length of the shank. This piece may therefore have functioned as an anchoring or attachment loop. The mode of construction is unclear; however, the end of the shank appears divided, suggesting that a long rod was bent around a large shaft and the ends were hammered together.



Scale 1:2

**Catalogue no. 72**

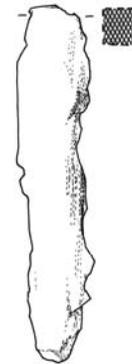
Registration no.: 50921  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Fine-grid 36 Layer 61  
 Dimensions:  $73 \times 32 \times 29$  mm  
 Type: Iron chisel or hammer(?).  
 Description: Highly corroded. Roughly almond-shaped with one pointed end and one blunt end. The tool tapers on all sides from the thickest portion near its middle to the pointed end. The blunt end appears roughly squared off and is slightly narrower than the thick middle of the tool. Corrosion prevents clear identification. It may be a simple chisel or wedge but a slight depression in the center of one long side suggests a socketed tool, such as a hammer.



Scale 1:2

**Catalogue no. 73**

Registration no.: 50999  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Fine-grid 37 Layer 76  
 Dimensions:  $92 \times 14$  mm  
 Type: Iron chisel(?).  
 Description: Highly corroded. Break at one end reveals a core with a roughly square cross section ( $8 \times 9$  mm). Possible taper at the opposite end. Possibly a nail or spike shaft fragment rather than a chisel.

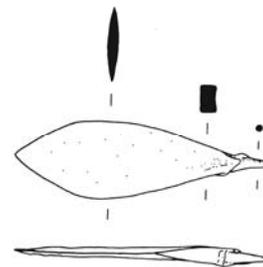


Scale 1:2

## BRONZE POINTS

**Catalogue no. 74** (figure 19.12)

Registration no.: 40809  
 Year excavated: 1992  
 Findspot: Grid 38 Square 74 Layer 480 Feature 480  
 Dimensions:  $68 \times 20 \times 3$  mm  
 Type: Oblanceolate bronze arrowhead.  
 Description: The greatest width of this complete specimen is near the tip. The double-edged blade of the arrowhead tapers to meet the round-sectioned tang (1 mm in diameter), necessitating a rectilinear transition segment ( $4 \times 7$  mm).



Scale 1:2

**Catalogue no. 75**

Registration no.: 44036

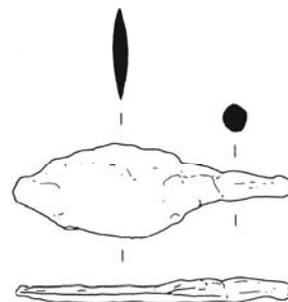
Year excavated: 1994

Findspot: Grid 50 Square 49 Layer 389

Dimensions: 74 × 25 × 4 mm

Type: Oblanceolate bronze arrowhead.

Description: This arrowhead has a blade that broadens rapidly from the tip in symmetrical convex curves, and then declines almost as rapidly in convex lines to merge smoothly with the tang. Its appearance is decidedly leaf-like. The blade is thicker at the center. The tang (including corrosion) is circular with diameter of 7 mm.



Scale 1:2

**Catalogue no. 76** (figure 19.13)

Registration no.: 44318

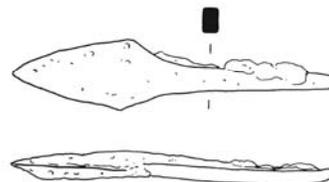
Year excavated: 1994

Findspot: Grid 50 Square 47 Layer 285

Dimensions: 85 × 18 × 4 (thickness at tang) mm

Type: Lanceolate bronze arrowhead.

Description: Long leading edge with slight convex curve from the tip to the widest point. This leading edge is long in relation to the rear of the blade as it returns from the widest part in a concave slope to become the tang. The tang has a rectangular cross section (4 × 7 mm) and is approximately the same length as the blade.



Scale 1:2

**Catalogue no. 77**

Registration no.: 44775

Year excavated: 1994

Findspot: Grid 50 Square 47 Layer 285

Dimensions: 39 × 5 mm

Type: Bronze arrowhead tang(?).

Description: A shaft with square cross section. Tapers to a point at one end. At the other end, the shaft has been hammered, producing a flattened end that may have joined the blade of an arrowhead, but this is not certain. It is possible that this was a needle, but it is too corroded to determine whether the flattened end was perforated to make the eye of a needle. (No illustration.)

**Catalogue no. 78** (figure 19.11)

Registration no.: 46985.1

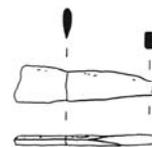
Year excavated: 1996

Findspot: Grid 50 Square 48 Layer 453

Dimensions: 39 × 10 × 3 mm

Type: Linear bronze arrowhead.

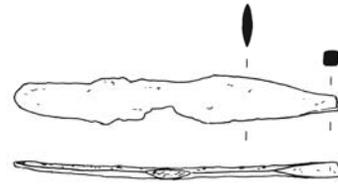
Description: Three other arrowheads, cat. nos. **79**, **80**, **81** (reg. nos. 46985.2, 46985.3+46985.5, 46985.4), were found together with this piece. It has very slight convex curves that terminate at the tang. Tang stub with rectangular cross section (3 × 4 mm). Tip is lost but the surviving portion shows same narrow profile as cat. no. **79** (reg. no. 46985.2). Blade is thickest at the center.



Scale 1:2

**Catalogue no. 79** (figure 19.11)

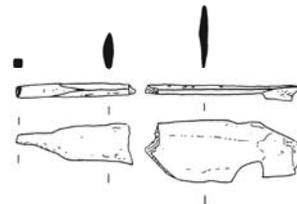
Registration no.: 46985.2  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 86 × 13 × 3 mm  
 Type: Linear bronze arrowhead.  
 Description: Three other arrowheads, cat. nos. **78, 80, 81** (reg. nos. 46985.1, 46985.3+46985.5, 46985.4), were found together with this piece. It has very slight convex curves leading from its tip to terminate at the tang. Tang stub with square cross section (4 × 4 mm). Rounded tip reflects a break; the original form was likely pointed. The blade is thickest at the center line and tapers to the sharpened edges.



Scale 1:2

**Catalogue no. 80** (figure 19.11)

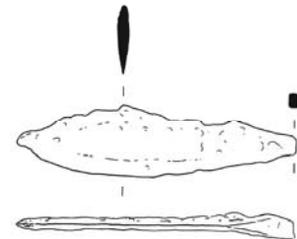
Registration no.: 46985.3+46985.5 (two joining pieces)  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 73 × 16 × 2 mm  
 Type: Oblanceolate bronze arrowhead.  
 Description: Three other arrowheads, cat. nos. **78, 79, 81** (reg. nos. 46985.1, 46985.2, 46985.4), were found together with this piece. Tang stub has square cross section (2 × 2 mm). Tip is lost.



Scale 1:2

**Catalogue no. 81** (figure 19.11)

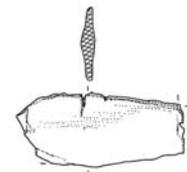
Registration no.: 46985.4  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 453  
 Dimensions: 74 × 19 × 3 mm  
 Type: Oblanceolate bronze arrowhead.  
 Description: Three other arrowheads, cat. nos. **78, 79, 80** (reg. nos. 46985.1, 46985.2, 46985.3+46985.5), were found together with this piece. Nearly complete. Tang stub has rectangular cross section (3 × 4 mm). Blade is thickest at the midline and tapers to sharpened edges.



Scale 1:2

**Catalogue no. 82**

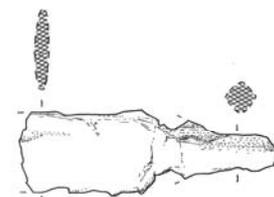
Registration no.: 47311  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 475  
 Dimensions: 44 × 20 × 6 mm  
 Type: Oblanceolate bronze arrowhead.  
 Description: Tip and tang are lost. The remaining fragment demonstrates a symmetrical taper toward the hypothetical point. Thickening at center of blade suggests a midrib.



Scale 1:2

**Catalogue no. 83**

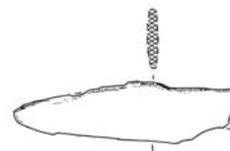
Registration no.: 47458  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 475  
 Dimensions: 66 × 22 × 9 mm  
 Type: Bronze spearhead(?).  
 Description: Extreme corrosion. Appears to be a light spearhead with a double-sided, straight blade and central, narrow tang. Tip missing. Center of blade is thickest part. Blade tapers symmetrically to both edges. Tang is same thickness as center of blade. Edges decrease in width to the tang's width of 9 mm. Tang is 29 mm long; blade is 39 mm long. Possibly a straight-sided, double-edged knife rather than a spearhead.



Scale 1:2

**Catalogue no. 84**

Registration no.: 47470  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 475  
 Dimensions: 59 × 16 × 4 mm  
 Type: Linear bronze arrowhead(?).  
 Description: Possibly an arrowhead lacking its tang or else a knife tip. The tip is preserved, although irregular corrosion and breakage at the butt end make interpretation difficult. The blade widens symmetrically from the tip to create a double-sided blade. Two additional, heavily corroded flat fragments (12 mm wide with combined length of 53 mm) were collected with this piece, although they do not join it. It is unclear whether all fragments are originally from the same artifact.



Scale 1:2

**Catalogue no. 85**

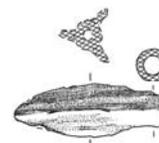
Registration no.: 51532  
 Year excavated: 1998  
 Findspot: Grid 38 Square 84 Layer 514 [Iron I-IIb]  
 Dimensions: 27 × 11 mm  
 Type: Bronze arrowhead tang(?).  
 Description: This short rectangular fragment displays a rhomboidal profile that tapers to a small square (ca. 3 mm<sup>2</sup>). The piece shows a significant amount of corrosion. The function of the artifact is uncertain. It may be a partial nail shaft rather than an arrowhead tang. No remnant of an arrowhead blade or nail head remains.



Scale 1:2

**Catalogue no. 86** (figure 19.13)

Registration no.: 52091  
 Year excavated: 1998  
 Findspot: Grid 38 Square 75 Feature 45  
 Dimensions: 39 × 13 mm; outer shaft diam.: 8 mm; inner socket diam.: 4 mm  
 Type: Socketed "Scythian" bronze arrowhead.  
 Description: Three-bladed "Scythian" type. The blades are slightly rounded, projecting from a place ca. 4 mm along the shaft of the socket and meeting at the tip.



Scale 1:2

## BRONZE TOOLS

**Catalogue no. 87**

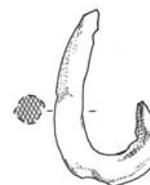
Registration no.: 10764  
 Year excavated: 1986  
 Findspot: Grid 38 Square 64 Layer 57  
 Dimensions: 18 × 15 mm  
 Type: Bronze tack or nail.  
 Description: Domed head of tack or stud. A shaft fragment (length 6 mm; diameter 7 mm) survives on the underside of the dome, slightly off center.



Scale 1:2

**Catalogue no. 88**

Registration no.: 38857  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Feature 348 [Iron IIC-Persian]  
 Dimensions: 46 × 28 × 5 mm  
 Type: Bronze hook.  
 Description: Circular shaft bent into a large hook. Probably a fishing hook, although no clear evidence exists for either a barb or an attachment hole.



Scale 1:2

**Catalogue no. 89**

Registration no.: 38871

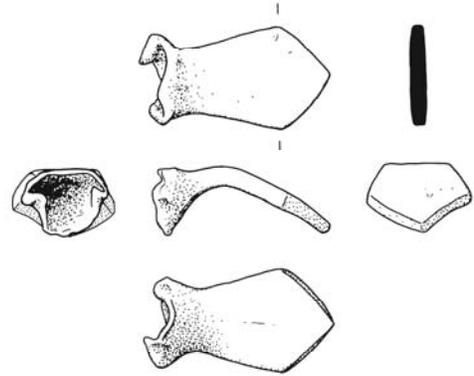
Year excavated: 1992

Findspot: Grid 50 Square 58 Layer 252 Feature 252

Dimensions: 51 × 28 × 4 mm

Type: Bronze vessel handle.

Description: This artifact was probably attached to a metal vessel to serve as a handle. It is unclear whether the object was cast with the vessel, or separately. The body of the vessel is lost, although the handle still has fragments from the point of attachment. From this broken scar, the narrow handle (18 mm wide at that point) flares outward, then sharply tapers toward its pointed end. The entire piece droops slightly, making a gently down-curved handle.



Scale 1:2

**Catalogue no. 90**

Registration no.: 38895

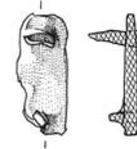
Year excavated: 1992

Findspot: Grid 50 Square 49 Feature 348 [Iron IIC–Persian]

Dimensions: 30 × 12 mm

Type: Unidentified bronze artifact.

Description: Thin strip of bronze pierced by two small tacks (13 mm long). The tacks are placed at the ends of the artifact near the center of the strip. One tack is largely corroded. The second tack appears to be intact. It has a flat head and short, tapered shaft. The bronze strip appears to be split, suggesting that the artifact is composed of two strips of the same size held together by the tacks. These strips may have been used to secure a thin piece of cloth or leather, which has not survived.



Scale 1:2

**Catalogue no. 91**

Registration no.: 39054

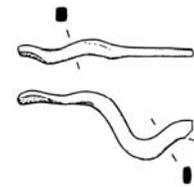
Year excavated: 1992

Findspot: Grid 50 Square 58 Fine-grid 33 Layer 262

Dimensions: 44 × 2 mm

Type: Bronze balance arm for weighing scale (?).

Description: Pin shaft fragment bent into hooked shape. The hook is flattened, perhaps to strengthen the shaft. The function of this artifact is uncertain, but it was found near a bronze balance pan (cat. no. 92) and three weights in the Grid 50 marketplace (see figure 17.1 in chapter 17).



Scale 1:2

**Catalogue no. 92**

Registration no.: 39248 + 38976

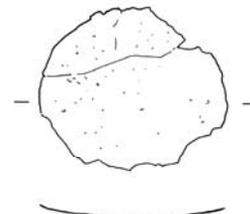
Year excavated: 1992

Findspot: Grid 50 Square 58 Fine-grid 43 Layer 262

Dimensions: 45 × 1 mm

Type: Bronze balance pan for weighing scale.

Description: Fragments of thin bronze sheet found near three scale weights (reg. nos. 38981, 38978, 39007). The largest fragment of the scale pan has a shallow dish shape (see figure 17.1 in chapter 17).



Scale 1:2

**Catalogue no. 93**

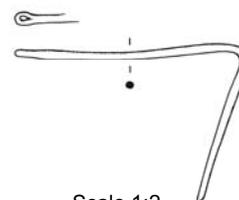
Registration no.: 39486  
 Year excavated: 1992  
 Findspot: Grid 50 Square 58 Fine-grid 53 Layer 262  
 Dimensions: 31 × 2 mm  
 Type: Bronze pin or needle.  
 Description: Tip of thin pin or needle. Shaft broken (1 to 2 mm in diameter). Slightly curved.



Scale 1:1

**Catalogue no. 94**

Registration no.: 39556  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Layer 368  
 Dimensions: 104 (length) × 2 (diameter) mm  
 Type: Bronze needle.  
 Description: This artifact is complete, or nearly so. It is possible that the tip is lost. It is a wire pin with an eye (ca. 1 mm in diameter) for threading. The round shaft is bent near the middle.



Scale 1:2

**Catalogue no. 95**

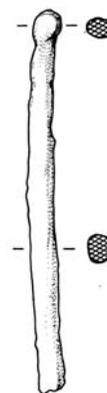
Registration no.: 39617  
 Year excavated: 1992  
 Findspot: Grid 50 Square 49 Layer 368  
 Dimensions: 19 × 23 (diameter in middle of spiral) mm  
 Type: Bronze vessel handle(?).  
 Description: Elliptical, leaf-shape piece curled into a spiral. Roughly triangular cross section visible at the point of breakage. Possible handle of a cast copper vessel, or a palmette-leaf ornament from a bronze stand.



Scale 1:2

**Catalogue no. 96**

Registration no.: 40768  
 Year excavated: 1992  
 Findspot: Grid 50 Square 48 Layer 388  
 Dimensions: 95 × 7 (diameter) mm  
 Type: Bronze needle(?).  
 Description: Long, thin bronze object. Original notes report a tip fragment, now missing. One end is slightly rounded and may be the "eye" of a sewing needle. The opposite end is broken and displays a core of round wire (diameter 4 mm) underneath the corrosion.



Scale 1:2

**Catalogue no. 97**

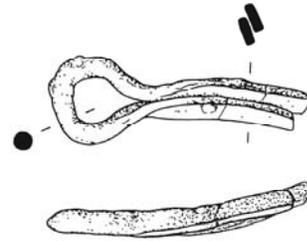
Registration no.: 42337  
 Year excavated: 1993  
 Findspot: Grid 50 Square 48 Layer 390  
 Dimensions: 47 × 21 × 1 mm  
 Type: Unidentified bronze artifact.  
 Description: Thin sheet of bronze. Broken irregularly. Perforated three times: two holes are ca. 1 mm in diameter and one is a smaller pin hole. Function unknown.



Scale 1:2

**Catalogue no. 98**

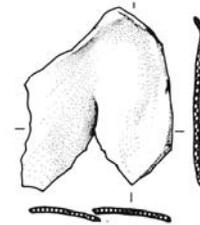
Registration no.: 42629  
 Year excavated: 1993  
 Findspot: Grid 38 Square 63 Layer 739 Feature 739  
 Dimensions:  $70 \times 29$  (loop width)  $\times 5$  (wire diameter) mm  
 Type: Bronze hasp or cotter pin.  
 Description: The flattened ends of a round bronze wire were pressed together to create a loop in the middle of the wire.



Scale 1:2

**Catalogue no. 99**

Registration no.: 42836  
 Year excavated: 1993  
 Findspot: Grid 50 Square 48 Layer 430  
 Dimensions:  $52 \times 39 \times 2$  mm  
 Type: Unidentified bronze artifact.  
 Description: Thin bronze sheet broken irregularly. One edge is rounded—possibly an original edge. Unclear whether the notch visible along another side is original or caused by breakage. No obvious perforations or thickening.



Scale 1:2

**Catalogue no. 100** (figure 19.14)

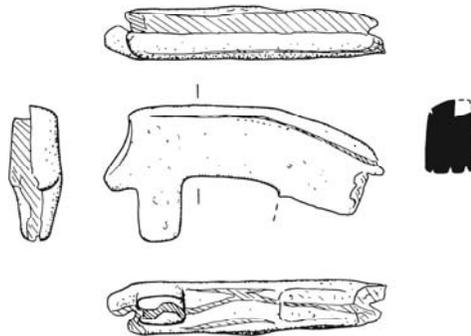
Registration no.: 42918  
 Year excavated: 1993  
 Findspot: Grid 38 Square 64 Fine-grid 79 Layer 785 Feature 785  
 Dimensions:  $91 \times 13 \times 9$  mm  
 Type: Bronze chisel.  
 Description: Two fragments join to form this nearly complete artifact. From the rectangular hammering end ( $4 \times 6$  mm), the chisel broadens at the middle of the shaft, then flares out to form the cutting blade.



Scale 1:2

**Catalogue no. 101**

Registration no.: 44147  
 Year excavated: 1994  
 Findspot: Grid 38 Square 84 Layer 383 Feature 383  
 Dimensions:  $74 \times 37 \times 13$  mm  
 Weight: 61.9 g  
 Type: Unidentified bronze artifact.  
 Description: This artifact is slightly curved along what seems to be its top edge, angling down to a “head” that is 2 mm wider. This “head” appears broken and thus the full extent of the artifact is unknown. The opposite end (interpreted as the butt) presents a slight concave curve to form a point where it meets the bottom edge. On the bottom, near the point at the butt, is located a narrow, rectangular “tang” ( $8 \times 12 \times 14$  mm). In addition, there appears to be a small stub of another “tang” along the inner curve, placed below the head. The cross section of the artifact is roughly rectangular, although the top is slightly domed. All of the edges have been rounded, as if finished.



Scale 1:2

**Catalogue no. 102**

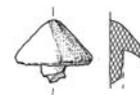
Registration no.: 44511  
 Year excavated: 1994  
 Findspot: Grid 50 Square 47 Layer 285  
 Dimensions: 17 × 12 × 3 mm  
 Type: Bronze hook.  
 Description: Circular shaft bent into a small hook, likely a fishing hook. Slight trace of possible barb at the tip. No trace of loop for attachment to fishing line.



Scale 1:2

**Catalogue no. 103**

Registration no.: 44561  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 421 Feature 421  
 Dimensions: 16 (length) × 21 (diameter) mm  
 Type: Bronze tack or nail.  
 Description: Cone-shaped head with concavity beneath the cone. A pin-shaft fragment is attached near the center of the concavity (diameter 6 mm) along with an additional burr of bronze attached to both the pin and head. Possibly an ornamental stud.



Scale 1:2

**Catalogue no. 104**

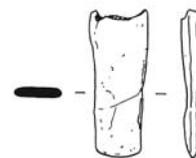
Registration no.: 44594  
 Year excavated: 1994  
 Findspot: Grid 50 Square 49 Layer 436  
 Dimensions: 43 × 25 × 2 mm  
 Type: Bronze sheath-bottom.  
 Description: A thin sheet of bronze in the shape of a blade tip. Concave to its point. At least three small holes ca. 1 mm in diameter are visible along the edges. The hole near the flat butt of the sheath-bottom is 3 mm from the edge, while the hole closer to the tip is only 2 mm from the edge. The third hole is located opposite this hole. Corrosion obscures any additional attachment holes. Two of the holes are filled by corrosion. Assuming that this metal sheath-bottom was stitched to a heavy cloth or leather sheath through the visible holes, there is space left for a blade tip ca. 15–18 mm wide.



Scale 1:2

**Catalogue no. 105**

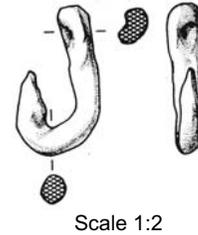
Registration no.: 44654  
 Year excavated: 1994  
 Findspot: Grid 50 Square 48 Layer 439  
 Dimensions: 38 × 16 × 3 mm  
 Type: Bronze chisel(?).  
 Description: A thin, flat fragment, roughly rectangular. The hammering end (assuming the identification as a chisel is correct) is lost. The extant portion preserves a slight taper toward a convex curved tip. A nonjoining fragment (ca. 35 × 14 mm; not illustrated) that was collected with the piece may be unrelated.



Scale 1:2

**Catalogue no. 106**

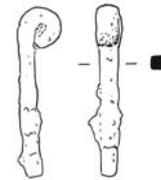
Registration no.: 44946  
 Year excavated: 1994  
 Findspot: Grid 50 Square 58 Layer 325 Feature 325  
 Dimensions: 40 × 23 × 6 mm  
 Type: Bronze hook.  
 Description: Circular shaft bent into a large barbed hook. The barb is preserved at the tip, which points back slightly toward the head of the hook. This head is slightly thickened and has a depression, which is probably either a perforation or a loop for attachment of the fishing line.



Scale 1:2

**Catalogue no. 107** (figure 19.15)

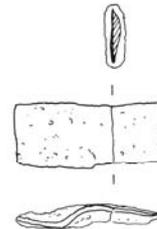
Registration no.: 45344  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 45 × 5 mm  
 Type: Bronze needle(?).  
 Description: Roll-topped shaft. A depression in the corrosion on the head obscures the open loop. The corrosion obscures the attachment point. At the loop, the shaft is rectangular in cross section, measuring 4 × 5 mm. (Ten nonjoining shaft fragments originally discovered with the artifact have not survived. It is unknown whether they were part of the same piece and there is no full measurement of the lost shaft fragments.)



Scale 1:2

**Catalogue no. 108**

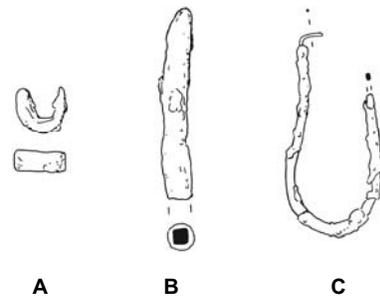
Registration no.: 45347  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: 39 × 17 × 3 mm  
 Type: Unidentified bronze artifact.  
 Description: Four nonjoining fragments of a flat band were found with cat. no. 107. It is unclear how or whether these artifacts functioned together. Only one fragment is illustrated here.



Scale 1:2

**Catalogue no. 109**

Registration no.: 45389  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 452  
 Dimensions: **A:** 15 × 5 mm; **B:** 51 × 7 mm; **C:** 105 × 1 mm  
 Type: Unidentified bronze artifacts (3 pieces).  
 Description: Three nonjoining pieces were collected together and give one registration number. Piece **A** is a flat sheet curled into an open loop. Piece **B** is a short, straight fragment, broken at one end, with a core that is square in section (4 × 4 mm). Piece **C** is a thin round wire also bent into an open loop. When straightened, it would measure ca. 105 mm. It is unclear how or whether these artifacts functioned in relation to each other.



Scale 1:2

**Catalogue no. 110**

Registration no.: 45463  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 454  
 Dimensions: Outer diam.: 15 mm; inner diam.: 8 mm; wire diam.: 5 mm  
 Type: Bronze ring.  
 Description: The function of this small ring is uncertain. Possible spiral overlap.



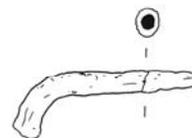
Scale 1:2

**Catalogue no. 111**

Registration no.: 46324  
 Year excavated: 1995  
 Findspot: Grid 50 Square 48 Layer 462  
 Dimensions: 35 × 12 × 7 mm  
 Type: Bronze hasp or cotter pin.  
 Description: Shaft bent to form a loop and ends hammered together. Unclear whether it was hammered into a wooden object. Possibly served as a hinge or attachment. (No illustration.)

**Catalogue no. 112**

Registration no.: 46978  
 Year excavated: 1996  
 Findspot: Grid 50 Square 48 Layer 467  
 Dimensions: 54 × 7 mm  
 Type: Bronze pin.  
 Description: Bent near one end into a slight hook. A join between two fragments near the opposite end reveals a round shaft approximately 4 mm in diameter.



Scale 1:2

**Catalogue no. 113**

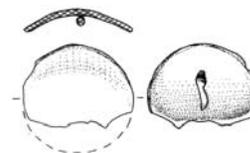
Registration no.: 47988  
 Year excavated: 1997  
 Findspot: Grid 50 Square 58 Layer 396  
 Dimensions: 51 × 11 mm  
 Type: Bronze nail(?).  
 Description: Rounded shaft fragment with a thickened head. Shaft diameter is 6 mm.



Scale 1:2

**Catalogue no. 114**

Registration no.: 49317  
 Year excavated: 1997  
 Findspot: Grid 50 Square 67 Layer 52 Feature 52  
 Dimensions: Diam.: 29 mm; sheet thickness: 22 mm; shaft thickness: 2 mm  
 Type: Bronze tack or ornamental stud(?).  
 Description: Circular, concave artifact. Only about half of the circle survives. A possible attachment appears off-center in the concavity. It appears as a thin ridge (ca. 2 × 7 mm) of additional bronze. It is unclear whether this ridge is broken or whether the corrosion obscures a perforation under it.



Scale 1:2

**Catalogue no. 115**

Registration no.: 49374  
 Year excavated: 1997  
 Findspot: Grid 38 Square 75 Layer 29  
 Dimensions: Bronze sheath-bottom.  
 Type: 28 × 24 × 2 mm  
 Description: A thin sheet of bronze in the shape of a blade tip. The artifact is concave to the point. The top is broken. Corrosion currently obscures any evidence of perforations or other attachment options. This sheath-bottom is comparable in size and shape to cat. no. **104** (reg. no. 44594) and thus could similarly hold a blade ca. 15–18 mm wide at the tip. (No illustration.)

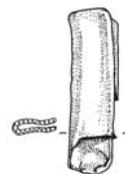
**Catalogue no. 116**

Registration no.: 51154  
 Year excavated: 1998  
 Findspot: Grid 38 Square 75 Feature 77  
 Dimensions: 38 × 6 mm  
 Type: Bronze needle.  
 Description: A needle shaft fragment with a broken eye at one end. The existing portion of the eye appears long and narrow. Round core diameter is 2 mm. (No illustration.)

## LEAD OBJECTS

**Catalogue no. 117** (figure 19.16)

Registration no.: 20305  
 Year excavated: 1988  
 Findspot: Grid 50 Square 57 Layer 134  
 Dimensions:  $43 \times 12 \times 6$  mm  
 Weight: 11.3 g  
 Type: Lead net-sinker or line-sinker.  
 Description: A rectangular lead sheet 2 mm thick, folded in half lengthwise (total thickness is 6 mm).



Scale 1:2

**Catalogue no. 118**

Registration no.: 38202  
 Year excavated: 1991  
 Findspot: Grid 38 Square 83 Layer 272 Feature 272  
 Dimensions: Length: 65 mm; base:  $15 \times 13$  mm; top:  $8 \times 7$  mm  
 Weight: 71.9 g  
 Type: Lead net-sinker(?).  
 Description: Wedge shaped. Rectangular cross section. A narrow groove runs the length of the artifact along both sides. This groove is clearly evident near the wide end but less so at the narrow end; it is unclear whether the groove extended over the narrow end. This groove may have served to secure an attachment line. It is unclear whether the narrow end had been perforated.



Scale 1:2

**Catalogue no. 119**

Registration no.: 40368  
 Year excavated: 1992  
 Findspot: Grid 50 Square 48 Fine-grid 7 Layer 405  
 Dimensions:  $35 \times 18 \times 1$  mm  
 Weight: 7.3 g  
 Type: Unidentified lead artifact.  
 Description: Half-circle of lead sheeting. Function unknown.



Scale 1:2

**Catalogue no. 120** (figure 19.16)

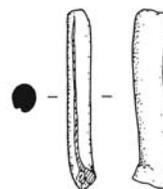
Registration no.: 42940  
 Year excavated: 1993  
 Findspot: Grid 50 Square 49 Fine-grid 28 Layer 418  
 Dimensions:  $23 \times 13 \times 7$  mm  
 Weight: 12.8 g  
 Type: Lead net-sinker or line-sinker.  
 Description: Small rectangular lead sheet 3 mm thick, folded in half lengthwise (total thickness is 7 mm).



Scale 1:2

**Catalogue no. 121** (figure 19.16)

Registration no.: 44513  
 Year excavated: 1994  
 Findspot: Grid 50 Square 57 Layer 256  
 Dimensions:  $46 \times 6$  (diameter) mm  
 Weight: 13.7 g  
 Type: Lead net-sinker or line-sinker.  
 Description: A narrow sheet of lead was rolled over to form a long cylinder. The seam remains visible.



Scale 1:2

**Catalogue no. 122**

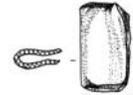
Registration no.: 48566  
 Year excavated: 1997  
 Findspot: Grid 50 Square 48 Layer 475  
 Dimensions: 33 × 31 mm  
 Weight: 12.9 g  
 Type: Unidentified lead artifact.  
 Description: Irregular lead sheet (roughly square, 2 mm thick). One corner is folded over. Function unknown.



Scale 1:2

**Catalogue no. 123** (figure 19.16)

Registration no.: 51187  
 Year excavated: 1998  
 Findspot: Grid 50 Square 67 Layer 76  
 Dimensions: 23 × 13 × 5 mm  
 Weight: 7.4 g  
 Type: Lead net-sinker or line-sinker.  
 Description: Small rectangular lead sheet 2 mm thick, folded in half lengthwise (total thickness is 5 mm).



Scale 1:2

**Catalogue no. 124**

Registration no.: 40805  
 Year excavated: 1992  
 Findspot: Grid 38 Square 74 Fine-grid 60 Layer 472  
 Dimensions: 11 × 10 mm  
 Weight: 0.8 g  
 Type: Unidentified lead artifact.  
 Description: Small piece of lead wire bent in a curve to form a U-shaped object.



Scale 1:1



## 20. CHIPPED STONE

by Jacob Vardi and Steven A. Rosen

THE CHIPPED STONE collection from contexts dated to the seventh century B.C. at Ashkelon is a residual assemblage that derives from earlier strata. No artifacts were recovered that can be attributed with certainty to the late Iron Age, either typologically or technologically. It has previously been demonstrated that formal and standardized types, most notably Large Geometric sickle segments, dropped out of the lithic repertoire several centuries earlier (Rosen 1996; 1997). It is possible that nondiagnostic ad hoc lithic tools continued in use, but the demonstration of such continuities would require evidence of on-site production consisting of some kind of workshop or activity area. Such evidence has not yet been recovered from any site of this period, and in Ashkelon there is a notable dearth of production waste that might reflect such activities.

### Description

The Ashkelon chipped stone assemblage from the seventh century B.C. is small, comprising only 170 artifacts in all, of which 116 (68.2 percent) are classified as tools—a very high proportion, reflecting either selective collection or the absence of on-site lithic production with its associated waste by-products. Type frequencies of waste and tools are presented in tables 20.1 and 20.2.

#### Debris (n=8)

Only eight of the artifacts can be classified as debris (chips or chunks), constituting less than 5 percent of the total assemblage. In contrast, in assemblages from sites where lithic production took place (and where collection techniques were appropriate), debris usually constitutes well over 50 percent of the total assemblage (e.g., Rosen 1997:37–38, 120–21, 152). The chunks are amorphous in shape and the chips are small pieces of less than 20 mm maximal dimension.

#### Debitage (n=45)

The debitage assemblage is dominated by simple flakes. All of the debitage types (flakes, blades, primary elements, core-trimming elements) are highly irregular in shape. Raw material variation suggests that the debitage originates from several sources, including local wadis. Technology is not standardized and the single core-trimming element does not reflect a patterned component in core reduction.

#### Core (n=1)

The single core is amorphous and does not belong to any standardized knapping tradition. Notably, neither the core nor the debitage can be associated with the manufacture of either blade tools or Large Geometric sickle segments, the most common tool types in the assemblage. This is not especially surprising since, by the Iron Age, production of sickles was a highly specialized activity performed either off-site or in restricted production loci (e.g., Rosen 1986; Coqueugniot 1991).

Table 20.1: Waste Frequencies

Type	Quantity	Percentage
Debris	8	4.7
<i>Chip</i>	2	
<i>Chunk</i>	6	
Debitage	45	26.5
<i>Flake</i>	40	
<i>Blade</i>	1	
<i>Primary element</i>	3	
<i>Core-trimming element</i>	1	
Cores	1	0.6
Tools	116	68.2
TOTAL:	170	100.0

Table 20.2: Tool Frequencies

Tool Type	Quantity	Percentage
Scrapers	6	5.2
Notches and denticulates	16	13.8
Borers	7	6.0
Retouched flakes	14	12.1
Simple retouched blades	11	9.5
Canaanite retouched blades	3	2.6
Sickle blades (Canaanite)	2	1.7
Sickle blades (Large Geometric)	43	37.1
Sickle flakes	10	8.6
Simple sickle blade	1	0.9
Neolithic sickle blades	2	1.7
Ax	1	0.9
TOTAL:	116	100.0

## Tools (n=116)

*Scrapers (n=6)*. The scrapers are irregular. The working edges show semiabrupt retouch and are relatively steep in comparison to the retouched flakes. They were all manufactured on irregular flakes. One is made on a rolled Levallois flake.

*Notches and Denticulates (n=16)*. The four notches have one or two concavities. The denticulates (figure 20.1:9; n=12) have three or more concavities forming a denticulated working edge. All tools are made on irregular flakes.

*Borers (n=7)*. There are six awls, each showing a short bit made by either single or double notching (figure 20.1:1). One drill was recovered. Made on a flake fragment, the bit is slightly more elongated and fashioned by an irregular retouch.

*Retouched Flakes and Pieces (n=14)*. This is a catch-all category consisting of nonclassifiable tools that nevertheless show retouch, usually restricted along a single edge (figure 20.1:5). These tools are highly irregular.

*Retouched Blades (n=13)*. The retouched blades are made on nonstandardized blade blanks and cannot be attributed to any period. They are retouched on one (n=8) or two (n=3) lateral edges.

*Canaanean Retouched Blades (n=2)*. Both of the Canaanean retouched blades are broken (figure 20.1:4). Canaanean blades are a chronological marker of the Early Bronze Age (Rosen 1997:59–60) and thus are obvious intrusions within seventh-century B.C. deposits. Retouch on both blades covers one lateral edge, with one showing relatively deep serration. One Canaanean blade retains its butt. Both of the Canaanean sickle blades have partial cortical coverage on the opposite lateral edge. The dimensions (width × thickness) of these blades are: 24.7 × 7.4 mm and 18.3 × 7.2 mm.

*Canaanean Sickle Segments (n=3)*. Two tools are broken and the gloss covers one lateral edge on each, similar to the Canaanean retouched blades. Their dimensions (width × thickness) are 21 × 4.2 mm and 25 × 6.8 mm.

A third Canaanean sickle blade is unbroken (39.5 × 21.5 × 6.5 mm) and shows gloss on one edge. It has impact marks on its ventral face suggesting secondary use of some sort. Similar tools were reported from the Early Bronze Age sites of Ashkelon (Zbe-

novitch 2004; Khalaily 2004) and were observed at Nahal Komem. Like the retouched Canaanean blades, these sickles were manufactured in the Early Bronze Age.

*Large Geometric Sickle Segments (n=43)*. The Large Geometric sickle segments (figure 20.1:3, 6, 7, 10) are all made on medium-grained dark-brown flint. They were probably imported and differ from the rest of the tools by the relative uniformity of their raw material. Only two are burnt and one of these is severely damaged. All are glossy.

Large Geometric sickle blades are typical of the second millennium B.C., dropping out of the material culture repertoire around the tenth century B.C. (Rosen 1997:59–60) Most of the tools were shaped on flakes or on thick blades. The shaping consists of backing and truncation and was applied in order to facilitate their hafting. Shapes are parallelogram (n=20), trapeze (n=5), rectangular (n=3), crescent with arched back and truncations (n=2), and triangular (n=1), probably hafted in the edge of the sickle working edge.

Pronounced bulbs of percussion or their remains appear on 18 of the Large Geometric sickle segments. In four cases, the bulb was thinned by flat semicovering retouch. The working edges are fashioned by serration in order to sharpen the edge. All pieces carry bright gloss.

The average dimensions for a sample of 17 complete tools are 46±13.7 mm in length, 30.5±6.8 mm in width, and 8.5±1.4 mm in thickness.

*Sickle Flakes (Large Geometric) (n=9)*. A group of nine tools appear to be sickle flakes; that is, retouched blanks for the preparation of Large Geometric sickle blades. Eight have pronounced bulbs of percussion and some retouch. The lack of typical gloss and the unfinished modification suggests that they were either kept for a future use or perhaps rejected for further modification. Due to the lack of gloss, it is also possible to classify them as retouched flakes. However, their size and somewhat greater uniformity in shape suggest they were intended as sickles.

*Simple Sickle Blade (n=1)*. One tool fragment on a blade has gloss on one lateral edge, but shows no other modification. It measures 14.9 (width) × 3.41 (thickness) mm.

*Neolithic Sickle Blades (n=2)*. There are two Pottery Neolithic sickle blades, which are obviously intrusive in the assemblage (figure 20.1:2). Both are

characterized by deep denticulation effected by pressure retouch.

*Ax or Adze Fragment (n=1).* There is a single fragment of a bifacial (figure 20.1:8). It seems that it has a plano-convex cross-section and should therefore be classified as an adze. The ax fragment is attributable to the Neolithic or Chalcolithic periods.

#### *Summary*

The chipped stone assemblage described in this report is not homogeneous in terms of raw material, waste, or tool types. Although the tool class is domi-

nated by Large Geometric sickle blades, these are undoubtedly residual materials derived from earlier Iron Age, and perhaps Bronze Age, strata. Further evidence for their residual character is provided by the microartifact analysis of floor contexts at Ashkelon (see chapter 26), which indicates a significant reduction in lithic microwaste by the seventh century B.C.

Table 20.3 below lists the chipped stone artifacts found in contexts dated to the seventh century B.C. at Ashkelon. There are 151 registered items in this list; however, in some cases, multiple artifacts that were found together have the same registration number, so the total number of individual artifacts in the assemblage is 170.

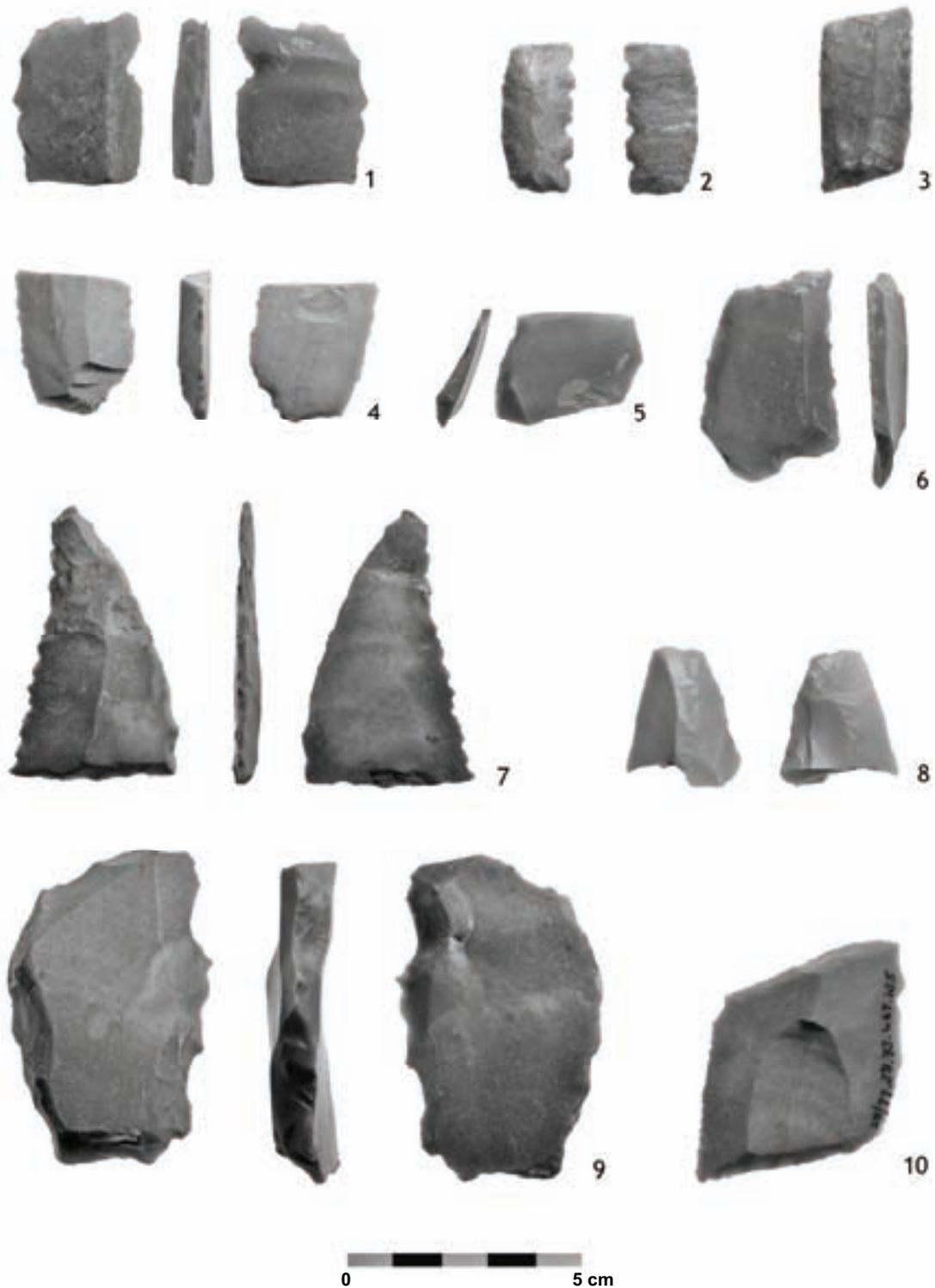


Figure 20.1: Selected chipped stone artifacts from contexts dated to the seventh century B.C. at Ashkelon

1 Awl; reg. no. 45098.

3 Large Geometric sickle segment; reg. no. 43969.

5 Retouched flake; reg. no. 45511.

7 Large Geometric sickle segment, triangular end piece; reg. no. 44311.

8 Fragment of Chalcolithic or Neolithic ax; reg. no. 45334.

9 Denticulated flake; reg. no. 48828.

2 Pottery Neolithic denticulated sickle segment; reg. no. 45426.

4 Broken Canaanite retouched blade; reg. no. 48067.

6 Large Geometric sickle segment; reg. no. 43969.

10 Large Geometric sickle segment; reg. no. 50197.

Table 20.3: Chipped Stone Artifacts from Contexts Dated to the Seventh Century B.C. at Ashkelon

<i>Reg. No</i>	<i>Identification</i>	<i>Findspot</i>
11602	Retouched flake	Grid 38 Square 65 Layer 1
11687	Retouched flake	Grid 38 Square 65 Layer 1
11738	Sickle blade (Large Geometric)	Grid 38 Square 65 Layer 1
12872	Sickle blade (Large Geometric)	Grid 38 Square 65 Layer 12
32479	Retouched flake	Grid 50 Square 59 Layer 274
38568	Flake	Grid 50 Square 59 Layer 274
38641	Sickle blade (Large Geometric)	Grid 38 Square 84 Layer 281 Feature 281
38668	Sickle blade (Large Geometric)	Grid 38 Square 84 Layer 280 Feature 280
39041	Chip	Grid 50 Square 58 Layer 260 Feature 260
39463	Retouched flake	Grid 50 Square 49 Layer 364
39516	Chunk	Grid 50 Square 58 Layer 262
39639	Retouched flake	Grid 50 Square 58 Layer 264
39862	Chip	Grid 50 Square 48 Layer 385
40029	Flake	Grid 50 Square 49 Layer 374
40030	Retouched flake	Grid 50 Square 48 Layer 397
40329	Sickle flake	Grid 50 Square 49 Layer 386
40545	Notch	Grid 50 Square 58 Layer 302
40829	Flake	Grid 38 Square 74 Layer 482
40909	Two sickle blades (Large Geometric)	Grid 50 Square 49 Layer 399
42279	Flake and sickle blade (Large Geometric)	Grid 50 Square 49 Layer 411
42324	Sickle blade (Large Geometric)	Grid 50 Square 49 Layer 413
43200	Chunk and retouched flake	Grid 38 Square 64 Layer 803
43244	Flake	Grid 38 Square 64 Layer 803
43931	Flake	Grid 38 Square 74 Layer 591
43969	Flake and two sickle blades (Large Geometric)	Grid 50 Square 57 Layer 256
43976	Sickle blade (Large Geometric)	Grid 50 Square 47 Layer 281
43977	Sickle blade (Large Geometric)	Grid 50 Square 47 Layer 281
44023	Denticulate	Grid 50 Square 57 Layer 256
44029	Simple sickle blade	Grid 50 Square 57 Layer 256
44053	Simple retouched blade	Grid 50 Square 57 Layer 256
44065	Two flakes	Grid 50 Square 57 Layer 256
44076	Borer	Grid 50 Square 47 Layer 281
44113	Denticulate	Grid 38 Square 64 Feature 767
44125	Scraper	Grid 50 Square 47 Layer 281
44186	Flake	Grid 38 Square 74 Feature 516
44239	Simple retouched blade	Grid 38 Square 64 Feature 767
44267	Denticulate	Grid 38 Square 84 Layer 391 Feature 391
44273	Flake	Grid 50 Square 47 Layer 281
44311	Neolithic sickle blade	Grid 50 Square 47 Layer 285
44351	Primary element	Grid 50 Square 47 Layer 285
44372	Sickle blade (Large Geometric)	Grid 50 Square 57 Layer 256
44384	Sickle blade (Canaanite) and simple retouched blade	Grid 50 Square 57 Layer 256
44429	Denticulate	Grid 50 Square 57 Layer 256
44522	Retouched flake	Grid 38 Square 84 Layer 381
44555	Sickle blade (Large Geometric)	Grid 50 Square 47 Layer 285
44571	Denticulate	Grid 50 Square 57 Layer 203
44619	Borer	Grid 50 Square 57 Layer 256
44644	Sickle blade (Large Geometric)	Grid 50 Square 58 Layer 318 Feature 318
44645	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 475

Table 20.3: Chipped Stone Artifacts from Contexts Dated to the Seventh Century B.C. (continued)

<i>Reg. No</i>	<i>Identification</i>	<i>Findspot</i>
44735	Core-trimming element	Grid 50 Square 58 Layer 316
44736	Flake	Grid 50 Square 57 Layer 256
44737	Flake	Grid 50 Square 57 Layer 256
44756	Flake	Grid 38 Square 64 Feature 758
44761	Simple retouched blade	Grid 38 Square 84 Layer 391 Feature 391
44799	Sickle blade (Large Geometric)	Grid 50 Square 57 Layer 256
44860	Chunk and retouched flake	Grid 50 Square 57 Layer 256
44883	Denticulate	Grid 38 Square 84 Layer 396 Feature 396
44896	Flake	Grid 50 Square 58 Layer 321
45094	Retouched flake	Grid 38 Square 74 Layer 509 Feature 509
45098	Borer	Grid 50 Square 58 Feature 321
45178	Two flakes and simple retouched blade	Grid 50 Square 57 Layer 256
45275	Flake	Grid 50 Square 57 Layer 256
45279	Flake	Grid 38 Square 84 Layer 380 Feature 380
45301	Sickle flake	Grid 50 Square 47 Layer 285
45306	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 452
45330	Sickle blade (Large Geometric)	Grid 38 Square 84 Layer 420
45334	Flake ax	Grid 50 Square 48 Layer 452
45371	Three flakes	Grid 50 Square 57 Layer 256
45383	Three sickle blades (Large Geometric)	Grid 50 Square 48 Layer 452
45431	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 452
45433	Notch	Grid 38 Square 84 Layer 317
45510	Borer	Grid 50 Square 48 Layer 452
45511	Scraper	Grid 50 Square 57 Layer 256
45519	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 452
45539	Simple retouched blade	Grid 50 Square 48 Layer 453
45566	Retouched flake	Grid 50 Square 48 Layer 454
45594	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 452
45611	Simple retouched blade	Grid 50 Square 47 Layer 285
45614	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 452
45622	Sickle blade (Large Geometric)	Grid 38 Square 84 Layer 419
45623	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 453
45625	Retouched flake	Grid 50 Square 48 Layer 452
45755	Flake	Grid 50 Square 48 Layer 452
45808	Flake	Grid 50 Square 48 Layer 452
45823	Denticulate	Grid 38 Square 63 Layer 768
45890	Sickle flake	Grid 50 Square 48 Layer 453
45897	Simple retouched blade	Grid 50 Square 58 Layer 318 Feature 318
45967	Canaanite retouched blade	Grid 50 Square 48 Layer 453
45971	Blade	Grid 50 Square 58 Layer 318 Feature 318
45977	Sickle blade (Large Geometric)	Grid 50 Square 57 Layer 256
45989	Flake	Grid 50 Square 58 Layer 318 Feature 318
46024	Two sickle blades (Large Geometric)	Grid 50 Square 46 Layer 100
46039	Sickle blade (Large Geometric)	Grid 50 Square 58 Layer 318 Feature 318
46049	Scraper	Grid 50 Square 57 Layer 256
46054	Scraper	Grid 50 Square 57 Layer 256
46067	Neolithic sickle blade	Grid 38 Square 84 Layer 396 Feature 396
46071	Chunk	Grid 50 Square 58 Layer 318 Feature 318
46081	Sickle flake	Grid 50 Square 48 Layer 453
46083	Primary element	Grid 50 Square 48 Layer 453

Table 20.3: Chipped Stone Artifacts from Contexts Dated to the Seventh Century B.C. (continued)

<i>Reg. No</i>	<i>Identification</i>	<i>Findspot</i>
46128	Borer	Grid 50 Square 58 Layer 318 Feature 318
46211	Flake	Grid 50 Square 48 Layer 453
46252	Notch	Grid 50 Square 48 Layer 461
46295	Simple retouched blade	Grid 50 Square 48 Layer 452
46296	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 462
46342	Primary element	Grid 50 Square 48 Layer 453
46365	Denticulate	Grid 50 Square 58 Layer 318 Feature 318
46571	Flake	Grid 50 Square 49 Layer 449
46631	Sickle flake	Grid 50 Square 48 Layer 462
46634	Denticulate	Grid 50 Square 49 Layer 449
46650	Chunk and flake	Grid 50 Square 48 Layer 466
46676	Chunk	Grid 50 Square 48 Layer 418
46679	Sickle blade (Large Geometric)	Grid 50 Square 47 Layer 303
46705	Flake	Grid 50 Square 49 Layer 449
46735	Core	Grid 50 Square 48 Layer 468
46775	Two flakes	Grid 50 Square 48 Layer 467
46777	Flake	Grid 50 Square 48 Layer 448
46795	Flake	Grid 50 Square 47 Layer 303
46846	Simple retouched blade	Grid 50 Square 48 Layer 467
46871	Flake	Grid 50 Square 48 Layer 462
46899	Sickle flake	Grid 50 Square 48 Layer 303
46905	Flake	Grid 50 Square 47 Layer 285
46910	Simple retouched blade	Grid 50 Square 47 Layer 306
46939	Denticulate	Grid 50 Square 47 Layer 302
46964	Sickle flake	Grid 50 Square 48 Layer 467
47503	Scraper	Grid 50 Square 48 Layer 453
47644	Canaanite retouched blade	Grid 50 Square 47 Layer 302
47658	Sickle flake	Grid 50 Square 48 Layer 475
47664	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 475
47745	Borer	Grid 50 Square 48 Layer 475
47748	Two flakes	Grid 50 Square 48 Layer 475
47945	Notch	Grid 50 Square 48 Layer 453
47997	Sickle blade (Large Geometric)	Grid 50 Square 48 Layer 448
48067	Sickle blade (Canaanite)	Grid 50 Square 58 Layer 396
48101	Sickle blade (Large Geometric)	Grid 50 Square 47 Layer 313
48158	Denticulate	Grid 50 Square 57 Layer 274
48366	Borer	Grid 50 Square 57 Layer 274
48426	Scraper	Grid 50 Square 57 Layer 274
48498	Retouched flake	Grid 38 Square 85 Layer 9
48591	Sickle blade (Large Geometric)	Grid 50 Square 57 Layer 274
48592	Sickle blade (Large Geometric)	Grid 50 Square 57 Layer 274
48828	Denticulate	Grid 50 Square 57 Layer 274
48905	Sickle flake	*Grid 50 Square 57 Layer 275
48949	Sickle flake	Grid 38 Square 84 Layer 548 Feature 548
49036	Canaanite retouched blade	*Grid 50 Square 57 Layer 275
49155	Retouched flake	Grid 50 Square 48 Layer 496 Feature 496
49234	Flake	*Grid 50 Square 57 Layer 275
49284	Sickle blade (Large Geometric)	Grid 38 Square 84 Layer 295
50197	Sickle blade (Large Geometric)	Grid 38 Square 75 Layer 29

\* These items are from a mixed LB II / Iron IIC fill layer—not a secure 7th-century context.

Table 20.3: Chipped Stone Artifacts from Contexts Dated to the Seventh Century B.C. (continued)

<i>Reg. No</i>	<i>Identification</i>	<i>Findspot</i>
50785	Sickle blade (Large Geometric)	Grid 50 Square 67 Layer 61
51416	Sickle blade (Large Geometric)	Grid 38 Square 75 Layer 4
52146	Flake	Grid 38 Square 65 Layer 22

## 21. GROUND STONE

by Yorke M. Rowan

**G**ROUND STONE is an ambiguous, rather broad category that includes stone artifacts used for the reduction of other materials by grinding (e.g., grains, minerals, etc.) as well as artifacts which are themselves created by means of reductive grinding and abrasion. For this reason, the category of ground stone typically includes a range of artifacts without functional commonality that are grouped together simply because they are made of stone. Although grinding is a common technique for creating stone artifacts, other techniques include pounding, flaking, drilling, and incising. Flaking, pounding, and grinding are also used to make knapped or chipped stone tools, although these were typically manufactured from crypto-crystalline silicates (i.e., flint or chert) and are usually given separate treatment (see chapter 20 in the present volume).

In the study of ground stone assemblages, unfortunately, inconsistent terminologies and contradictory typologies continue to confound attempts to construct more rigorous methodological approaches that go beyond simple description, despite efforts to deal with this problem (see Adams et al. 2009). Although broader, more inclusive classificatory typologies have been proposed, in the Near East these are typically created with prehistoric assemblages in mind (Wright 1991; 1992). However, experimental studies, such as those of Adams (1988; 1989a; 1989b; 1993; 1999; 2002a; 2002b), Dubreuil (2004), Dubreuil and Grosman (2009), and Fullagar et al. (2008) point the way for future efforts to establish more rigorous classifications that can link together studies of ground stone assemblages from disparate periods and cultures (see Rowan and Ebeling 2008).

Haphazard collection or outright neglect of ground stone artifacts creates another obstacle to our use of this category of evidence. Different kinds of material culture yield different insights into the lives of ancient people. Which aspects we choose to examine reflect our own judgments about the value of different classes of artifacts for understanding the past. Traditionally, archaeologists have focused on artifact classes that changed frequently in shape or decoration in order to use them as chronological markers. More durable artifacts that were used for long periods of time and exhibit less stylistic variation are less useful for constructing chronologies and so have been subject to less careful collection and curation. In the past, this was true of chipped stone assemblages (Rosen

1997), although these are now routinely collected in a methodical fashion even at Bronze and Iron Age sites. But other stone artifacts are often collected unsystematically and are not kept for future study because of pragmatic concerns about storage space, bulk, and weight. Ground stone artifacts, which can range from carefully fashioned bowls of exotic rock to crudely battered or ground cobbles, are often neglected in the field, not recorded, or never stored (Rowan and Ebeling 2008:2), even though they can provide important insights into ancient economic and social practices.

The Leon Levy Expedition to Ashkelon adopted a “total collection” policy that has yielded a large corpus of carefully collected ground stone artifacts. This chapter describes 80 stone artifacts collected from contexts dating to the late seventh century B.C. (see the catalogue below). Following earlier ground stone studies, these artifacts have been classified into ten main groups, with some additional subtypes (table 21.1). The small sample size precludes attaching great significance to artifact frequencies; however, the thorough approach to field collection and curation of stone artifacts allows some interpretation. Not included in the present chapter are eight alabaster (travertine) vessels found in seventh-century contexts, which are described above in chapter 14 in conjunction with faience vessels. Likewise, eighteen stone scale weights are not included in the present chapter but are described above in chapter 17.

Each stone artifact is described as fragmentary, complete, or missing a small portion (incomplete). Size determinations were made using rulers and calipers; where relevant, diameters of holes were also measured. Morphological description makes use of eight primary shapes: elliptical, oval, rectangular, round, square, trapezoidal, triangular, and irregular. The terminology used to describe the shape of cross-sections and profiles is similar, but with the addition of the terms plano-convex, concave-convex, and bi-convex, as needed.

### *Grinding Slabs* (cat. nos. 1–4)

The lower stationary stones utilized for reduction of materials such as grain are frequently termed querns, grinders, or *metates*. Here we will refer to them as grinding slabs. All four examples excavated at Ashkelon are fragmentary. They are made of unifacially

ground vesicular basalt. They range in thickness from 30 to 60 mm. Three are lateral fragments (cat. nos. **1**, **2**, **4**); the other is a central fragment (cat. no. **3**). The paucity of small fragments suggests that these grinding slabs were originally used elsewhere on the site. The use of basalt to make them is in keeping with the general preference at Ashkelon for nonlocal vesicular basalt over the locally available “beachrock,” known as *kurkar* (fossilized beach and dune formations).

Illustrations of grinding slabs are not common in publications of Bronze and Iron Age sites, although this type of artifact is typically found in any large settlement (e.g., Megiddo—Lamon and Shipton 1939: pl. 114.11; Loud 1948:pl. 264.11; Tell Abu Hawam—Hamilton 1935:fig. 339; and, more recently, Lachish—Sass 2004a:fig. 23.8; Sass 2004b:figs. 28.5–7).

#### *Pendants* (cat. nos. 5 and 6)

Two stones with holes drilled through them were possibly used as decorative pendants. Cat. no. **5** (reg. no. 43402) is a highly polished, oval-shaped pebble made of a dark, nearly black, unidentified material. This pebble is relatively flat, only 11 mm thick, and has clear scratches on one face. A very small perforation is situated at the narrower end. A very similar artifact, also made of black stone (talc or serpentine?) was found at Lachish (Sass 2004b:fig. 28.32:11, 28.17:13, table 28.35:8).

Cat. no. **6** (reg. no. 40890) is a finely ground flat piece, possibly made of serpentine, with parallel sides and a hole in the center that is 2 mm in diameter. Although the hole is drilled through what is now the center of the artifact, portions of this artifact appear to be missing, thus it may originally have been a larger suspended artifact.

#### *Perforated Stones* (cat. nos. 7 and 8)

Two stone objects are perforated, although they are not functionally similar. Cat. no. **7** (reg. no. 39386) is a limestone pebble with two natural holes whose diameters are ca. 9 and 6 mm. It was possibly a naturally formed piece collected by the ancient inhabitants. Cat. no. **8** (reg. no. 46229) is a roughly round basalt slab with one very flat face but otherwise only roughly shaped. Although it is a fragment, sufficient traces of the bifacially drilled hole remain to allow an estimate of the original diameter, which ranged from a maximum of 42 mm to 35 mm. It was probably a reused grinding slab into which a hole was drilled to convert it for use as the lower part of a tournette or potter’s wheel.

#### *Pestles* (cat. nos. 9 and 10)

Pestles are differentiated from other worked pebbles based primarily on their shape and the location of use-wear traces. Cylindrical pestles are recognized from as early as the Natufian period (Wright 1992: figs. 5.69, 5.70) and continue in use for millennia, but they generally form only a small proportion of later ground stone assemblages. Tools classified as pestles from later historical periods are rarely cylindrical. Many are similar to cat. no. **9** (reg. no. 46028), which is roughly trapezoidal in profile and almost rectangular in cross-section. Its working face is convex and highly ground. The lateral sides are very highly ground, while the “top” (the narrow end) is pecked and rough. The other example from Ashkelon, cat. no. **10** (reg. no. 47037), is made of an unidentified material (possibly diorite). It has flattened and highly ground lateral sides but its end is pecked and rough.

These two examples from Ashkelon would have been usable only in shallow mortars or on grinding slabs; however, they are typical of pestles recovered from Bronze and Iron Age sites. Similar examples were recovered from Middle and Late Bronze Age levels at Yoqne’am (Ben-Ami 2005:364, fig. 5.6:8–20), from Middle Bronze Age contexts at Tel Mevo-rakh (Stern 1984:pls. 45:7–8), and from Iron Age contexts at Lachish (Sass 2004a:fig. 23.7:1–9) and Ḥorvat Rosh Zayit (Gal and Alexandre 2000:fig. 3.116:5–7, esp. no. 6). At the latter site both conical forms (*ibid.*, fig. 3.116:5–7) and trapezoidal forms (*ibid.*, fig. 6.19:3) were found.

#### *Palettes* (cat. nos. 11–13)

Palettes are small, generally flat stone pieces used for abrasive reduction of small amounts of material. Cat. no. **11** (reg. no. 40919) is a complete palette made of gypsum. It is rectangular in shape and finely ground bifacially with a shallow concavity on one face. Its edges are vertical and finely ground smooth, creating facets. A hole (diameter 4 mm) was drilled in one corner, a feature of palettes in the Levant from as early as the Early Bronze Age (e.g., at Bab edh-Dhra’; see Schaub and Rast 1989). The Ashkelon piece is similar to a fragmentary plaque from Lachish with multiple holes (Sass 2004a:fig. 28.26:9).

Two other examples, both fragments, are made of limestone. Cat. no. **12** (reg. no. 15922) is a flat, bifacially polished pebble with a slight depression on both faces. Its edges are unfinished and slightly battered. Cat. no. **13** (reg. no. 46661) is a small fragment categorized as a palette because it exhibits fine abrasive wear and a faceted lateral edge.

*Handstones and Abraders* (cat. nos. 14–36)

Twenty-three artifacts were identified as handstones, of which nineteen belong to a subtype here described as “abraders.” The upper, more mobile stones used against lower, more stationary objects are known by various terms: handstones, millstones, *manos*, rubbers, or abraders. Stone artifacts that fulfill this function are known from early prehistoric periods, as early as the Upper Palaeolithic in the Near East. Within our diverse group of mobile handstones we have a subgroup of four large handstones of the type used with grinding slabs and a subgroup of nineteen small abraders used for other purposes. Note that it is sometimes difficult to distinguish fragments of upper grinding equipment (handstones) from lower grinding equipment (grinding slabs; see, e.g., Sass 2004a: fig. 23.9:1, 3, 4, 6–8).

Three of our four large handstones (cat. nos. **15**, **16**, **17**) are made of basalt, like the grinding slabs with which they were probably matched. Cat. no. **14** is made of *kurkar* beachrock. Cat. nos. **14** and **15** are complete, each measuring just over 100 mm in length and 80 mm in width. All of them are heavily ground unifacially.

The other nineteen handstones are more difficult to classify. They have been identified as “abraders” for two reasons. First, they are smaller than the typical handstones used in conjunction with large grinding slabs. Second, they exhibit different, more varied patterns of use wear. The larger handstones tend to have abrasive wear in the same direction, transversely across the narrow faces, while abraders exhibit smoothing and polishing wear on several faces, not necessarily in the same orientation.

Fifteen of the nineteen abraders are complete (79 percent). Fourteen are made of flint (74 percent). Most have at least two faces so highly ground that a flattened aspect is created. Six have sufficient faceting that the artifact is almost cuboid in its shape and profile (e.g., cat. no. **36**, reg. no. 47772). Three are smoothed, with slight faceting, but are primarily spheroidal. A few exhibit smoothed sides but with some bipolar pecking or light pounding, somewhat similar to pestles (cat. no. **31**, reg. no. 46701).

The subgroup of abraders includes many examples which are similar in size. The more rounded examples could have served as weapons (*ballistae*), particularly the most spherical items, which show little evidence for wear other than possible smoothing. At Lachish, similar objects, primarily made of flint, were termed “slingstones”; many were flat-bottomed, multifaceted or even cuboid in shape (Sass 2004b: tables 27.18, 27.19, 27.22; fig. 27.26).

A few of the more sharply faceted cuboid abraders presented here are similar to objects identified elsewhere as possible scale weights (Brandl 1993; Ben-Shlomo 2005:187, 165, fig. 3.8:16, 17; Sass and Cinamon 2006:fig. 18.18). For this reason, their mass in grams is included in the catalogue. On the other hand, there is a good possibility that some of the artifacts classified here as handstones and abraders overlap functionally with artifacts classified as hammerstones.

*Hammerstones* (cat. nos. 37–43)

Hammerstones (also called pounders) are usually spherical stone objects that have been battered or pecked and often have flattened areas. They are identified primarily by evidence of pecking and crushing wear. Other than traces of pounding, battering, or pecking, there is little evidence for other kinds of use wear. In terms of size and morphology, they overlap with the “abrader” subtype of handstones, discussed above. All but one of the seven examples presented here are complete, and all are made of flint.

Only objects that bear signs of pecking or crushing are included here. Others stones of similar size but with more evidence for abrasive smoothing and polishing are classified either as handstones or as worked pebbles. These are not sharply demarcated categories and require more analysis (e.g., microscopic or residue analysis) to determine whether these distinctions are meaningful. Such objects are rarely discussed or illustrated in site reports, although this is beginning to change (see the discussion of Lachish in the section on handstones and abraders above; see also the report on Iron Age II material at Tel Beth Shean in Yahalom-Mack and Mazar 2006: 483, table 13.4, figs. 13.5:1–10, Ph. 13.22–23).

*Modified Cobbles* (cat. nos. 44–46)

Cobbles and pebbles that show evidence of use or modification are included in this category. Two examples are made of flint: cat. no. **44** (reg. no. 46886) is oval in shape with a biconvex cross-section and profile; cat. no. **45** (reg. no. 46595) is a battered fragment. The third example, cat. no. **46** (reg. no. 43891), is possibly made of siliceous limestone; it is a battered cobble with concave areas on the sides and deeper concavities on opposite poles.

*Stone Vessels* (cat. nos. 47–65)

Fragments of stone vessels are the second most numerous category of ground stone artifact recovered

from seventh-century contexts at Ashkelon (table 21.1). Of the nineteen vessels described in this chapter, thirteen are made of basalt, two others are made of gypsum, two are made of limestone or chalk, and the remaining two are made of unknown materials. Each fragment represents a separate vessel. Eight other vessels made of Egyptian alabaster (travertine) are described elsewhere (see chapter 14), making a total of twenty-seven stone vessels.

One fragment (cat. no. **47**, reg. no. 39529) is probably prehistoric—possibly a leg fragment from a fenestrated, pedestaled basalt stand dating to the Chalcolithic period (Rowan 1998; Amiran and Porat 1984). Another basalt vessel fragment (cat. no. **48**, reg. no. 45993) was originally a bowl base, but the traces of the vessel walls are ground and smooth and there is a bifacially drilled hole in the center. The secondary use of basalt bowl bases as pivot stones, presumably for potter's wheels, is common, presumably because basalt, which was valued for its hardness, was not locally available.

Cat. nos. **49–55** fit Sparks's Type 1C of everted bowls (circular in plan) with raised disc bases or Type 1D with ring bases. One of the Ashkelon examples (cat. no. **51**, reg. no. 53074) has a convex wall profile; the others have relatively straight walls. According to Sparks (2007:127), everted stone bowls were common during the Middle Bronze Age II (see esp. Jericho and Tell el-Far'ah South) and Late Bronze Age I (esp. Tell el-<sup>c</sup>Ajjul and Tell es-Salihiyeh); they became even more popular during the Late Bronze Age II; and they continued into the Iron Age. Sparks notes (p. 129) that everted bowls were locally produced in northern Palestine and are most abundant there, having been recovered from sites in the Jezreel Valley and northern Jordan Valley, but they are also found outside that area. They are typical of Late Bronze to Iron Age contexts in Palestine; examples are known from Ashdod (Ben-Shlomo 2005:fig. 3.8:9), Megiddo (Sass 2000:figs. 12.2:7–11), Tel Jezreel (Rowan in press), Tel Dan (Ben-Dov 2002; Ben-Dov and Rowan in press), Tel Michal (Singer-Avitz 1989: fig. 31.4:8), and many other sites.

Tripod footed bowls are also common at sites throughout Palestine. Three basalt fragments in our corpus (cat. nos. **56–58**) are leg sections from shallow tripod bowls. Two of the fragments preserve the full profile from the bottom of the leg to the bowl rim; all three have well-ground exteriors and interiors.

Tripod bowls are frequently referred to in the literature as “mortars.” Following Hovers (1996:177), the term “footed bowls” is preferred here. Although such vessels could have been used to grind small

amounts of material, their open, shallow form and “feet” suggest that they would not have functioned well as mortars used for heavy pounding and grinding. On the other hand, smaller rubbers, abraders, and pestles would work well with shallow mortar-bowls such as these.

Tripod bowls have been recovered from an Early Bronze Age context at Hama (Fugmann 1958: fig. 46a; Sparks 2007:131) and from Middle Bronze Age contexts at Tel Mevorakh (Stern 1984:63, pl. 11.9). Ebeling (2001:68) notes that they had become widespread in the southern Levant by the Middle Bronze Age IIB. Although Buchholz (1963) suggested that there was an apparent decline in tripod bowls during the Late Bronze Age, a more recent and comprehensive analysis by Sparks (2007:131–32) demonstrates that they actually had become increasingly popular by the Late Bronze Age II and remained common into the Iron Age. Footed basalt bowls have been found at sites such as Tel Beth Shean (Johnson 2006: figs. 22.2:4–5), some dating to the Late Bronze Age (James and McGovern 1993:fig. 122.1), and the City of David (Hovers 1996:fig. 27). They are described as a very common type in Iron Age strata at Megiddo (Lamon and Shipton 1939:14) and in various strata at Tel Michal (Singer-Avitz 1989:pl. 31.2: 1–5; 76:3) and Hazor (Yadin et al. 1958:pls. 59:12, 17; 62:5; Yadin et al. 1960:pls. 77:2–6; 104:13; 126:12). Hazor, in fact, provides strong evidence for tripod bowls through many strata (Yadin et al. 1958:pls. 51:29; 59:8; 82:19; 87:22; 147:26, 27; Yadin et al. 1960:pls. 77:2–5; 104:13; 126:12) and was itself a production center for basalt vessels (J. Ebeling, pers. comm.).

Cat. no. **59** (reg. no. 61563) is a convex bowl with a ledge handle at the rim; however, none of the base remains. Sparks notes that rectangular and round (in plan) stone plates sometimes have lug handles at the rim (Type 1Bii). This example is highly ground on the interior and has a flat rim. Although ledge-handled stone vessels were apparently less common than other types, numerous examples are documented from Tel Jezreel (Rowan in press) and Tel Michal (Singer-Avitz 1989:fig. 31.4:13).

Three final examples of local vessels are more difficult to categorize. Cat. no. **60** (reg. no. 46640) lacks a base but is a finely ground basalt rim with a convex wall profile; it may be a plate fragment (Type 1 in Sparks 2007:126, fig. 47.1). Cat. no. **61** (reg. no. 46366) is a wide ring base fragment with a shallow concavity, convex wall profile, and well-ground interior. Cat. no. **62** (reg. no. 39555) is made of chalk. It is roughly shaped on the exterior; however, a clearly incised corner of a shallow interior is preserved. It may be a fragment of a shallow basin or perhaps of a mold.

The three remaining fragments are probably from imported vessels. Cat. no. **63** is a zoomorphic design element, probably the handle of a limestone vessel carved in the shape of a duck's head, a common Egyptian motif (Sparks 2007:18–19). A serpentine vessel found at Tell el-<sup>c</sup>Ajjul (ibid., fig. 4:3) has similar duck-head motifs. Cat. no. **64** (reg. no. 45467) consists of two conjoined fragments of a highly polished shallow bowl with a flat rim, possibly made of steatite. About 5 mm below the rim is the first of three raised ribs on the exterior wall, forming a sharp carination. Carinated stone bowls are found in Late Bronze and Iron Age contexts in Palestine; in this case, however, there are no clear parallels so it is unclear whether the vessel was influenced by Egyptian styles. The other possibly nonlocal bowl (cat. no. **65**, reg. no. 46284) is a rim fragment of a finely ground shallow bowl or platter with an exterior ledge just below the rim and a low raised base. Although it is not similar to any of the imported or local Levantine types discussed by Sparks, this may reflect the late Iron Age date of the Ashkelon assemblage, because Sparks focuses on material dating to the second millennium B.C. This vessel seems much closer in form to Assyrian “double-rim” bowls with a ribbed rim from the eighth and seventh centuries B.C. (see Searight, Reade, and Frankel 2008:fig. 28:395 [from Nimrud] and fig. 28:396 [from Nineveh]).

#### *Miscellaneous Stone Objects* (cat. nos. 66–80)

Although the fifteen stone objects grouped together in this miscellaneous category were clearly modified, classification is difficult. Some of the complete objects are geometric in shape but lack an obvious function. For instance, cat. no. **66** (reg. no. 46885) is a complete basalt disc that is flat and roughly shaped but is not particularly smooth or ground. Cat. no. **67** (reg. no. 53529) is another complete item whose function is unclear; it is made of hard, siliceous limestone and is cylindrical in shape with smoothed sides and round cross-section. Cat. no. **68** (reg. no. 40599) is a finely ground trapezoidal piece of reddish sandstone that has ground lateral edges; perhaps it was ground as a source of pigment.

Of the fragmentary items, cat. no. **69** (reg. no. 46531) is a cylindrical limestone piece very similar to objects identified as “stoppers” at Lachish (Sass 2004b:table 28.4:1–8; figs. 28.2:1–8, especially 28.2:1). Cat. no. **70** (reg. no. 44240) may be a fragment of an architectural element. Cat. no. **71** (reg. no. 45994) may be a fragment of a working surface. Cat. no. **72** (reg. no. 46522) is a slender fragment of a highly polished igneous material (gabbro?), which might be

from a weight (possibly similar to Sass 2004a:fig. 23.10:7) or perhaps even from a sculpture.

It is worth noting that several of the miscellaneous stone artifacts could have served as weights, although they do not resemble any of the standard weight types (see chapter 17, where eighteen stone scale weights are described; these are not included in the catalogue below but are included in the totals in table 21.1). Among the possible weights included here are several complete objects, none of which is very similar to any of the others. The most convincing candidate to be regarded as a weight is a dome-shaped split pebble of hematite, which has been smoothed all over (cat. no. **73**, reg. no. 39616). Another good candidate is a limestone cube that has been carefully smoothed and has no other wear traces indicative of use (cat. no. **74**, reg. no. 42942). Cat. no. **75** (reg. no. 39008) is a rectangular object ground finely on all sides with visible striae and a hole drilled on one end.

Other possible weights include two complete cobbles that are highly ground and have shallow concavities. One of them (cat. no. **76**, reg. no. 44651) is quite unusual; it is a pebble made of dense basalt with multiple facets and “dimples,” including three pronounced concavities and two very shallow depressions, similar to an example at Tel Mor (Ebeling 2007:fig. 10.1.9). The other (cat. no. **77**, reg. no. 43716) is a pebble very similar in size (67 × 66 mm versus 68 × 64 mm) with three highly ground faces and two bipolar pecked concavities.

Little can be said about the last three items in this category. Cat. no. **78** (reg. no. 38900) is a triangular limestone flake about 4 mm thick. Cat. no. **79** (reg. no. 42694) is a cylindrical limestone fragment. Cat. no. **80** (reg. no. 53593) is a split cobble that might have been used as a grinding implement, although this identification is uncertain.

#### *Concluding Remarks*

The small sample size of this ground stone assemblage precludes sweeping generalizations. With respect to spatial distribution, however, it is worth noting that two-thirds of the ground stone artifacts derive from the marketplace and quarry in the Grid 50 excavation area. There is no apparent bias in terms of the artifact types that appear in Grid 50 versus those from the winery in Grid 38. Furthermore, in both areas there is a strikingly low frequency of tools related to food production, specifically grinding slabs and handstones. The four grinding slabs constitute only 4 percent of the total assemblage (see table 21.1). Although quantified data for comparisons are rare, grinding slabs at late prehistoric agricultural settlements typically comprise

ca. 10–30 percent of a ground stone assemblage (cf. Rowan et al. 2006, Rowan 2006; Wright 1992). In Iron Age I contexts in Field INE (East Slope) at Tel Miqne–Ekron, upper and lower grinding tools (grinding slabs and handstones) comprise 50 percent of the ground stone tool assemblage recovered (Milevski 2006:192). It is true that handstones are abundant in the Ashkelon assemblage, but this reflects the large number of subtypes included in this category, which includes many kinds of small abraders. There are only four examples of larger handstones of the type used in conjunction with grinding slabs.

As is typical of many Late Bronze and Iron Age sites, the stone vessel assemblage is dominated by

open bowls with a slightly raised base (concave or flat) or ring base, and by tripod footed bowls. Both forms are usually made of basalt. The preference to manufacture particular artifact types from basalt reflects the desirability of this hard and durable volcanic material. Basalt does not naturally occur near Ashkelon, so the basalt artifacts found at the site demonstrate the existence of long-distance exchange networks in which Ashkelon participated. This may also be the case with respect to flint. The hammerstones are made exclusively of flint, as are many of the smaller handstones, which presumably reflects a functional requirement for a hard, smooth material that was likely imported from elsewhere.

Table 21.1: Quantities of Ground Stone Artifacts by Material and Type

	<i>Grinding slabs</i>	<i>Pend- ants</i>	<i>Perfor. stones</i>	<i>Pestles</i>	<i>Palettes</i>	<i>Hand- stones</i>	<i>Hammer- stones</i>	<i>Modified cobble</i> s	<i>Stone vessels</i>	<i>Misc. stone</i>	<i>TOTAL (%)</i>
<i>Basalt</i>	4		1			4			13	4	26 (24.5%)
<i>Limestone</i>			1	1	2	2		1	2	6	15 (14.2%)
<i>Flint</i>						14	7	2		2	25 (23.6%)
<i>Other</i>		2		1	1	3			12	21	40 (37.7%)
<i>TOTAL</i>	4	2	2	2	3	23	7	3	27	33	106
<i>Percentage</i>	3.8%	1.9%	1.9%	1.9%	2.8%	21.7%	6.6%	2.8%	25.5%	31.1%	100%

*Note:* In addition to the 80 artifacts described in the present chapter and listed in the catalogue below, eight alabaster (travertine) vessels are described in chapter 14 and eighteen stone scale weights (one basalt, one limestone, and sixteen “other”) are described in chapter 17. These are reflected in the totals of “Stone vessels” and “Misc. stone,” respectively, and in the overall total and percentages.

### Catalogue of Ground Stone Artifacts from Contexts Dated to the Seventh Century B.C. at Ashkelon

#### GRINDING SLABS

##### Catalogue no. 1

Registration no.: 40172  
 Findspot: Grid 38 Square 74 Layer 464  
 Year excavated: 1992  
 Type: Grinding slab  
 Length: 109 mm  
 Width: 104 mm  
 Thickness: 30 mm  
 Material: Basalt  
 Shape: Flat cross-section and profile  
 Preservation: Lateral edge fragment  
 Description: Unifacially highly ground to near polish; very vesicular.

##### Catalogue no. 2

Registration no.: 46233  
 Findspot: Grid 38 Square 84 Layer 459  
 Year excavated: 1995  
 Type: Grinding slab  
 Length: 99 mm  
 Width: 72 mm  
 Thickness: 43 mm  
 Material: Basalt  
 Shape: Plano-convex cross-section  
 Preservation: Lateral edge fragment  
 Description: Unifacially highly ground; very vesicular.

##### Catalogue no. 3

Registration no.: 47995  
 Findspot: Grid 50 Square 56 Layer 205  
 Year excavated: 1994  
 Type: Grinding slab  
 Length: 86 mm  
 Width: 79 mm  
 Thickness: 34 mm  
 Material: Basalt  
 Preservation: Central fragment  
 Description: Unifacially well ground; very vesicular.

##### Catalogue no. 4

Registration no.: 38902  
 Findspot: Grid 50 Square 58 Layer 252 Feature 252  
 Year excavated: 1992  
 Type: Grinding slab  
 Length: 70 mm  
 Width: 65 mm  
 Thickness: 60 mm  
 Material: Basalt  
 Shape: Plano-convex cross-section  
 Preservation: Lateral edge fragment  
 Description: Unifacially well ground; moderately vesicular.

## PENDANTS

**Catalogue no. 5**

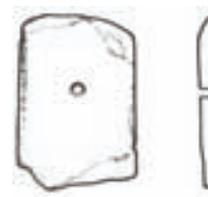
Registration no.: 43402  
 Findspot: Grid 38 Square 84 Fine-grid 53 Layer 299  
 Year excavated: 1993  
 Type: Pendant  
 Length : 62 mm  
 Width: 44 mm  
 Thickness: 11 mm  
 Material: Unidentified (possibly flint)  
 Shape: Oval with a flat cross-section and flat profile  
 Preservation: Complete  
 Description: Polished thin pebble with perforation at narrower end.



Scale 1:2

**Catalogue no. 6**

Registration no.: 40890  
 Findspot: Grid 38 Square 94 Fine-grid 11 Layer 210 Feature 210  
 Year excavated: 1992  
 Type: Pendant?  
 Length: 46 mm  
 Width: 31 mm  
 Thickness: 2–4 mm  
 Hole diameter: 2 mm  
 Material: Serpentine?  
 Shape: Flat cross-section and profile  
 Preservation: Fragmentary  
 Description: Finely ground flat piece with parallel sides; drilled hole in the center.



Scale 1:2

## PERFORATED STONES

**Catalogue no. 7**

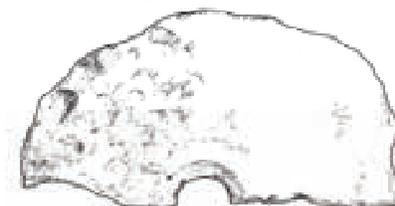
Registration no.: 39386  
 Findspot: Grid 50 Square 58 Fine-grid 66 Layer 260 Feature 260  
 Year excavated: 1992  
 Type: Perforated stone  
 Length: 62 mm  
 Width: 28 mm  
 Thickness: 20 mm  
 Hole diameters: 9 mm and 6 mm  
 Material: Limestone  
 Shape: Irregular  
 Preservation: Complete  
 Description: Natural pebble with two natural holes.



Scale 1:2

**Catalogue no. 8**

Registration no.: 46229  
 Findspot: Grid 50 Square 46 Layer 100  
 Year excavated: 1995  
 Type: Perforated stone  
 Length: 192 mm  
 Width: 100 mm  
 Thickness: 54 mm  
 Hole diameter: 35–42 mm  
 Material: Basalt  
 Shape: Round  
 Preservation: Fragmentary  
 Description: Half of original artifact. Unifacially flat, otherwise shaped roughly. Bifacially drilled to make a pivot stone (potter's wheel?). Possibly a reused grinding slab.



Scale 1:4

## PESTLES

**Catalogue no. 9**

Registration no.: 46028  
 Findspot: Grid 50 Square 47 Layer 285  
 Year excavated: 1995  
 Type: Pestle/abrader  
 Length: 61 mm  
 Width: 62 mm  
 Thickness: 54 mm  
 Mass: 295 g  
 Material: Limestone  
 Shape: Bell-shaped with oval cross-section and trapezoidal profile  
 Preservation: Complete  
 Description: Convex working face is highly ground; lateral sides highly ground to polish; top is pecked and rough.



Scale 1:4

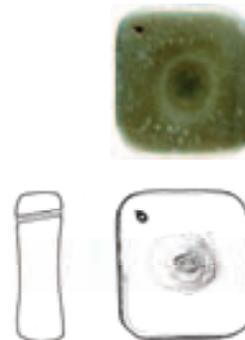
**Catalogue no. 10**

Registration no.: 47037  
 Findspot: Grid 50 Square 48 Layer 467  
 Year excavated: 1996  
 Type: Pestle  
 Length: 111 mm  
 Width: 60 mm  
 Thickness: 51 mm  
 Material: Diorite?  
 Preservation: Fragmentary  
 Description: End pecked; ground and flattened; sides highly ground.

## PALETTES

**Catalogue no. 11**

Registration no.: 40919  
 Findspot: Grid 50 Square 49 Fine-grid 5 Layer 401  
 Year excavated: 1992  
 Type: Palette  
 Length: 76 mm  
 Width: 67 mm  
 Thickness: 25 mm  
 Hole diameter: 4 mm  
 Material: Gypsum  
 Shape: Rectangular with rectangular cross-section and profile  
 Preservation: Complete  
 Description: Finely ground; bifacial with polished concavity on one face, eroded and flaking on other face; edges vertical and smooth; finely drilled hole in one corner.



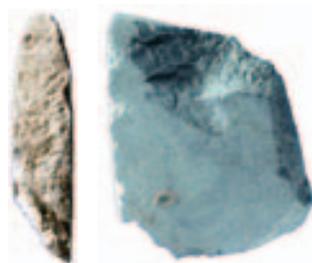
Scale 1:4

**Catalogue no. 12**

Registration no.: 15922  
 Findspot: Grid 50 Square 58 Layer 99  
 Year excavated: 1987  
 Type: Palette?  
 Length: 78 mm  
 Width: 55 mm  
 Thickness: 21 mm  
 Material: Limestone?  
 Shape: Flat  
 Preservation: Fragmentary  
 Description: Bifacially polished pebble; both faces have very slight depression; edges slightly battered.

**Catalogue no. 13**

Registration no.: 46661  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Palette  
 Length: 60 mm  
 Width: 53 mm  
 Thickness: 15 mm  
 Material: Limestone  
 Preservation: Fragmentary  
 Description: Flat, finely ground fragment;  
 lateral edge is faceted.



Scale 1:2

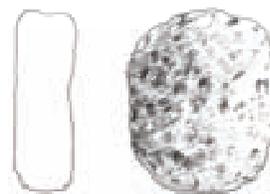
## HANDSTONES AND ABRADERS

**Catalogue no. 14**

Registration no.: 55102  
 Findspot: Grid 38 Square 73 Layer 515 [Iron I]  
 Year excavated: 2000  
 Type: Handstone  
 Length: 104 mm  
 Width: 81 mm  
 Thickness: 37 mm  
 Material: Beachrock (*kurkar*)  
 Shape: Oval with plano-convex cross-section and rectangular profile  
 Preservation: Complete  
 Description: Very friable stone filled with shells; unifacially smoothed.  
 Note that this item is from an Iron Age I context.

**Catalogue no. 15**

Registration no.: 43330  
 Findspot: Grid 38 Square 63 Layer 732  
 Year excavated: 1993  
 Type: Handstone  
 Length: 101 mm  
 Width: 80 mm  
 Thickness: 37 mm  
 Material: Basalt  
 Shape: Rectangular with slightly biconvex cross-section  
 and rectangular profile  
 Preservation: Complete  
 Description: Vesicular; highly ground unifacially.



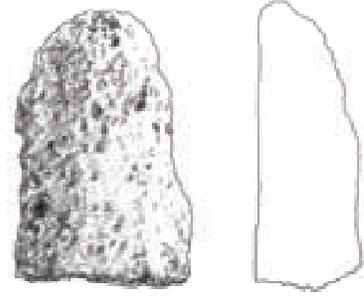
Scale 1:4

**Catalogue no. 16**

Registration no.: 42908  
 Findspot: Grid 38 Square 64 Fine-grid 79 Layer 785  
 Year excavated: 1993  
 Type: Handstone  
 Length: 77 mm  
 Width: 63 mm  
 Thickness: 36 mm  
 Material: Basalt  
 Shape: Plano-convex cross-section and profile  
 Preservation: Fragmentary  
 Description: Coarse, unshaped chunk; heavily ground;  
 extremely flat unifacially.

**Catalogue no. 17**

Registration no.: 44225  
 Findspot: Grid 38 Square 64 Feature 767  
 Year excavated: 1994  
 Type: Handstone  
 Length: 145 mm  
 Width: 94 mm  
 Thickness: 57 mm  
 Material: Basalt  
 Shape: Triangular cross-section and plano-convex profile  
 Preservation: Fragmentary  
 Description: Unifacial upper grinding handstone; ground extremely flat; very vesicular.



Scale 1:4

**Catalogue no. 18**

Registration no.: 47659  
 Findspot: Grid 50 Square 48 Layer 475  
 Year excavated: 1996  
 Type: Abrader  
 Length: 51 mm  
 Width: 54 mm  
 Thickness: 52 mm  
 Mass: 237 g  
 Material: Flint  
 Shape: Cuboid  
 Preservation: Complete  
 Description: Four flat faces, all ground, creating rounded cube; no evidence for pounding.

**Catalogue no. 19**

Registration no.: 43455  
 Findspot: Grid 38 Square 64 Layer 804 [Persian-period robbing of Iron IIC wall]  
 Year excavated: 1993  
 Type: Abrader  
 Length: 45 mm  
 Width: 43 mm  
 Thickness: 43 mm  
 Mass: 127 g  
 Material: Flint  
 Shape: Cuboid  
 Preservation: Complete  
 Description: Flattened sides, possibly ground; no pounding wear evident.

**Catalogue no. 20**

Registration no.: 47010  
 Findspot: Grid 50 Square 48 Layer 475  
 Year excavated: 1996  
 Type: Abrader  
 Length: 50 mm  
 Width: 55 mm  
 Thickness: 52 mm  
 Mass: 244 g  
 Material: Flint  
 Shape: Spherical with round cross-section and short cylindrical profile  
 Preservation: Complete  
 Description: Highly ground biconically, nearly polished, with deep striae; sides also ground.

**Catalogue no. 21**

Registration no.: 48860  
 Findspot: Grid 50 Square 57 Layer 274  
 Year excavated: 1997  
 Type: Abrader  
 Length: 60 mm  
 Width: 50 mm  
 Thickness: 48 mm  
 Mass: 228 g  
 Material: Flint  
 Shape: Oval with cuboid cross-section and ovoid profile  
 Preservation: Complete  
 Description: Two faces ground flat; two faces flaked flat.

**Catalogue no. 22**

Registration no.: 43508  
 Findspot: Grid 38 Square 84 Layer 299  
 Year excavated: 1993  
 Type: Abrader  
 Length: 79 mm  
 Thickness: 39 mm  
 Mass: 254 g  
 Material: Diorite?  
 Shape: Rounded with rectangular cross-section and profile  
 Preservation: Fragmentary  
 Description: Finely ground bifacially; edges also ground; break is reground.



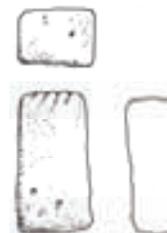
Scale 1:2

**Catalogue no. 23**

Registration no.: 47435  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1996  
 Type: Abrader  
 Length: 62 mm  
 Width: 51 mm  
 Thickness: 50 mm  
 Material: Limestone  
 Shape: Biconvex cross-section  
 Preservation: Fragmentary  
 Description: Smoothed pebble; one face highly ground.

**Catalogue no. 24**

Registration no.: 45946  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1995  
 Type: Abrader  
 Length: 77 mm  
 Width: 41 mm  
 Thickness: 29 mm  
 Material: Basalt  
 Shape: Rectangular with square cross-section and rectangular profile  
 Preservation: Fragmentary  
 Description: Very scoriaceous; squared.



Scale 1:4

**Catalogue no. 25**

Registration no.: 40992  
 Findspot: Grid 38 Square 74 Layer 482  
 Year excavated: 1992  
 Type: Abrader  
 Length: 87 mm  
 Width: 51 mm  
 Thickness: 37 mm  
 Mass: 287 g  
 Material: Limestone  
 Shape: Flat cross-section and profile  
 Preservation: Fragmentary  
 Description: Highly ground bifacially, edge also ground forming two rough facets.

**Catalogue no. 26**

Registration no.: 46613  
 Findspot: Grid 50 Square 48 Feature 373  
 Year excavated: 1996  
 Type: Abrader/ballista?  
 Length: 56 mm  
 Width: 57 mm  
 Thickness: 56 mm  
 Mass: 266 g  
 Material: Flint  
 Shape: Spherical  
 Preservation: Complete  
 Description: Spheroid with slightly flattened sides; no evidence for pounding, only for grinding.

**Catalogue no. 27**

Registration no.: 44653  
 Findspot: Grid 38 Square 84 Fine-grid 65 Layer 299  
 Year excavated: 1994  
 Type: Abrader/ballista?  
 Length: 71 mm  
 Width: 45 mm  
 Thickness: 40 mm  
 Material: Flint  
 Shape: Oval with round cross-section and biconvex profile  
 Preservation: Complete  
 Description: Smoothed pebble, possibly bipolar; light pecking.

**Catalogue no. 28**

Registration no.: 46210  
 Findspot: Grid 50 Square 57 Layer 256  
 Year excavated: 1995  
 Type: Abrader/ballista?  
 Length: 51 mm  
 Width: 50 mm  
 Thickness: 48 mm  
 Mass: 170 g  
 Material: Flint  
 Shape: Spherical  
 Preservation: Complete  
 Description: Roughly spherical with some faceting from shaping; no other wear.

**Catalogue no. 29**

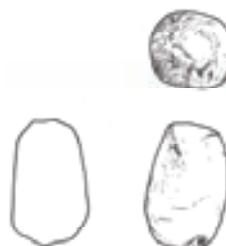
Registration no.: 46006  
 Findspot: Grid 50 Square 47 Layer 285  
 Year excavated: 1995  
 Type: Abrader/ballista?  
 Length: 50 mm  
 Width: 50 mm  
 Thickness: 48 mm  
 Mass: 181 g  
 Material: Flint  
 Shape: Spherical  
 Preservation: Complete  
 Description: Smoothed, fairly spherical, with some slight faceting.

**Catalogue no. 30**

Registration no.: 46033  
 Findspot: Grid 50 Square 48 Layer 452  
 Year excavated: 1995  
 Type: Abrader/hammer  
 Length: 61 mm  
 Width: 59 mm  
 Thickness: 57 mm  
 Mass: 330 g  
 Material: Flint  
 Shape: Cuboid  
 Preservation: Complete  
 Description: Smoothed; three faces highly ground to polish, one with slight flaked divot; one face flat from flaking.

**Catalogue no. 31**

Registration no.: 46701  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Abrader/pestle  
 Length: 65 mm  
 Width: 45 mm  
 Thickness: 40 mm  
 Material: Unidentified  
 Shape: Cylindrical with round cross-section and rectangular profile  
 Preservation: Complete  
 Description: Heavily ground all over; ends flattened; striae visible.



Scale 1:4

**Catalogue no. 32**

Registration no.: 48573  
 Findspot: Grid 50 Square 57 Layer 274  
 Year excavated: 1997  
 Type: Abrader/weight  
 Length: 53 mm  
 Width: 51 mm  
 Thickness: 49 mm  
 Mass: 200 g  
 Material: Flint  
 Shape: Cuboid with round cross-section and profile  
 Preservation: Complete  
 Description: Smoothed; three fairly flat faces, others rounded.

**Catalogue no. 33**

Registration no.: 44051  
 Findspot: Grid 38 Square 74 Feature 611  
 Year excavated: 1994  
 Type: Abrader/weight  
 Length: 53 mm  
 Width: 53 mm  
 Thickness: 53 mm  
 Mass: 232 g  
 Material: Flint  
 Shape: Spherical  
 Preservation: Complete  
 Description: Three flat faces; convex top; smoothed; no other wear traces.

**Catalogue no. 34**

Registration no.: 39731  
 Findspot: Grid 50 Square 49 Layer 369  
 Year excavated: 1992  
 Type: Abrader/weight  
 Length: 52 mm  
 Width: 48 mm  
 Thickness: 36 mm  
 Mass: 139 g  
 Material: Flint  
 Shape: Oval with dome-shaped cross-section and trapezoidal profile  
 Preservation: Complete  
 Description: Smoothed; one face flat by flaking; no other wear traces.

**Catalogue no. 35**

Registration no.: 46535  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Abrader/weight  
 Length: 54 mm  
 Width: 48 mm  
 Thickness: 41 mm  
 Mass: 154 g  
 Material: Flint  
 Shape: Oval with trapezoidal profile  
 Preservation: Complete  
 Description: Flattened on one side by flaking; two other faces slightly flattened by grinding; no other wear traces.

**Catalogue no. 36**

Registration no.: 47772  
 Findspot: Grid 50 Square 49 Layer 453  
 Year excavated: 1996  
 Type: Abrader/pounder  
 Length: 49 mm  
 Width: 47 mm  
 Thickness: 47 mm  
 Mass: 174 g  
 Material: Flint  
 Shape: Cuboid  
 Preservation: Complete  
 Description: Flattened sides; possibly ground; no pounding wear evident.



Scale 1:2

## HAMMERSTONES

**Catalogue no. 37**

Registration no.: 46980  
 Findspot: Grid 50 Square 48 Layer 467  
 Year excavated: 1996  
 Type: Hammerstone  
 Length: 63 mm  
 Width: 59 mm  
 Thickness: 54 mm  
 Material: Flint  
 Shape: Angular sphere  
 Preservation: Complete  
 Description: Battered cobble with flat areas possibly flaked off.

**Catalogue no. 38**

Registration no.: 46614  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Hammerstone  
 Length: 62 mm  
 Width: 58 mm  
 Thickness: 56 mm  
 Mass: 270 g  
 Material: Flint  
 Shape: Spherical  
 Preservation: Complete  
 Description: Rounded, smoothed cobble; few wear traces.



Scale 1:2

**Catalogue no. 39**

Registration no.: 44281  
 Findspot: Grid 50 Square 47 Layer 285  
 Year excavated: 1994  
 Type: Hammerstone  
 Length: 66 mm  
 Width: 65 mm  
 Thickness: 44 mm  
 Material: Flint  
 Shape: Round with sub-oval cross-section  
 Preservation: Complete  
 Description: Battered cobble with flat areas possibly flaked off.

**Catalogue no. 40**

Registration no.: 43178  
 Findspot: Grid 38 Square 83 Fine-grid 59 Layer 320  
 Year excavated: 1993  
 Type: Hammerstone  
 Length: 54 mm  
 Width: 60 mm  
 Thickness: 60 mm  
 Material: Flint  
 Shape: Flattened sphere  
 Preservation: Complete  
 Description: Biconically flattened; possibly battered; sides smoothed.



Scale 1:2

**Catalogue no. 41**

Registration no.: 47771  
 Findspot: Grid 50 Square 49 Layer 453  
 Year excavated: 1996  
 Type: Hammerstone/ballista  
 Length: 49 mm  
 Width: 47 mm  
 Thickness: 48 mm  
 Mass: 159 g  
 Material: Flint  
 Shape: Angular sphere  
 Preservation: Complete  
 Description: Angular, faceted sides; ground; no pounding wear.



Scale 1:2

**Catalogue no. 42**

Registration no.: 48176  
 Findspot: Grid 50 Square 47 Layer 313  
 Year excavated: 1997  
 Type: Hammerstone/ballista  
 Length: 48 mm  
 Width: 47 mm  
 Thickness: 33 mm  
 Material: Flint  
 Shape: Cuboid  
 Preservation: Fragmentary  
 Description: At least two flat faces; probable cuboid type.

**Catalogue no. 43**

Registration no.: 47043  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1996  
 Type: Hammerstone/ballista  
 Length: 95 mm  
 Width: 82 mm  
 Thickness: 54 mm  
 Material: Flint  
 Shape: Ovoid with biconvex cross-section and profile  
 Preservation: Complete  
 Description: Smoothed cobble; possibly a ballista.

## MODIFIED COBBLES

**Catalogue no. 44**

Registration no.: 46886  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1996  
 Type: Modified cobble  
 Length: 92 mm  
 Width: 71 mm  
 Thickness: 56 mm  
 Material: Flint  
 Shape: Oval with biconvex cross-section and profile  
 Preservation: Complete  
 Description: Smoothed cobble; small chunk missing; possible ballista or pounder.

**Catalogue no. 45**

Registration no.: 46595  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Modified cobble  
 Length: 77 mm  
 Width: 62 mm  
 Thickness: 28 mm  
 Material: Flint  
 Preservation: Fragmentary  
 Description: Battered chunk from cobble.

**Catalogue no. 46**

Registration no.: 43891  
 Findspot: Grid 38 Square 84 Layer 374 Feature 374  
 Year excavated: 1994  
 Type: Modified cobble  
 Length: 60 mm  
 Width: 68 mm  
 Thickness: 69 mm  
 Material: Siliceous limestone?  
 Shape: Round with trapezoidal cross-section  
 Preservation: Complete  
 Description: Battered cobble with concave areas around sides; bipolar deeper concavities (ca. 4–6 mm).

## STONE VESSELS

**Catalogue no. 47**

Registration no.: 39529  
 Findspot: Grid 50 Square 58 Fine-grid 68 Layer 260 Feature 260  
 Year excavated: 1992  
 Type: Stone vessel (stand?)  
 Length: 55 mm  
 Width: 35 mm  
 Thickness: 24 mm  
 Material: Basalt  
 Shape: Plano-convex cross section  
 Preservation: Fragmentary  
 Description: Finely ground; not highly vesicular; possible leg of a fenestrated Chalcolithic stand.



Scale 1:2

**Catalogue no. 48**

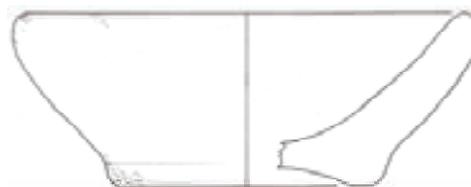
Registration no.: 45993  
 Findspot: Grid 50 Square 57 Layer 256  
 Year excavated: 1995  
 Type: Stone vessel (bowl)  
 Length: 193 mm  
 Base diameter: 193 mm  
 Base thickness: 28 mm  
 Hole diameter: 12–20 mm  
 Material: Basalt  
 Shape: Round and flat  
 Preservation: Fragmentary  
 Description: Thick bowl base with re-ground walls; not highly vesicular; center hole bifacially drilled—possibly reused as a potter's wheel.



Scale 1:4

**Catalogue no. 49**

Registration no.: 46035  
 Findspot: Grid 38 Square 84 Layer 414 Feature 414  
 Year excavated: 1995  
 Type: Stone vessel (bowl)  
 Length: 125 mm  
 Width: 112 mm  
 Height: 95 mm  
 Wall thickness: 30 mm  
 Base diameter: 130 mm  
 Base thickness: 15 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Open form bowl; rounded, thick rim; shallow ring base; convex wall profile; highly ground interior; moderately ground exterior.



Scale 1:4

**Catalogue no. 50**

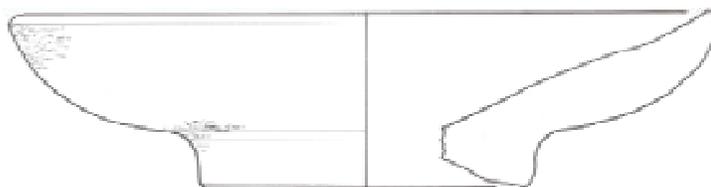
Registration no.: 42922  
 Findspot: Grid 38 Square 64 Fine-grid 87 Layer 785 Feature 785  
 Year excavated: 1993  
 Type: Stone vessel (bowl)  
 Length: 105 mm  
 Width: 51 mm  
 Base diameter: 140 mm  
 Base thickness: 33 mm  
 Material: Gypsum  
 Preservation: Fragmentary  
 Description: Raised base with pedestal ca. 6 mm high; interior very finely ground; walls appear to have been methodically chipped away.



Scale 1:4

**Catalogue no. 51**

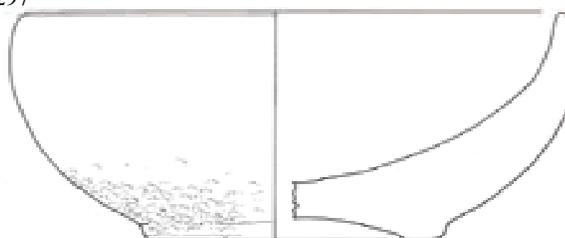
Registration no.: 53074  
 Findspot: Grid 38 Square 84 Layer 514 [Iron I]  
 Year excavated: 1999  
 Type: Stone vessel (bowl)  
 Length: 220 mm  
 Width: 195 mm  
 Height: 94 mm  
 Rim diameter: 340 mm  
 Wall thickness: 31 mm  
 Base diameter: 200 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Open bowl on ring base with shallow concavity; convex wall profile; slightly flat faceted rim; interior well ground. From an Iron Age I context.



Scale 1:4

**Catalogue no. 52**

Registration no.: 44694  
 Findspot: Grid 38 Square 84 Fine-grid 35 Layer 297  
 Year excavated: 1994  
 Type: Stone vessel (bowl)  
 Length: 145 mm  
 Width: 140 mm  
 Height: 145 mm  
 Rim diameter: 260 mm  
 Wall thickness: 33 mm  
 Base diameter: 140 mm  
 Base thickness: 25 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Convex wall profile; flattened rim; slightly raised ring base; slightly concave, highly ground interior.



Scale 1:4

**Catalogue no. 53**

Registration no.: 42656  
 Findspot: Grid 38 Square 74 Fine-grid 80 Layer 493 Feature 493  
 Year excavated: 1993  
 Type: Stone vessel (bowl)  
 Length: 83 mm  
 Width: 78 mm  
 Thickness: 38 mm  
 Height: 50 mm  
 Base thickness: 38 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Upright edge; clear rim; unbroken curving.

**Catalogue no. 54**

Registration no.: 47019  
 Findspot: Grid 50 Square 48 Layer 467  
 Year excavated: 1996  
 Type: Stone vessel (bowl)  
 Length: 62 mm  
 Width: 27 mm  
 Thickness: 7 mm  
 Material: Gypsum  
 Preservation: Fragmentary  
 Description: Nondiagnostic body fragment.

**Catalogue no. 55**

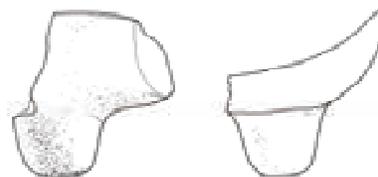
Registration no.: 39097  
 Findspot: Grid 50 Square 58 Layer 262  
 Year excavated: 1992  
 Type: Stone vessel (bowl)  
 Length: 80 mm  
 Width: 63 mm  
 Thickness: 23 mm  
 Rim diameter: 270 mm  
 Wall thickness: 23 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Thick, rounded rim with flattened top; upright profile; well ground; moderately vesicular.



Scale 1:2

**Catalogue no. 56**

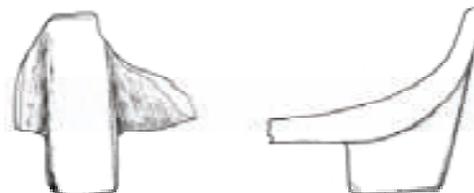
Registration no.: 43471  
 Findspot: Grid 38 Square 83 Layer 328  
 Year excavated: 1993  
 Type: Stone vessel (tripod bowl)  
 Length: 106 mm  
 Width: 89 mm  
 Height: 90 mm  
 Wall thickness: 20 mm  
 Base thickness: 20 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Leg-to-rim fragment; short leg of shallow tripod bowl; unbroken curve from base to rim; convex wall profile.



Scale 1:4

**Catalogue no. 57**

Registration no.: 46495  
 Findspot: Grid 50 Square 57 Layer 256  
 Year excavated: 1995  
 Type: Stone vessel (tripod bowl)  
 Length: 102 mm  
 Width: 86 mm  
 Height: 94 mm  
 Vessel depth: 51 mm  
 Wall thickness: 14 mm  
 Base thickness: 14 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Leg-to-rim fragment; very carefully ground all over; leg has precise corners and rectangular cross-section; upright wall; wall profile curves unbroken from vessel.



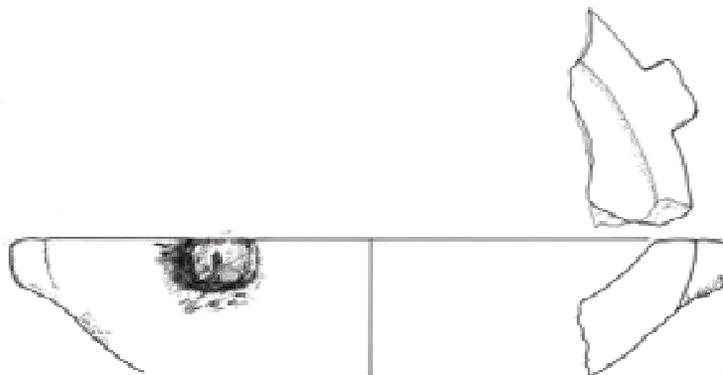
Scale 1:4

**Catalogue no. 58**

Registration no.: 12505  
 Findspot: Grid 38 Square 64 Feature 70  
 Year excavated: 1986  
 Type: Stone vessel (tripod bowl)  
 Length: 185 mm  
 Width: 120 mm  
 Base thickness: 20 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Leg of large tripod bowl (at least 190 mm high); well ground; leg has triangular cross-section.

**Catalogue no. 59**

Registration no.: 61563  
 Findspot: Grid 50 Square 57 Layer 197  
 Year excavated: 1991  
 Type: Stone vessel (bowl)  
 Length: 115 mm  
 Width: 81 mm  
 Wall thickness: 36 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Rim fragment with rectangular protrusion (41 × 30 mm); flat rim; interior highly ground.



Scale 1:4

**Catalogue no. 60**

Registration no.: 46640  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Stone vessel (bowl)  
 Length: 160 mm  
 Width: 74 mm  
 Rim diameter: 260 mm  
 Wall thickness: 17 mm  
 Base thickness: 20 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Finely ground bowl; probable ring base missing; flat rim top; convex wall profile; interior very ground.



Scale 1:4

**Catalogue no. 61**

Registration no.: 46366  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1995  
 Type: Stone vessel (bowl)  
 Length: 162 mm  
 Width: 105 mm  
 Wall thickness: 22 mm  
 Base diameter: 200 mm  
 Base thickness: 20 mm  
 Material: Basalt  
 Preservation: Fragmentary  
 Description: Open bowl on wide (ca. 37 mm) ring base with shallow concavity; convex wall profile; interior very well ground.

**Catalogue no. 62**

Registration no.: 39555  
 Findspot: Grid 50 Square 58 Fine-grid 64 Layer 264  
 Year excavated: 1992  
 Type: Stone vessel (bowl or mold?)  
 Length: 74 mm  
 Width: 66 mm  
 Thickness: 25 mm  
 Vessel depth: 10 mm  
 Material: Chalk  
 Preservation: Fragmentary  
 Description: Corner of shallow chalk vessel (or mold?); rough exterior; interior forms clear corner.



Scale 1:4

**Catalogue no. 63**

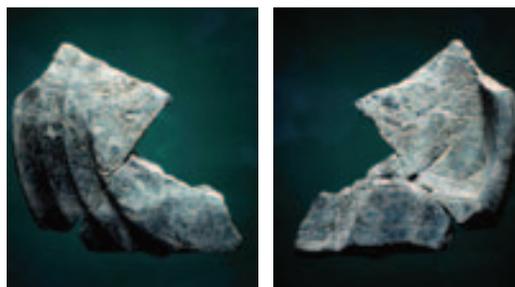
Registration no.: Unregistered  
 Findspot: Grid 50 Square 48 Layer 448  
 Year excavated: 1994  
 Type: Stone vessel handle  
 Length: 76 mm  
 Width: 21 mm  
 Thickness: 13 mm  
 Material: Limestone  
 Preservation: Fragmentary  
 Description: Vessel handle shaped like duck's head with eyes and nostrils; striae with criss-cross pattern on back of neck.



Scale 1:2

**Catalogue no. 64**

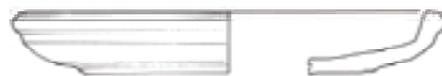
Registration no.: 45467  
 Findspot: Grid 50 Square 48 Layer 452  
 Year excavated: 1995  
 Type: Stone vessel (bowl)  
 Length: 140 mm  
 Width: 84 mm  
 Thickness: 17 mm  
 Height: 39 mm  
 Rim diameter: 220 mm  
 Vessel depth: 20 mm  
 Base thickness: 18 mm  
 Material: Steatite?  
 Preservation: Fragmentary  
 Description: Finely ground shallow bowl; flat rim with carination ca. 5 mm below rim and two more raised ribs on exterior wall; highly polished.



Scale 1:4

**Catalogue no. 65**

Registration no.: 46284  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1995  
 Type: Stone vessel (bowl)  
 Length: 132 mm  
 Width: 85 mm  
 Thickness: 12 mm  
 Height: 33 mm  
 Rim diameter: 230 mm  
 Vessel depth: 22 mm  
 Wall thickness: 10 mm  
 Base diameter: 100 mm  
 Base thickness: 11 mm  
 Material: Unidentified  
 Preservation: Fragmentary  
 Description: Finely ground shallow bowl or platter; convex profile; shallow raised base; exterior rim ledge.

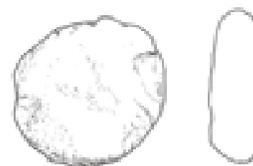


Scale 1:4

## MISCELLANEOUS STONE OBJECTS

**Catalogue no. 66**

Registration no.: 46885  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1996  
 Type: Miscellaneous  
 Length: 87 mm  
 Width: 78 mm  
 Thickness: 29 mm  
 Material: Basalt  
 Shape: Discoid with flat cross-section  
 Preservation: Complete  
 Description: Roughly shaped disc; bifacially flat; not very smooth or ground; possibly a lid(?) or abrader(?).



Scale 1:4

**Catalogue no. 67**

Registration no.: 53529  
 Findspot: Grid 50 Square 49 Layer 451  
 Year excavated: 1999  
 Type: Miscellaneous  
 Length: 62 mm  
 Width: 36 mm  
 Thickness: 35 mm  
 Material: Siliceous limestone  
 Shape: Cylindrical with round cross-section  
 Preservation: Complete  
 Description: Smoothed sides; ends rough but flat; no clear evidence for function.

**Catalogue no. 68**

Registration no.: 40599  
 Findspot: Grid 50 Square 48 Layer 393  
 Year excavated: 1992  
 Type: Miscellaneous  
 Length: 37 mm  
 Width: 36 mm  
 Thickness: 12 mm  
 Material: Sandstone  
 Shape: Trapezoidal with rectangular cross-section and profile  
 Preservation: Complete  
 Description: Flat and finely ground; lateral edges faceted with striae; reddish in color; possibly used for pigment.

**Catalogue no. 69**

Registration no.: 46531  
 Findspot: Grid 50 Square 48 Layer 453  
 Year excavated: 1996  
 Type: Miscellaneous  
 Length: 38 mm  
 Width: 56 mm  
 Thickness: 28 mm  
 Material: Limestone  
 Shape: Irregular with biconvex cross-section and rectangular profile  
 Preservation: Fragmentary  
 Description: Striae on smooth side, other linear features may be natural; possibly a stopper.



Scale 1:2

**Catalogue no. 70**

Registration no.: 44240  
 Findspot: Grid 38 Square 64 Fine-grid 76 Layer 780 Feature 780  
 Year excavated: 1994  
 Type: Miscellaneous  
 Length: 102 mm  
 Width: 98 mm  
 Thickness: 66 mm  
 Material: Basalt  
 Shape: Trapezoidal with irregular cross-section and profile  
 Preservation: Fragmentary  
 Description: Smooth face, other parts rough; possibly an architectural fragment.

**Catalogue no. 71**

Registration no.: 45994  
 Findspot: Grid 50 Square 57 Layer 256  
 Year excavated: 1995  
 Type: Miscellaneous  
 Length: 90 mm  
 Width: 68 mm  
 Thickness: 33 mm  
 Material: Unidentified  
 Preservation: Fragmentary  
 Description: Flat and bifacially smooth, possibly ground; possible fragment of a working surface.

**Catalogue no. 72**

Registration no.: 46522  
 Findspot: Grid 50 Square 48 Layer 462  
 Year excavated: 1996  
 Type: Miscellaneous  
 Length: 58 mm  
 Width: 42 mm  
 Thickness: 22 mm  
 Material: Gabbro?  
 Preservation: Fragmentary  
 Description: Sliver of highly polished artifact.



Scale 1:2

**Catalogue no. 73**

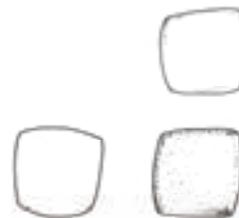
Registration no.: 39616  
 Findspot: Grid 50 Square 58 Fine-grid 51 Layer 262  
 Year excavated: 1992  
 Type: Miscellaneous  
 Length: 70 mm  
 Width: 37 mm  
 Thickness: 34 mm  
 Weight: 126 g  
 Material: Hematite  
 Shape: Dome-shaped with plano-convex profile  
 Description: Split pebble; smoothed all over; possible burn line.



Scale 1:4

**Catalogue no. 74**

Registration no.: 42942  
 Findspot: Grid 50 Square 48 Layer 431 Feature 431  
 Year excavated: 1993  
 Type: Miscellaneous  
 Length: 49 mm  
 Width: 47 mm  
 Thickness: 47 mm  
 Weight: 198 g  
 Material: Limestone  
 Shape: Cuboid  
 Preservation: Complete  
 Description: Carefully smoothed on six faces; no other evidence of wear.



Scale 1:4

**Catalogue no. 75**

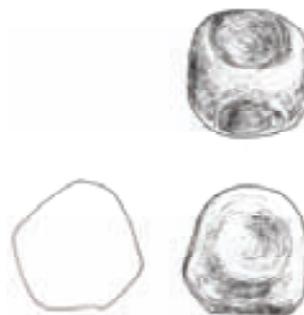
Registration no.: 39008  
 Findspot: Grid 50 Square 58 Layer 262  
 Year excavated: 1992  
 Type: Miscellaneous  
 Length: 66 mm  
 Width: 24 mm  
 Thickness: 20 mm  
 Weight: 80 g  
 Material: Flint?  
 Shape: Rectangular with a square cross-section and rectangular profile  
 Preservation: Complete  
 Description: Finely ground on all sides; hole drilled in one end (diam. 9 mm); fine striae visible on surfaces.



Scale 1:4

**Catalogue no. 76**

Registration no.: 44651  
 Findspot: Grid 38 Square 84 Layer 297  
 Year excavated: 1994  
 Type: Miscellaneous  
 Length: 67 mm  
 Width: 66 mm  
 Thickness: 64 mm  
 Weight: 507 g  
 Material: Basalt  
 Shape: Angular sphere  
 Preservation: Complete  
 Description: Ground cobble with three concave faces and two slightly concave faces.



Scale 1:4

**Catalogue no. 77**

Registration no.: 43716  
 Findspot: Grid 38 Square 83 Fine-grid 60 Layer 320  
 Year excavated: 1993  
 Type: Miscellaneous  
 Length: 68 mm  
 Width: 64 mm  
 Thickness: 44 mm  
 Material: Granodiorite?  
 Shape: Suboval with flattened biconvex cross-section and trapezoidal profile  
 Preservation: Complete  
 Description: Highly ground bifacially and on one side; bipolar pecked slight concavities.

**Catalogue no. 78**

Registration no.: 38900  
 Findspot: Grid 50 Square 58 Layer 252 Feature 252  
 Year excavated: 1992  
 Type: Miscellaneous  
 Length: 67 mm  
 Width: 48 mm  
 Thickness: 4 mm  
 Material: Limestone  
 Shape: Triangular  
 Preservation: Complete?  
 Description: Thin, pointed flake of limestone;  
 edges on point seem worked, smoothed.



Scale 1:2

**Catalogue no. 79**

Registration no.: 42694  
 Findspot: Grid 50 Square 48 Fine-grid 38 Layer 405  
 Year excavated: 1993  
 Type: Miscellaneous  
 Length: 45 mm  
 Width: 42 mm  
 Thickness: 29 mm  
 Material: Limestone  
 Shape: Cylindrical  
 Preservation: Fragmentary  
 Description: Cylinder broken at top; roughly shaped to round cross-section; ground flat on end with striae.

**Catalogue no. 80**

Registration no.: 53593  
 Findspot: Grid 38 Square 75 Layer 89  
 Year excavated: 2000  
 Type: Miscellaneous  
 Length: 90 mm  
 Width: 88 mm  
 Thickness: 50 mm  
 Material: Flint?  
 Shape: Round with plano-convex cross-section and subtriangular profile  
 Preservation: Fragmentary  
 Description: Split cobble with additional flakes removed; possibly used for grinding.

## 22. STONE INCENSE ALTARS

by Seymour Gitin

Reprinted with permission from *Exploring the Longue Durée: Essays in Honor of Lawrence E. Stager*, ed. J. David Schloen (Winona Lake, Ind.: Eisenbrauns, 2009), pp. 127–36.

THREE incense altars made of *kurkar* (sandstone) were uncovered in the 1992 and 1994 excavation seasons of the Leon Levy Expedition to Ashkelon directed by Lawrence E. Stager of Harvard University.<sup>1</sup> Although only one of the altars (no. 1) was found in situ in a late Iron Age II context, the other two (nos. 2 and 3) are also assigned to this period on the basis of the stratigraphic and comparative data. Both were found in secondary use in walls dating to the Persian period at the earliest (see figures 22.9 and 22.10), and therefore must have been used as altars in a prior occupation phase. The best candidate is the late Iron Age II, for three reasons: there is a gap at Ashkelon between the late Iron Age II and the Persian period (Stager 1993:107);<sup>2</sup> the altar found in situ is securely dated to the late Iron Age II (see figure 22.8); and there is no evidence of such altars in any earlier period at the site. The comparative data of the other 21 altars found in Philistia also provide a date in the late Iron Age II, that is, the seventh century B.C.E., with two exceptions.<sup>3</sup>

<sup>1</sup> I thank the Leon Levy Expedition to Ashkelon for permission to publish the altars and the Expedition staff for providing the details of the context in which the altars were found and for the photographs reproduced in figures 22.5–10. Thanks also go to Marina Zeltser for the drawings in figures 22.1–3 and to J. Rosenberg for the updated altar distribution map in figure 22.4. Special thanks go to Edna Sachar for her meticulous copyediting. The three altars are stored in the Expedition's laboratory at Ashkelon.

<sup>2</sup> The excavator reports that “the Persian period strata overlay the Philistine strata”; no evidence has been found for occupation between the 604 B.C.E. destruction of the Philistine city and the beginning of the Persian period (Stager 1993:107). Relevant aspects of the Ashkelon stratigraphy and recording system are described in *Ashkelon 1* (Stager, Schloen, and Master 2008).

<sup>3</sup> The corpus of 21 altars includes 19 from Tel Miqne-Ekron (Gitin 2002:figs. 4–5); one from Timnah (Mazar and Panitz-Cohen 2001:pl. 75:11); and one from Yavneh (Zwickel 2007). The two exceptions are one from Tel Miqne-Ekron found in a post-Stratum IV/pre-Stratum IC context, that is, pre-seventh century B.C.E., but no earlier than the first quarter of the tenth century B.C.E. (Gitin 2002: 114, fig. 5:3, n. 15), and the example from Yavneh, which, although the site is located in the northern part of Philistia, may belong to the northern tradition of Israel. In any event, this altar may be dated typologically to the tenth century B.C.E. (comparable with, for example, May 1935:pl. 12:

**Altar no. 1:** Reg. no. 39567; Grid 50, Square 58, Layer 262, Feature 31, Bucket 139; excavated in 1992 (figures 22.1, 22.6, and 22.8).

*Dating and context:* Period XII (Grid 50 Phase 7), seventh century B.C.E., in situ on roof collapse of “Counting House” Building 234.

*Description:* Block form (length: 24.25 cm; width: 20 cm; height: 18.75 cm), roughly finished. No horns, deep groove, thick rounded band (4 cm high), rim (4.5 cm high). Well-formed depression on top (16 cm long, 14.4 cm wide, 2 cm deep). Freestanding.

**Altar no. 2:** Reg. no. 43844; Grid 38, Square 84, Feature 341, Bucket 19; excavated in 1994 (figures 22.2, 22.7, and 22.9).

*Dating and context:* Period XI (Grid 38 Phase 13), pre-sixth century B.C.E., in secondary use in Persian/Hellenistic period Wall 341.

*Description:* Block form (length: 22.5 cm; width: 21 cm; height: 32.5 cm), roughly finished. One partial knob, deep groove, rounded band. Slight shallow depression on top. Engaged on two contiguous sides.

**Altar no. 3:** Reg. no. 41072; Grid 50, Square 59, Feature 302, Bucket 55; excavated in 1992 (figures 22.3, 22.5, and 22.10).

*Dating and context:* Period XI (Grid 50 Phase 6), pre-sixth century B.C.E., in secondary use in Persian-period Wall 302.

*Description:* Shaft form (length: 35 cm; width: 34 cm; height: 43.5 cm), roughly finished. No horns, wide rim (7 cm high). Top broken. Engaged on one side.

2982–2983), but the pottery with which it was found has been dated to the ninth century B.C.E. (Nava Panitz-Cohen, personal communication).

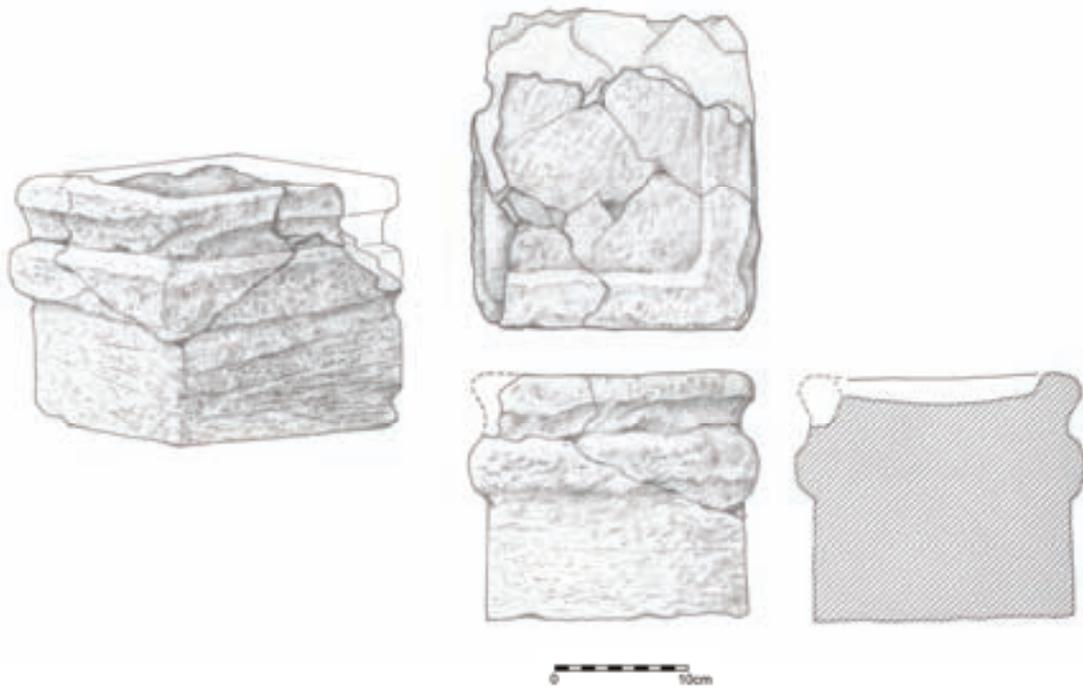


Figure 22.1: Ashkelon altar no. 1

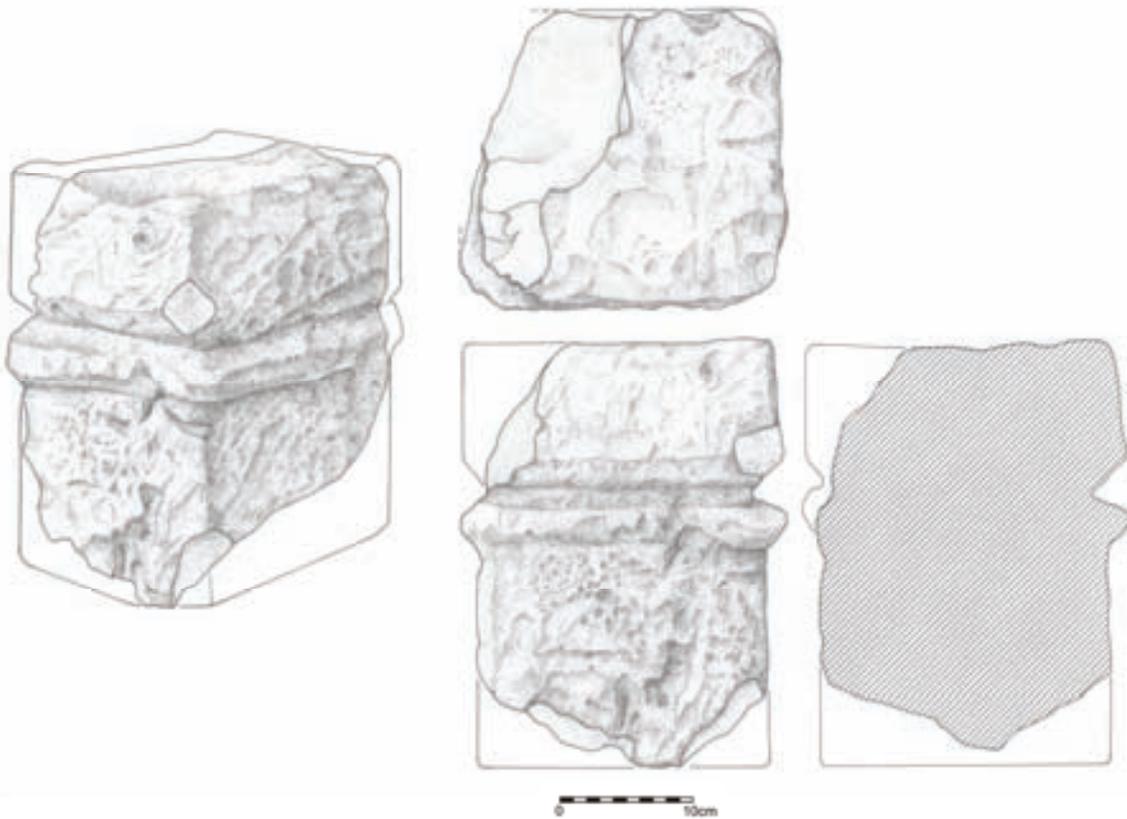


Figure 22.2: Ashkelon altar no. 2

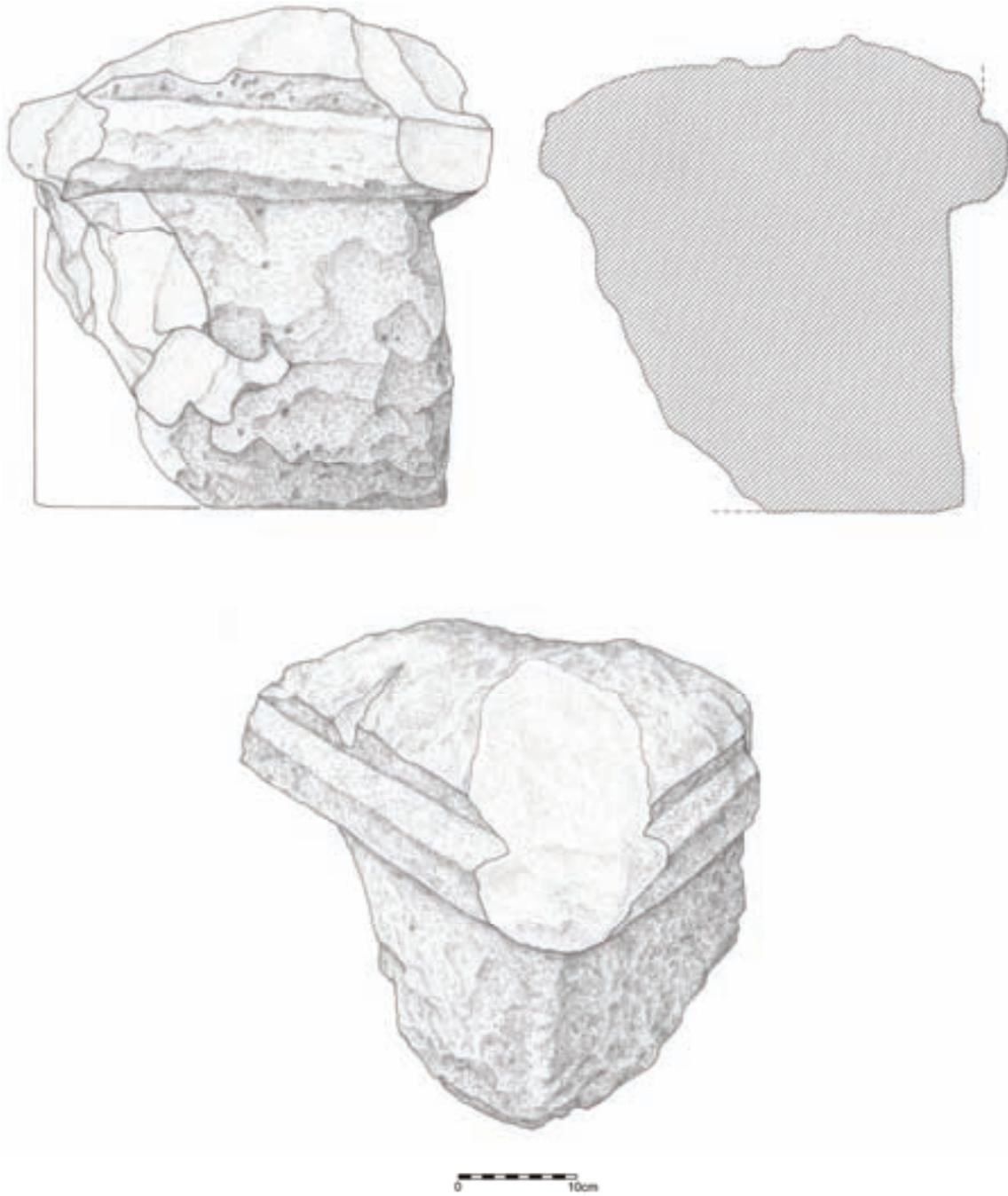


Figure 22.3: Ashkelon altar no. 3



Figure 22.4: Distribution of Iron Age II altars (tenth to seventh centuries B.C.E.)

☐ horned (34)    ☐ unhorned (13)

The Ashkelon altars are part of an assemblage of 47 horned altars and altars without horns that have been found at 12 Iron Age sites: 24 in Philistia, 19 in Israel, three in Judah, and one in Assyria (see figure 22.4), representing, respectively, 51.1%, 40.4%, 6.4%, and 2.1% of the corpus (Gitin 2002:109).<sup>4</sup> The primary Iron Age altar form with four horns is represented by 34 of the corpus of 47 altars. This form derives from the Late Bronze Age II terracotta tower-models known from Syria (Müller-Pierre 1992:40–41), and its functional definition as an object on

<sup>4</sup> Figure 22.4 is an updated version of the distribution map of 45 altars in Gitin 2002:fig. 6 and of the earlier original corpus of 37 altars presented in Gitin 1989a:table 1. Recent excavations at Khirbat al-Mudayna in Jordan have produced at least two stone altars from the Moabite temple destroyed in the seventh century B.C.E., one of which is described as having been used for burnt offerings and the other for burning incense (Daviau and Dion 2002:42–43). The inclusion of these examples in this author's altar corpus awaits their detailed publication.

which incense was burned is supported by the Near Eastern textual evidence of the tradition of burning incense to the gods on tower roofs (Gitin 2002:99). This tradition was carried over into the Iron Age, when the practice of burning incense on a four-horned altar was adopted in Israelite religious ritual, as attested in the biblical accounts of the desert Tabernacle (Exod. 30:1–4, 7; Lev. 4:7) and the temple of Solomon (1 Kings 1:22; 2 Chron. 26:16), and supported by the archaeological evidence from Israelite sites dated to Iron Age IIA–B, the tenth–eighth centuries B.C.E. (Gitin 1989a:table 1:6–9, 11–17, 19–20, 36–37). The tradition of burning incense on rooftops is also known in Judah in the Iron Age IIC (Jer. 19:13), and the findspot of Ashkelon altar no. 1 is an example of this ritual.

In this article and in the author's presentation of the altar corpus in earlier studies, the identification of these objects as incense-burning altars—which is consistent with the chain of textual and archaeological evidence from the Bronze through the Iron Age—has been adopted as a form designation (Gitin 1989a; 1992; 2002).<sup>5</sup> This is the all-inclusive category by which four-horned and related altars are analyzed and typologically classified, without excluding the possibility that substances other than incense were burned on them.<sup>6</sup>

Although the Ashkelon altars were probably produced locally from the *kurkar* in the area—just as the Ekron altars were made of local limestone<sup>7</sup>—the

<sup>5</sup> This definition is supported by a broad scholarly consensus (e.g., Albright 1929:53; May 1935:12; McCown 1950: 210; de Vaux 1965:286–87; Milgrom 1971:767), with some adding or implying the qualification that other substances could also have been burned on these altars (e.g., Shiloh 1979:150; Dever 1983:573; Nielsen 1986:38, 46–47; Holladay 1987:265, 272). Haran, who had previously been part of this consensus (1957:778–79), has more recently argued for the burning of other substances (1993:239–41), and even for the exclusion of the possibility that the four-horned altar was used to burn incense at all (1995:33–35, 37). Haran's arguments, however, lack supporting evidence and are based on untenable a priori judgments of biblical texts and on a misunderstanding of the economic realities of the Iron Age II, of cultic folk practices, and of the archaeological data; they have been refuted in Gitin 2002: 103–12.

<sup>6</sup> For example, the altar corpus includes the small limestone altars without horns from Arad, the top surfaces of which yielded burnt fat residue (Aharoni 1967:247), a four-horned altar from Ekron, the top surface of which yielded an organic residue (Gitin 1992:49\*, n. 49), and related forms like the three altars from Ashkelon.

<sup>7</sup> The source of the limestone was in all likelihood the quarries located some 500 m to the east of Ekron and visible from the tell.

source of the altar tradition in Philistia must have been in the northern kingdom of Israel, where the closest parallels for the Ashkelon altars originate and where altars played a decidedly more important role than in the southern kingdom of Judah.<sup>8</sup> The north has produced 19 examples and the south only three (figure 22.4). The appearance of these altars in Philistia in the seventh century B.C.E., at a time when they are hardly in evidence in either Israel or Judah,<sup>9</sup> and after centuries of Philistine interaction with the Israelite kingdoms, during which such altars were absent in Philistia, may be explained as a result of the impact on Philistia of the Neo-Assyrian Empire in the late eighth century B.C.E. Having conquered the nation-states of the eastern Mediterranean basin, Assyria took direct control of the Levant, transforming its conquered territories into provinces and vassal states and creating the *pax Assyriaca*, a period for the most part of political stability and economic growth and prosperity.<sup>10</sup> As a result of the Assyrian policy of population transfers following the destruction of the northern kingdom of Israel, northern Israelite craftsmen could have brought the tradition of altar-making

to Ashkelon and Ekron (Gitin 1989a:61).<sup>11</sup> As at Ekron, the sudden appearance of these altars in Philistia in general can be understood as a result of the process of acculturation, generated by the continuing exposure to foreign influences (Gitin 1998b:162–63). This process was significantly accelerated in the seventh century B.C.E., when Philistine cities like Ashkelon and Ekron became Assyrian vassal city-states, with Ashkelon developing into a major commercial entrepôt (Stager 1996a:65\*) and Ekron the largest olive oil production center yet uncovered in antiquity (Gitin 1998b:173).

The main typologically significant features of the altar are body shape, horns, rim, groove, and band. The altar rim can be equated with the *karkōb* and the band with the *zēr* in the description of the Tabernacle altar in Exod. 27:5 and 30:3. One of the Ashkelon altars (no. 3) is shaft-shaped with a wide rim (figure 22.5) and the other two are block-shaped—one with a deep groove, a thick rounded band, and a slightly everted rim (no. 1, figure 22.6) and the other with a knob representing a debased horn, a deep groove, and a rounded band (no. 2, figure 22.7).

<sup>8</sup> The clustering of altars in the north and their paucity in the south may indicate a propensity in the kingdom of Israel for less centralized religious ceremonial practices than in Judah, or possibly a dual system combining centralized and decentralized worship. A centralized worship tradition may have been stronger in the south because of the focus on the traditional centers of worship of the Tabernacle and the temple of Solomon. The high percentage of altars at Ekron in the seventh century B.C.E. and their closer typological relationship to northern forms also supports the conclusion that they derived from the northern tradition, the source of which itself may have been in Syria (Gitin 2002: 96). The single example from Nineveh (Thompson and Hutchinson 1927:108, pl. 56:335) and the period with which it is associated suggest that it might have been an import from Israel or made by an Israelite craftsman among the ten tribes of Israel deported to Assyria following the destruction of Samaria (Eph<sup>c</sup>al 1979:188–89). For a typological discussion of the Ekron altars in support of this conclusion, see Gitin 1989a:61\*–63\*.

<sup>9</sup> The exceptions from Judah are two altars without horns from Arad (Aharoni 1967:pls. 46–47).

<sup>10</sup> With Assyria in full control of the Levantine littoral, Philistia, which was vital to Assyrian political and commercial aspirations, was treated leniently and was awarded “favored nation” status. The king of Assyria, Sennacherib, transferred the towns of Judah that he had plundered to his loyal Philistine rulers: Mitinti, king of Ashdod; Padi, king of Ekron; and Sillibel, king of Gaza (Pritchard 1969:288). According to another text, Ashkelon, too, received territory in Judah (Luckenbill 1926–1927:143 [312]). On Ekron’s “favored nation” status in the late Assyrian Empire, see Na’aman 1998:223; for a historical summary of the period of the *pax Assyriaca*, see Hallo and Simpson 1971:123–42.



Figure 22.5: Ashkelon altar no. 3 (shaft-shaped)

Generally, altars with a T-shaped shaft and a pronounced rim reflect the earlier tenth century B.C.E. tradition of horned altars at Megiddo. The block form introduced in the ninth century becomes the dominant

<sup>11</sup> For the practice of transferring groups of Assyrian captives to different parts of the empire in general, see Eph<sup>c</sup>al 1979:188–89.

type throughout the remainder of Iron Age II (Gitin 1989a:62).<sup>12</sup> Although none of the Ashkelon altars has an exact parallel from the seventh century or earlier, typologically they belong to the final phase of altar development. The widest range of examples from this last typological phase, which occurs in the seventh century B.C.E., is found at Ekron in the degenerate forms with highly profiled but truncated horns or small, less profiled, pointed, or flat-topped projections or small knobs (Gitin 2002:figs. 4:1–8, 5:1–2, 4–7). The development of the overhanging wide rim parallels that of the horns. By the seventh century B.C.E., rims usually appear on altars that have highly profiled, truncated horns (Gitin 2002:figs. 4:7, 5:2, 6).



Figure 22.6: Ashkelon altar no. 1 (block-shaped)

Two of the Ashkelon altars are exceptions—altar no. 2 without a rim, but with a debased knob-like horn (figures 22.2 and 22.7); and altar no. 3, with an overhanging rim, but with no indication of any type of horn, although most of top surface has been broken away (figures 22.3 and 22.5). The grooves generally follow the same development as the rims and were probably formed by the stone-cutting technique that produced the effect of the wide overhanging rim. However, two of the altars from Ashkelon (nos. 1 and 2) do have grooves, although they lack the wide overhanging rim (for this feature on altars from Ekron, see Gitin 2002:fig. 4:4, 9).

In the early stages of altar typology, the band, too, probably resulted from the stone-cutter's technique for fashioning the shaft and groove. Although the shaft shape generally gave way to the block form and

<sup>12</sup> However, one of the Ashkelon altars (no. 3) and some examples from Ekron (Gitin 2002:figs. 4:7, 10, 5:1–2, 6) retain the shaft form as late as the seventh century B.C.E.

grooves for the most part disappeared, bands continued to appear throughout the sequence, probably fashioned for their own sake, as on nos. 1 and 2 from Ashkelon (for this feature on altars from Ekron, see Gitin 2002:figs. 4:1, 5, 11, 5:1, 4).



Figure 22.7: Ashkelon altar no. 2 (block-shaped)

Other characteristics of the altars have important implications for understanding cultic practice at Ashkelon. If an altar is unfinished on one or more sides, it must have stood against or have been fitted into a wall, corner, or installation; that is, it was engaged and had a fixed position. If an altar is finished on all sides, it may have been freestanding and movable, although some freestanding altars may have had a fixed position, for example, very large and/or heavy freestanding altars that would have been difficult to move (for examples from Ekron, see Gitin 2002:fig. 5:6–7). That a freestanding altar was in a fixed position may also be determined by context, if it was found in situ.<sup>13</sup> Two of the Ashkelon altars are engaged (nos. 2 and 3) and must have had a fixed position, while the freestanding altar (no. 1), which was apparently portable, had at least a designated position on the roof, as indicated by its findspot (figure 22.8).<sup>14</sup>

<sup>13</sup> Compare the two freestanding altars from Arad that clearly had a fixed position in the temple, indicated by their context (Aharoni 1967:pls. 46–47), and one example from Ekron that had stood in its own niche (Gitin 1995:fig. 4:8).

<sup>14</sup> This is a good example of a freestanding, portable altar that was used in a fixed position—made of dense *kurkar*, it would have been quite heavy to shift.



Figure 22.8: Altar no. 1 in situ on top of roof collapse of Building 234 in the massive 604 B.C.E. Babylonian destruction layer at Ashkelon.

The latter shows that there were portable altars both at Ashkelon and at Ekron.<sup>15</sup>

One definitive conclusion that may be drawn from this evidence is that there were at least three fixed places of cultic worship at Ashkelon at which a ceremonial practice involving burning incense or some other substance took place. Although there is no supporting physical evidence, it is possible that there was another such fixed place of worship, based on Herodotus's report that the temple of Astarte in Ashkelon was destroyed during the Scythian invasion (*Histories* 1:105) in the seventh century B.C.E.

<sup>15</sup> Twelve portable altars were found at Ekron (Gitin 2002: fig. 4). The only other portable altar from the seventh century B.C.E. in Philistia is the small votive altar from Timnah (Mazar and Panitz-Cohen 2001:pl. 75:11). If the four-horned ceramic altar from Yavneh belongs to the assemblage of Philistine altars, this lightweight example should also be considered portable (Zwickel 2007). However, since it came from a *favissa* and its original context is unknown, it could also have had a fixed position, like the freestanding altar from Ashkelon (no. 1) and the freestanding altar that stood in its own niche from Ekron (Gitin 1995:fig. 4:8). Also, the small portable altars in the Tabernacle and the temple of Solomon had fixed positions. The small altars from Tel Dan are made of basalt and may have been too heavy to have functioned as portable altars (Biran 1981:144, pl. 19:3).

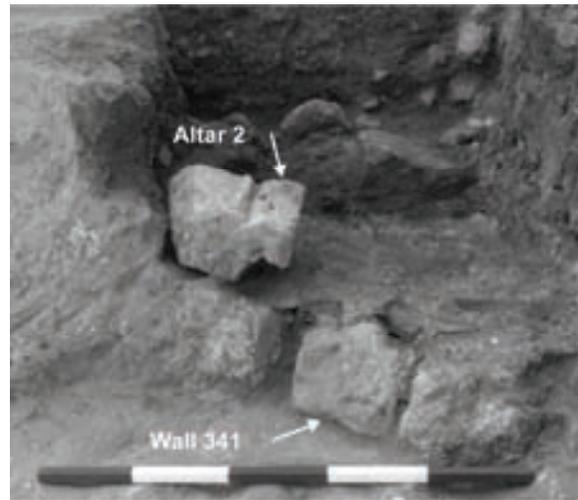


Figure 22.9: Altar no. 2 in secondary use in Persian/Hellenistic-period Wall 341

In addition, the evidence suggests that, as mentioned above, portable incense altars were used in religious practices at Ashkelon as at Ekron in the seventh century B.C.E. Coming at the very end of the four-horned altar sequence in the late Iron Age, these small, portable altars may have adumbrated the predominant use of portable altars in the form of small limestone chests with four legs in the sixth century B.C.E. Found in the hundreds in Israel and throughout

the ancient Near East, the ubiquity in size, form, and decoration of these portable chest-like altars may reflect the influence of foreign cultic practices (Stern 1982:186–87, 190–94). The earliest examples come from the late Iron Age II at Beersheba (Stern 1973:pls. 29–30, 52), <sup>c</sup>En Haseva (R. Cohen and Yisrael 1995:226), and Khirbat al-Mudayna in Jordan (Michelle Daviau, personal communication).

The Ashkelon altars and the literary evidence also suggest the possible coexistence of both centralized and decentralized religious practices at Ashkelon. The purported Astarte temple at Ashkelon mentioned by Herodotus might indicate a centralized worship system, and the three Ashkelon altars may represent elements of a decentralized cultic system. Such a dual system existed at Ekron, with its central sanctuary in Temple Complex 650 and decentralized worship represented by the large number of incense altars found throughout the city (Gitin 2002:114–15).

In order to appreciate fully the role of the three incense altars in the wider context of cultic practice at Ashkelon in the late Iron Age II and its relationship to cultic practices in Philistia as a whole, this evidence must be integrated into a general study of all of the late Iron Age II cultic artifacts from Ashkelon, which are now published in the present volume (after this chapter was written). These include Phoenician-type figurines (chapter 16), Egyptian objects (e.g., a bronze statuette of Osiris and seven bronze *situlae*, each depicting a procession of Egyptian deities in relief, including Min or Amun-Re, and an offering table with two baboons sitting at opposite corners and a falcon and jackal at the other two corners—see chapter 13), amulets (chapter 12), and special ceramic vessels like chalices and votives. These comparative data will greatly enrich our understanding of Philistine cultic practices in the major urban center of Philistia in the late Iron Age II.



Figure 22.10: Altar no. 3 in secondary use in Persian-period Wall 302

PART FOUR

ORGANIC AND  
MICROARTIFACTUAL REMAINS



## 23. PLANT REMAINS

by Ehud Weiss, Mordechai E. Kislev, and Yael Mahler-Slasky

**T**HE PLANT REMAINS from Ashkelon provide important information about economic activities in this city during the late Iron Age. They allow us to determine the location of grain fields that supported the city—the first time that archaeobotany has been used for this purpose. The extent of Ashkelon’s agricultural hinterland during the seventh century B.C. can be reconstructed by considering the location of these grain fields in light of the city’s estimated population and the food-production capacity of surrounding areas. Moreover, in addition to using excavated plant remains to trace the city’s grain supply, we have used the nutlets of obligate sand plants to determine the source of sand used by the city’s residents for building purposes (Weiss and Kislev 2001).

Ashkelon is the only seaport south of Jaffa that is situated directly on the Mediterranean shore (figure 23.1). It is one of only a few ancient sites in the area where a combination of fertile land, fresh water accessible in a near-surface aquifer, a major international highway, and proximity to the Mediterranean Sea served to create special conditions that enabled a diversified economy based on agriculture, maritime trade, and inland commerce (Stager 1993).

During the Iron Age, Ashkelon was one of the five cities of the famous Philistine Pentapolis. The archaeological site forms a 60-ha mound that is surrounded by a semicircular arc of earthworks more than 2 km long and 40 m high in places. Excavations by the Leon Levy Expedition have exposed an occupational sequence from the Chalcolithic to the Mameluke period (see *Ashkelon 1*, pp. 216–17).

The Iron Age city was destroyed by troops under the command of the Babylonian king Nebuchadrezzar II during a military campaign in his first year on the throne, in November or December of 604 B.C. This date is provided by the *Babylonian Chronicle*, which describes Nebuchadrezzar’s capture of the city of Ashkelon and its total destruction (see chapter 1 in the present volume). The Babylonian army set fire to the city, a conflagration that preserved a wealth of carbonized seeds and fruit.

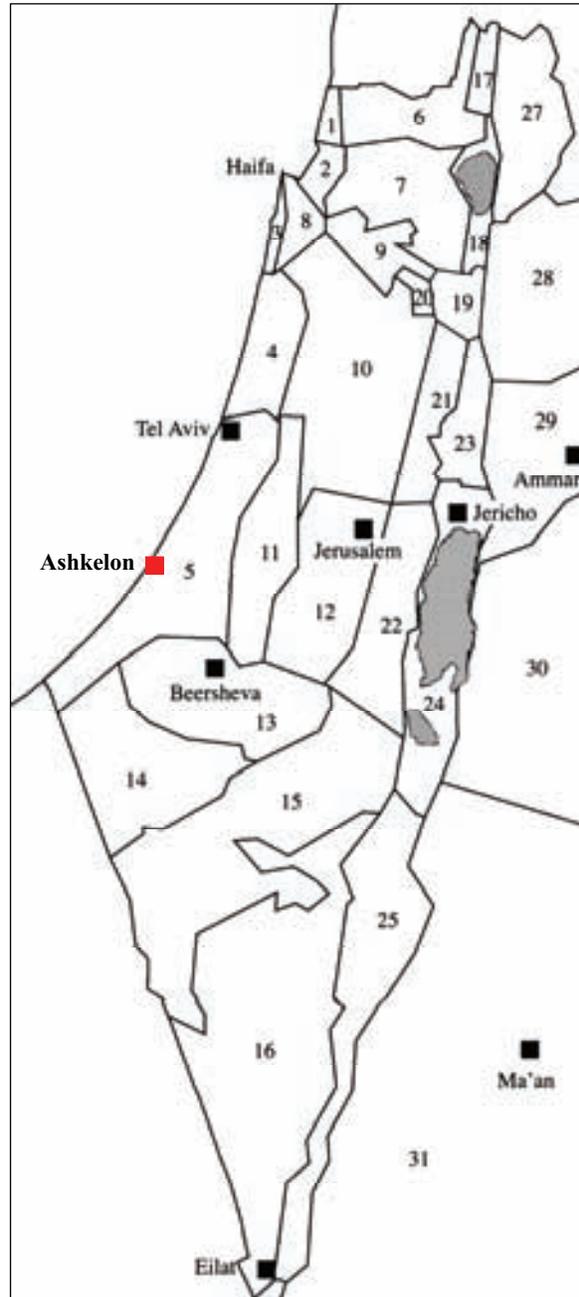


Figure 23.1: Vegetation districts of the southern Levant (after Danin 2004, with permission)

1 Coastal Galilee 2 Akko Plain 3 Coast of Carmel 4 Sharon Plain 5 Philistine Plain 6 Upper Galilee 7 Lower Galilee 8 Mt. Carmel 9 Esdraelon Plain 10 Samaria 11 Shephelah 12 Judean Hills 13 Northern Negev 14 Western Negev 15 Negev Highlands 16 Southern Negev 17 Hula Valley 18 Kinnroth Valley 19 Beth Shean Valley 20 Mt. Gilboa 21 Samarian Desert 22 Judean Desert 23 Lower Jordan Valley 24 Dead Sea Valley 25 Arava Valley 26 Mt. Hermon 27 Golan 28 Gilead 29 Ammon 30 Moab 31 Edom

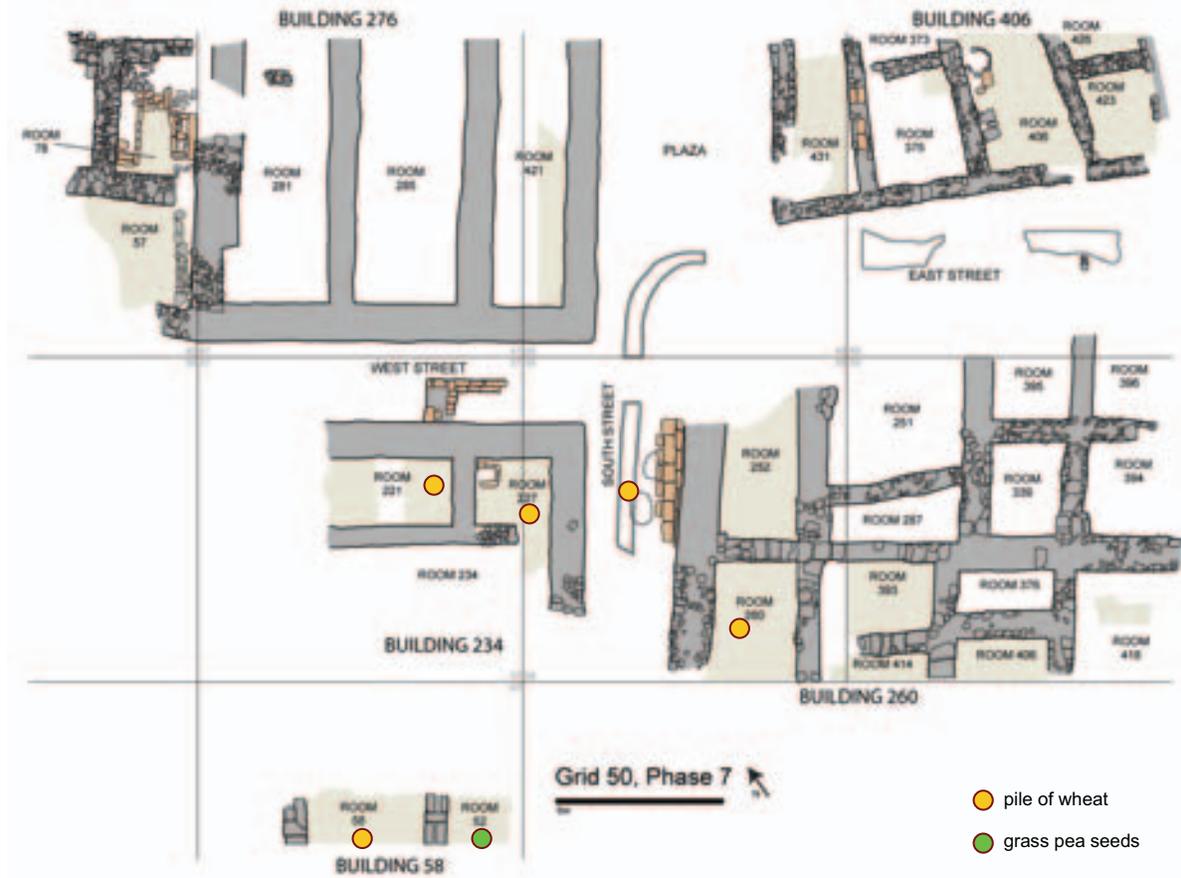


Figure 23.2: Plan of the marketplace in Ashkelon Grid 50 Phase 7 showing the locations of plant remains

### *The Architectural Context of the Plant Remains*

The plant remains discussed here were obtained during the 1992, 1993, and 1997 excavation seasons of the Leon Levy Expedition in Phase 7 of Grid 50 (see *Ashkelon 1*, pp. 309–13, and chapter 3 of the present volume). This excavation area, adjacent to the seashore, has been identified as the location of a marketplace during the late seventh century. The whole area was burned so completely in the Babylonian destruction of 604 B.C. that, in some places, the sun-dried mudbricks were vitrified. This destruction marks the end of the Iron Age at Ashkelon.

In Phase 7, the Grid 50 excavation area contained five buildings separated by streets and an open plaza (figure 23.2). The rooms of Building 406 in the northeastern corner of the excavation area have been identified as shops. The floor of Room 423 was littered with dipper juglets and wine jars, so it is identified as a wine shop. Outside this room, an ostracoon

was found that refers to red wine (*yn ʾdm*) and another alcoholic beverage (*škr*). Room 431 is identified as a butcher shop because it contained animal bones reflecting different cuts of meat.

On the south side of Building 406 ran the East Street, and south of this street was a large building (Building 260) that has been interpreted as an “administrative center.” West of Building 406 there was an open plaza. Farther west, beyond the plaza, was a series of long, narrow rooms that have been identified as the magazines of a warehouse (Building 276).

South of Building 276 and west of Building 260 was Building 234, which was called “the counting house” because immediately to its east in the South Street were found a balance and scale weights used in transactions, including two pieces of bronze balance pans and part of a bronze balance beam (see chapter 17). Furthermore, an ostracoon found in this area appears to be a receipt for grain paid for in silver. The West Street runs between Building 276 and Building

234. South of Building 234, on the southern edge of the excavation area, was a partially excavated building (Building 58) whose function has not been determined. Large quantities of plant remains were found in Room 52 and Room 58 of this building.<sup>1</sup>

#### *Archaeobotanical Samples*

We present here the results of our analysis of 161 samples. They represent the archaeobotanical remains distributed in the streets, buildings, and rooms of Phase 7 in the Grid 50 excavation area. Some 55,900 plant remains were identified, including ca. 27,500 cereal grains, 10,000 fruit seeds, 8,300 pulses, and 5,950 seeds of weeds and wild plants (see table 23.2 below for a detailed breakdown of the quantities by species and room location).

Charring preserved most of the plant remains. The exceptions were silicified nutlets of the Boraginaceae family, mainly blue bushy bugloss (*Echiochilon fruticosum*; figure 23.3) and also Judean viper's bugloss (*Echium judaeum*) and Gromwell *Buglossoides tenuiflora* (figure 23.4). In most cases, these were uncharred.

The samples collected from Room 421 in Building 276 were fully analyzed. Samples from Rooms 252, 260, and 406 in Building 260 were analyzed as well. The samples from the Building 234 and from the South Street between it and Building 260 were especially rich; these were subsampled, and about a third of them were analyzed.

A pile of wheat mixed with weed seeds was found inside Building 234, in Room 227, and another pile was found nearby, near Pit 267 in the middle of the South Street. Because these piles were burned and then buried under destruction debris, and in each case covered an area of less than two square meters, we assume that they represent single events of accumulation.

Two large accumulations of seeds were found in the partially excavated Building 58 in the southernmost part of the excavation area. An accumulation of grass pea seeds (*Lathyrus sativus*) was found in a smashed storage jar in Room 52, and an accumulation of mainly small-grain wheat (*Triticum parvicoccum*) was found in Room 58.

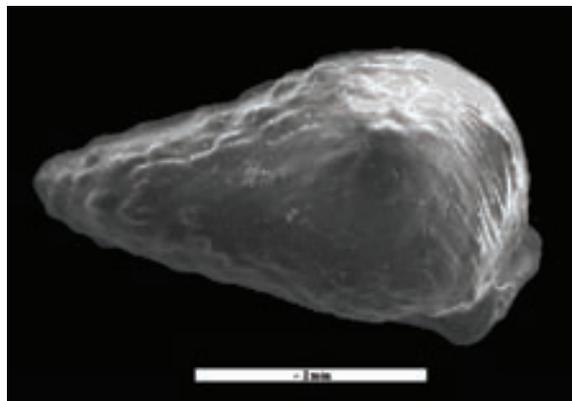


Figure 23.3: Fresh *Echiochilon fruticosum* (blue bushy bugloss) var. *sieberi*

A mericarp is shown in side view. The egg-shaped mericarp tapering toward its end is the characteristic feature of this local variety.

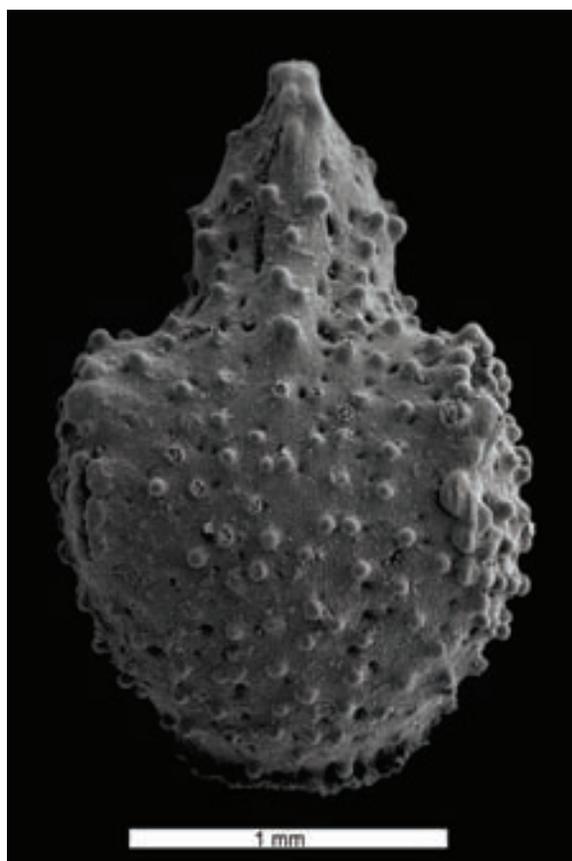


Figure 23.4: Archaeological *Buglossoides tenuiflora* (Gromwell) found in Building 58, Room 58

A nutlet is shown in a dorsal view.

<sup>1</sup> Note that the rooms of this building are labeled differently in *Ashkelon 1*, pp. 310–11, where Room 52 is referred to as “Room 42” and Room 58 is referred to as “Room 83.” The room numbers used here correspond to those used in the architectural and stratigraphic discussion in chapter 3 of the present volume.

### Methods of Collection and Analysis

A systematic soil-sampling procedure was employed in the Ashkelon excavations (see *Ashkelon 1*, pp. 191, 195–96). Soil samples were taken from every occupational or destruction deposit in Phase 7 of the Grid 50 excavation area. In addition to judgmental sampling of visible concentrations of plant remains, one sample was taken from each 1 × 1-m fine-grid square. The volume of each soil sample was about two-thirds of a pottery bucket (5 liters).

A flotation-tank method was used to recover most of the plant remains from the soil samples (see chapter 26 in the present volume). In this technique, a 1.5-mm screen is immersed within a barrel that is almost full with water. The soil is poured into the barrel and the light fraction that floats to the surface is skimmed off with a 0.6-mm strainer. After the silt is shaken through the screen, the heavy fraction is recovered and laid out to dry in the sun, while the light fraction is taken indoors to dry more slowly.

After drying, both the heavy and light fractions were sorted and the plant remains, found mainly in the light fraction, were sent away for laboratory analysis. The samples from Building 58 Room 52 that contained *Lathyrus sativus* seeds were dry-sieved and not floated. Most of the laboratory work was carried out in the archaeobotanical laboratory in Bar-Ilan University in Israel. Some laboratory work was also done in the Department of Human Environment of the Institute of Archaeology at University College London. The plant remains were picked out and identified with the aid of a stereomicroscope using magnifications up to 50 times. Seed atlases, such as Bertsch 1941 and Beijerinck 1947, were sometimes used as preliminary guides, together with the “Computerized Key for Grass Grains of Israel and Adjacent Regions” (Kislev et al. 1995; 1997). Ultimately, however, a reference collection was used to identify the plant remains, which were named according to Danin 1998.

### Crop Plants

Thirteen species of crop plants were found:

1. Three cereal species: emmer wheat (*Triticum dicoccum*), small-grain wheat (*Triticum parvicoccum*) (Kislev 2009), and domesticated barley (*Hordeum vulgare s.l.*).
2. Six fruit species: almond (*Amygdalus communis*), carob (*Ceratonia siliqua*), fig (*Ficus carica*), grape (*Vitis vinifera*), olive (*Olea europaea*), and pomegranate (*Punica granatum*).

3. Four species of pulses: grass pea (*Lathyrus sativus*), bitter vetch (*Vicia ervilia*), chickpea (*Cicer arietinum*), and lentil (*Lens culinaris*).

These food plants therefore constituted the vegetal elements in the diet of Ashkelon’s inhabitants in the late seventh century B.C. A diet based on cereals, pulses, and fruit is well known from other Iron Age Levantine sites, both from written sources and from archaeological evidence (see, e.g., Zohary and Hopf 2000; Renfrew 1973).

The pile of wheat in Room 58 included ca. 3,800 spikelet forks of emmer wheat (*Triticum dicoccum*) but no other wheat rachis fragments. From this we can conclude that, in contrast to the emmer wheat, the rachis fragments of the small-grain naked wheat (*Triticum parvicoccum*) found in the same pile were separated from their kernels during threshing and thus were not brought to the storage place. The hulled emmer wheat, on the other hand, was stored before the kernels were separated from the spikelet forks. The reason is that, in the course of threshing, the emmer spike breaks into individual spikelets that need to be broken using a pestle and mortar in order to release the grains. This is because the pales and glumes that form the hulls of emmer wheat do not separate easily from the kernels. The fire that burned the grain pile in Room 58 probably caused the chaff to crumble and thus the kernels were found separated from the spikelet forks.

Grass pea (*Lathyrus sativus*) apparently supplemented cereals in the late Iron Age diet at Ashkelon. The importance of this pulse is discussed elsewhere (Mahler-Slasky and Kislev 2010).<sup>2</sup> Among cereal

<sup>2</sup> The following quotation from the grass pea study pertains to the cache of grass pea seeds found at Ashkelon: “The wild legume *Vigna luteola* (cow pea) found amidst the seeds of *L. sativus/cicera*, is a species that does not grow west of the Levant (Greuter et al., 1989). Therefore, it is assumed that its presence in one cache indicates the *L. sativus/cicera* seeds we examined were not imported from the Aegean region and were probably grown locally. The additional species minimally represented in the sample could also be explained as vegetation that grew in the same field as *L. sativus/cicera*. Lentil and weeds, such as *Cicer pinnatifidum* (wild chickpea), often accompany legumes crops in the field. Weeds such as *Galium tricornerutum*, with seeds very similar to seeds of other *Galium* species that belong to section *Kolgyda*, are also known to accompany legumes (Feinbrun-Dothan, 1978). Because of this similarity the *Galium* seeds found in the Ashkelon *L. sativus/cicera* collection were not identified to the species level. Wheat and barley grains found amongst the *L. sativus/cicera* seeds, and weeds often found in association with them, such as *Lolium temulentum*, may be residues from cereal crops grown in rotation with *L. sativus/cicera* in the same fields.

crops, however, only small-grain wheat, emmer wheat, and barley were found at Ashkelon in sufficient quantities to provide a direct indication of their accumulation and use as food.

#### *Medicinal Plants*

Many plant species found in Ashkelon are mentioned in the literature as medicinal plants (e.g., Palevitch and Yaniv 2000, and references there). The use of these plants for medicinal purposes is difficult to prove conclusively because, in many cases, the plant organs used to make medicine are the leaves, which were not found in the plant remains at Ashkelon. Moreover, some of these species also grow in the vicinity as weeds and we cannot be sure that they were used medicinally. However, their existence among the Iron Age plant remains indicates that they were available to the city's inhabitants and a medicinal use certainly cannot be excluded as a possibility.

One carbonized berry of bay laurel (*Laurus nobilis*) was found in Room 227 of Building 234. Bay laurel does not grow today in the Ashkelon area and it is unlikely that it grew there in ancient times. The nearest places where this tree grows today are in the highlands to the east and northeast, at distances of 40 to 70 km from Ashkelon (table 23.1).

Bay laurel is generally regarded as a medicinal plant because there is an oral tradition concerning the use of its various organs for medicinal purposes. For example, a massage of bay laurel oil was traditionally employed to alleviate joint pain and neuralgia and to promote the healing of wounds. Boiled berries and leaves were used to prevent diarrhea. A tincture of bay laurel berries was said to enhance sexual po-

tenency. In addition, written sources indicate that laurel berries were used by the Assyrians to make bandages for eye ailments and to treat urinary tract infections (Thompson 1949:298–300). Furthermore, bay leaves, which are not preserved among the plant remains at Ashkelon, are a well-known seasoning (Palevitch and Yaniv 2000:254–56). We can therefore suggest on the basis of our discovery of a laurel berry in Room 227 that such berries were a special commodity in seventh-century Ashkelon.

#### *Weeds*

The remnants of weeds also provide important economic information. The most abundant species are darnel (*Lolium temulentum*), bristle-spiked canary grass (*Phalaris paradoxa*), and nettle-leaf goosefoot (*Chenopodium murale*)—see table 23.2 at the end of this chapter. The first two are widespread weeds in cultivated fields and the third is a ruderal (roadside) plant, typical of soils in locations rich in nitrates or moisture (Feinbrun-Dothan 1986:221–22, 234–35; Kislev 1980; Zohary 1950; 1966:142–43).

Modern agricultural practices have caused the composition of today's weed population to be quite different from that of ancient times. Land drainage, the use of herbicides and chemical fertilizers, and the replacement of the ard (scratch-plow) with moldboard and disc plows have affected the local field flora (Hillman 1991). Therefore, in discussing an Iron Age site in Israel, one must refer to earlier field studies, such as Zohary 1950, which examined the weed populations in fields cultivated by traditional means during the 1920s to 1940s.

There was a high level of weed infestation in the fields from which grain was brought to Ashkelon. The proportion of cereals to weeds is about three to one. The cereals and weeds were found mainly in Room 227 of Building 234, in the South Street between Building 234 and Building 260, and in Room 58 of Building 58 in the southernmost part of the excavation area.

The heavy weed infestation in the wheat piles found in the 604 B.C. destruction debris at Ashkelon, including a young capsule of white-flowered toadflax (*Linaria chalepensis*), may indicate the eagerness of the farmers to harvest their fields and the eagerness of the city's inhabitants to buy wheat, even if it was highly adulterated by weeds. Perhaps the apparent hastiness in bringing in the crop was prompted by the impending Babylonian siege of the city.

It is worth noting that there were fewer barley grains than darnel seeds in the wheat pile in Room 58. We interpret this as a possible indication that, in this case, the barley had grown as a weed in the wheat fields.

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Since *L. sativus/cicera* fixes atmospheric nitrogen, it can be used to improve soils. *L. sativus* is also reported to be sown mixed with other crops (Campbell, 1997), although only a few seeds of those additional species were found. Thus, our discovery of these cereal grains and their associated weeds may be a result of growing cereal crops in rotation with *L. sativus/cicera*. *Thymelaea hirsuta*, which we also identified, is a wild shrub that grows in light soils (Zohary, 1972). Its appearance suggests the *L. sativus/cicera* seeds derive from fields where such soils are found, which could well be in the region of Ashkelon. The environs of the site are notable for *kurkar* (calcareous sandstone) ridges separated by long, narrow troughs between these ridges where such soils are found. Signs of a low degree of insect-pest infestation of the *L. sativus/cicera* seeds were also noted in this context. Following an intensive search for minute evidence, three parts of *Bruchus* beetles were found [figure 23.5]. As has been demonstrated for the pea weevil, *Bruchus pisorum* (Brindley et al., 1958), this related field pest can also remove from the field to the storage room" (Mahler-Slasky and Kislev 2010:2481).

Table 23.1: Geographical Indicator Plants in the Philistine Plain and Adjacent Regions

Taxon	Philistine Plain	Sharon Plain (55)	Shephelah (30)	Northern Negev (21)	Western Negev (23)	Samarian Hills (67)	Judean Hills (43)
<i>Anthemis pseudocotula</i> var. <i>pseudocotula</i>	+	+	-	+	+	+	+
<i>Anthemis pseudocotula</i> var. <i>radiata</i>	-	-	+	+	+	-	+
<i>Anthemis pseudocotula</i> var. <i>rotata</i>	+	+	-	+	+	-	+
<i>Arnebia decumbens</i>	-	-	-	+	+	+	+
<i>Echiochilon fruticosum</i>	+	+	-	+	+	-	-
<i>Erucaria microcarpa</i>	+	-	+	+	+	-	+
<i>Heliathemum stipulatum</i>	+	+	-	+	+	-	-
<i>Laurus nobilis</i>	-	-	-	-	-	+	+
<i>Linaria chalepensis</i>	+	-	+	-	-	+	+
<i>Schoenus nigricans</i>	-	+	+	-	-	+	+

Presence (+) and absence (-) of plant taxa in the Philistine Plain and adjacent regions. The numbers in parentheses are estimated minimum distances in kilometers from Ashkelon. Sources: Feinbrun-Dothan and Danin 1991; Danin 1998; and Danin, pers. comm.

### Insect Infestation of Grain Stores

Three domesticated barley grains from the pile in Room 58 had been infected with the granary weevil, *Sitophilus granarius* (figure 23.6). This beetle damages cereal grains and can quickly destroy entire stores of grain. It cannot fly and is dispersed when grain is transported (Avidov and Harpaz 1969:300; Kislev and Simchoni 2006), so it could have been brought to Ashkelon by this means. Another grain pest found in Room 58 is the beetle *Tenebroides mauritanicus* (figure 23.7; Halstead, pers. comm.).

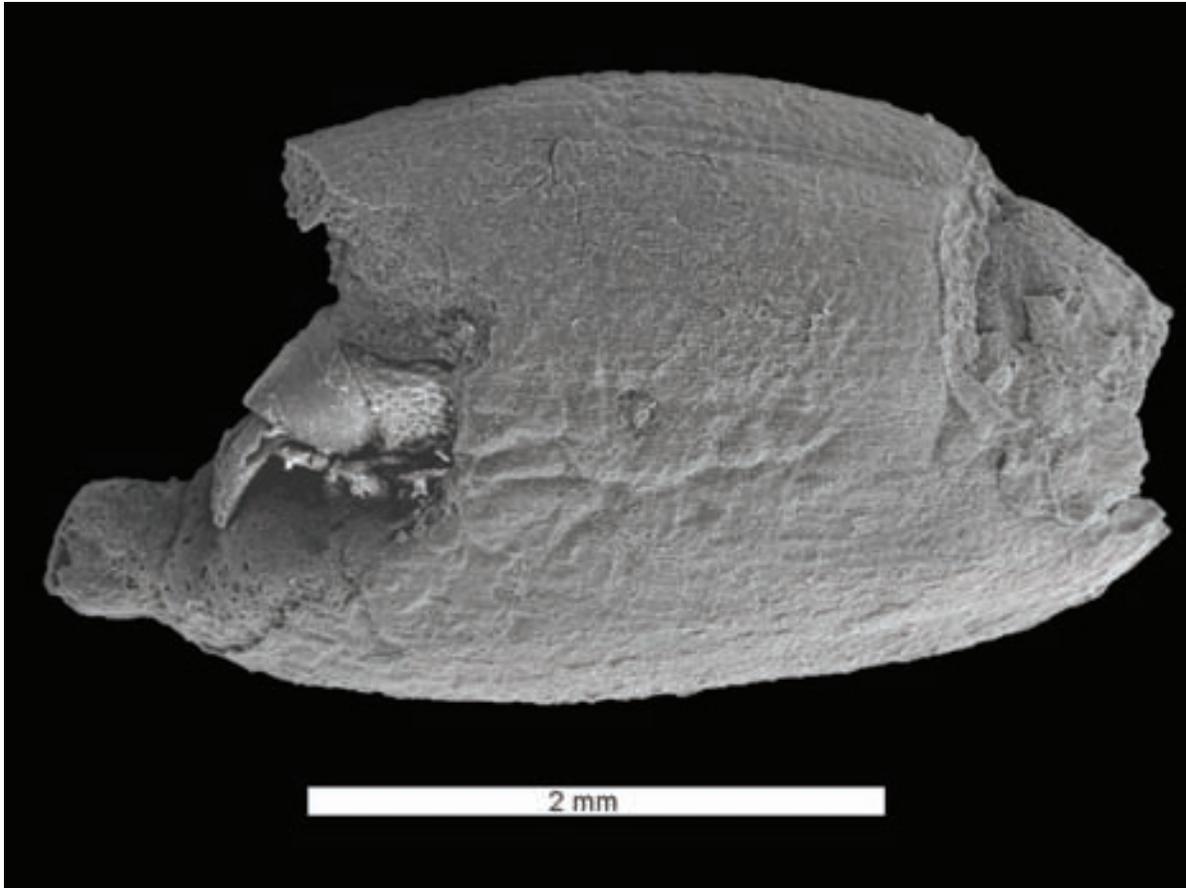
In addition, we observed signs of insect-pest infestation of the grass pea seeds. Following an intensive search, three parts of *Bruchus* beetle were found (figure 23.5). As was shown for the pea weevil, *Bruchus pisorum* (Brindley, Chamberlin and Schopp 1958), the related field pest is transferred from the field to the storage room when the crop is harvested.

The insect infestation of the Ashkelon grain is another indication of the poor condition of the fields and storage facilities due to the urgent need to hoard food in the siege year of 604 B.C.

This specimen consists of part of the thorax and the abdomen of an adult insect, shown in ventral view. The femur of the hind left leg is seen on the right. Six abdomen segments can be seen in the bottom. It was found in a pile of grass pea seeds (*Lathyrus sativus*). ▶

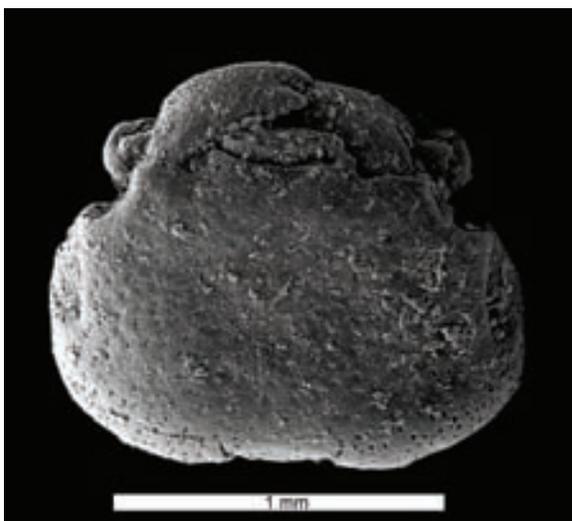


Figure 23.5: Archaeological *Bruchus* sp. (seed weevil) found in Room 52 of Building 58



*Figure 23.6:* Archaeological *Sitophilus granarius* (granary weevil) found in Room 58 of Building 58

Charred adult in a grain of barley (*Hordeum vulgare*), apparently after the pupa stage and before it emerged from the grain. The head and the thorax of the beetle can be observed. On the pronotum there are typical punctures and underneath it the legs. The head ends with a trunk. The left antenna is protruding from its notch.



*Figure 23.7:* Archaeological *Tenebroides mauritanicus* (cadelle) found in the wheat cache in Room 58

This specimen is the head of an adult beetle, shown in dorsal view. The upper labium and the two mandibles are seen on the upper part. Behind them are two protrusions where the antennae were placed. The eyes can be seen on both sides of the wide head.

### Description of Selected Species

Many of the seed and fruit remains found in Iron Age Ashkelon are well known from other sites in the Levant; however, a description will be given here of selected species that are of particular interest.

#### *Triticum parvicoccum* (Gramineae = Poaceae)

*Triticum parvicoccum* (small-grain wheat) is the oldest naked wheat. It is now extinct; its grains and rachis fragments have been found only in archaeological excavations in the Near East and the Balkans, where it was the most important and common wheat until the Roman period.

*T. parvicoccum* is a free-threshing, apparently tetraploid wheat that belongs to the *T. turgidum* group (Kislev 2009). The ear has short rachis internodes and small grains that are less than 5 mm in length. *T. parvicoccum* was eventually replaced by *T. durum*, probably during the Roman period (Kislev 1980).

A large cache of small-grain wheat was found in Room 227 in Building 234 of Grid 50 Phase 7 at Ashkelon, together with an ostracon that mentions wheat trade (Stager 1996a).

#### *Ceratonia siliqua*

*Ceratonia siliqua* (carob) finds are rare in archaeological excavations. A few pods with seeds have been found in Roman-period contexts, at the Cave of the Pool and at Masada. A few seeds have been found in an early Islamic context at Avrona and in a Mameluke context at Tel Megadim (see Kislev 1988; Liphschitz 1987 and references there). The Ashkelon find is, therefore, the first and only archaeobotanical evidence of the existence of the carob tree in the region during the Iron Age.

#### *Juglans regia* (Juglandaceae)

*Juglans regia* is a large tree of the walnut family that has beautiful hard timber. The fruit is actually a drupe. A fleshy green outer layer encloses the “nut” and usually dries and falls off at maturity. The hard shell of the nut represents the endocarp of the fruit; it encloses a single large, edible seed, which is rich in oil (figure 23.8).

The occurrence of *Juglans regia* in a late Iron Age context in Ashkelon provides the most ancient evidence of this species ever discovered in Israel and provides archaeological proof of its presence in the region in this period.

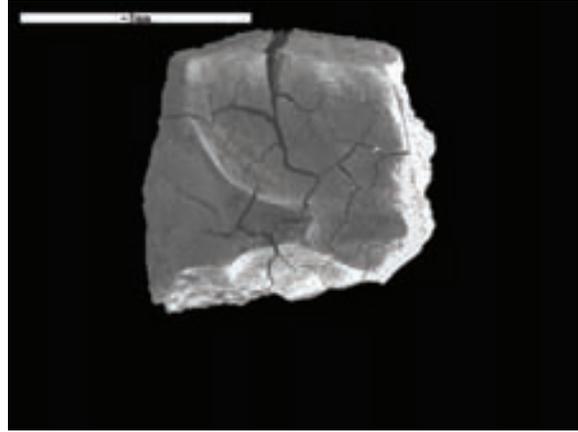


Figure 23.8: Archaeological *Juglans regia* (walnut)  
This is the inside of a fragment of the endocarp (shell).

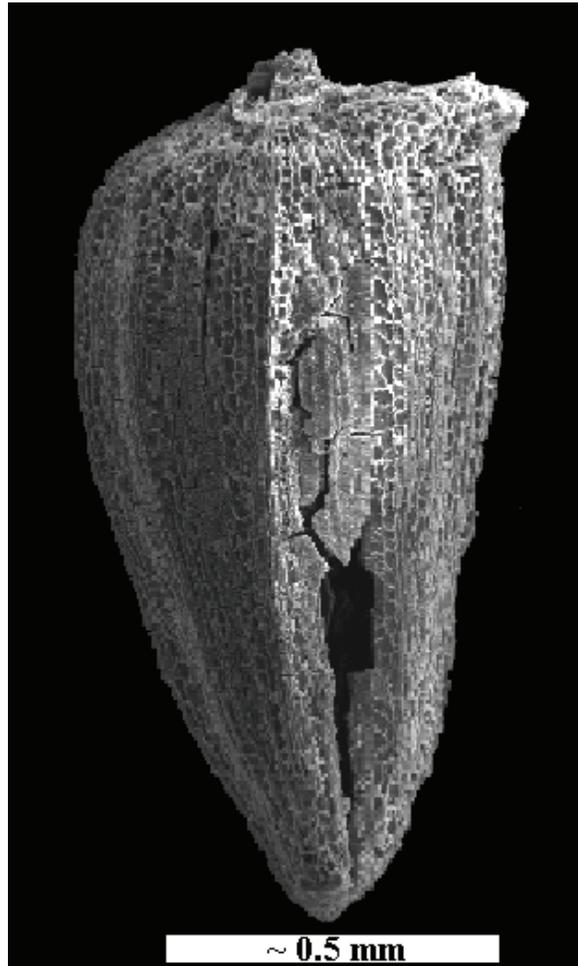


Figure 23.9: Archaeological *Anthemis pseudocotula*  
(common chamomile) var. *pseudocotula*

A side view of the plant's achene (fruitlet) is shown here.  
The auricle is rather long, triangular, and acute.



Figure 23.10: Archaeological *Anthemis pseudocotula* (common chamomile) var. *rotata*

Side view of the plant's achene (fruitlet), which lacks an auricle. Its apex is oblique, slanting from the dorsal to the ventral side.

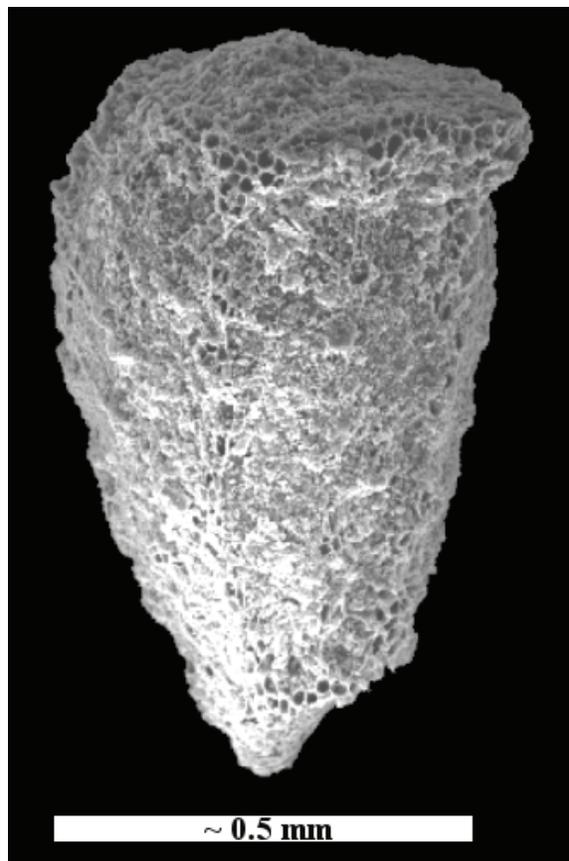


Figure 23.11: Archaeological *Anthemis pseudocotula* (common chamomile) var. *radiata*

Side view of the plant's achene (fruitlet). The auricle is very short, margin-like, and obtusely lobed.

*Anthemis pseudocotula* (Compositae = Asteraceae)

The achene (fruitlet) is one of the most important features of *Anthemis* by which its species and lower taxa are classified. Species that belong to section *Marruta* of the genus *Anthemis* are characterised by obconical achenes, round in cross section, which are two to three times as long as they are broad.

*Anthemis pseudocotula* (common chamomile) is distinguished from the related species in Israel by its outer achenes, which are nearly tetragonal. The intra-specific variation of *A. pseudocotula* was studied by Eig (1938), who found that the varieties of this species differ solely with respect to the presence or absence of an auricle on the achene and by its length and shape. Indeed, there is a complete series of forms, beginning with long-auricled achenes (var. *pseudocotula*; figure 23.9) and ending with bald, truncate, or rotundate achenes without an auricle (var.

*rotata*; figure 23.10). There is also an intermediate form (var. *radiata*; figure 23.11). These varieties grow in different habitats, so they are not always found in the same region.

More specifically, the relevant varieties of *Anthemis pseudocotula* are differentiated from one other by the length of the auricle as follows: (1) the auricle of var. *pseudocotula* is rather long, triangular, and acute; (2) the auricle of var. *radiata* is very short, margin-like, and radially or obtusely lobed with lobes of equal size; (3) achenes of var. *rotata* lack an auricle and have an oblique apex that slants from the dorsal to the ventral side (Feinbrun-Dothan 1978:338; Yavin 1970).

*Arnebia decumbens* (Boraginaceae)

*Arnebia decumbens* (figure 23.12) is an annual plant, common in the deserts of Israel, that is densely

covered with bristles. Its fruiting calyx is much enlarged, with very long bristles. It is apparently adapted to seed dispersal by attachment to animal fleece.

*A. decumbens* nutlets are ovoid-oblong in shape. They are 2–2.3 mm long and 1.3–1.4 mm wide. They are keeled on the ventral side and are densely and unequally verruculose. The nutlets of the other common species, *A. linearifolia*, are rather different in shape (Feinbrun-Dothan 1978:69–70).

*Buglossoides arvensis* (Boraginaceae)

*Buglossoides arvensis* is an annual plant that is rather common in fallow fields. Its nutlets are straight, 2.7–3 mm long and 2 mm wide. They are ovoid-lanceolate in shape, somewhat gibbous at the sides and keeled on the ventral side. The areole (attachment scar) is slightly convex and rounded-triangular in shape.

*B. arvensis* nutlets are differentiated from those of *B. tenuiflora* by their coarsely rugulose-tubercules surface, larger areole, absence of lateral swellings, and shorter beak. The nutlets of *B. arvensis*, although rather similar to those of *Arnebia decumbens*, are smaller in size and have smaller tubercules (Feinbrun-Dothan 1978:67–68).

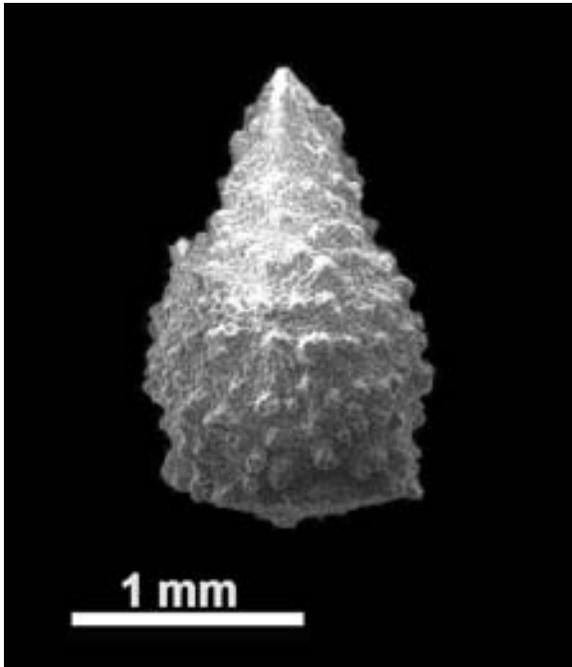


Figure 23.12: Archaeological *Arnebia decumbens*

The nutlet's shape is pyramidal-ovoid, and the areole (the attachment area of the nutlet to the receptacle) is flat; compare to the nutlet with gibbous sides and convex areole of *Buglossoides tenuiflora* (figure 23.4).

*Echiochilon fruticosum* var. *sieberi* (Boraginaceae)

*Echiochilon fruticosum* is a small shrub that typically grows in sandy areas and is endemic to the Sinai, Israel, and Lebanon. The most important variation involves the shape of the nutlets. They are lanceolate-ovoid in shape, broadest above the rounded base and gradually narrowing toward the apex. They are about twice as long as they are broad, 2.1–2.6 mm long and 1–1.3 mm thick. The venter is angulate, nearly straight, and vertical, bearing an ovate-lanceolate areola ca. 0.5 mm wide on the ventral side of the rounded base, its apex gradually narrowing and prolonged upward along the ventral angle to above the middle of the nutlet (Johnson 1957; Feinbrun-Dothan 1978:60–61). Fruiting branches of var. *sieberi* were collected in Ashkelon and several places in the Sharon Plain for our reference collection (figure 23.1). The Iron Age archaeobotanical finds were similar to this variety and differ significantly from the North African typical variety.

*Linaria chalepensis* (Scrophulariaceae)

*Linaria chalepensis* is an annual weed that grows in heavy soils. Its capsules are somewhat compressed, subglobose, ca. 4 mm in diameter, dehiscent from the apex by six apical toothlike valves, with a distinct median furrow, crowned with the persistent style (Meikle 1985:1204–05). A rather young capsule, still closed, was found at Ashkelon. The abscission layer between the teeth could be observed. No distinct features of the seeds could be recognized, probably because they were too young.

*Schoenus nigricans* (Cyperaceae)

*Schoenus nigricans* is a perennial herb found in humid habitats. Its nut is ovoid-ellipsoid in shape. It is 1.6 mm long and 0.9 mm wide and is smooth, obtusely trigonous with convex sides (Meikle 1985: 1698–99). Only one species of the genus grows today in the Near East. Israel is the northern limit of its distribution area. It grows in the Sharon Plain and also in northern Sinai (Heller and Heyn 1991). There is no reason, therefore, to dismiss the suggestion that it grew in ancient times in depressions around Ashkelon that are covered today by sand.

*The Location of the Wheat Fields*

One of the most interesting issues raised by the rich plant remains from Iron Age Ashkelon is the question of the location of the city's agricultural fields. In re-

constructing the city's economy, this issue is of great importance. Ashkelon was a large city with roughly 10,000–12,000 inhabitants and it was also a major market center (Stager 1996a). It is likely, therefore, that it imported some of its food. Moreover, storage was essential in the year 604 B.C., because the *Babylonian Chronicle* indicates that several months passed from the arrival of the Babylonian army in present-day Syria and Lebanon until it advanced on Ashkelon (Wiseman 1956). News of the approaching army no doubt led to the accumulation of food from every source, near and far, cheap or expensive. As noted above, the presence in the remains of a young capsule of white-flowered toadflax may testify to an unusually early harvest.

We offer here for the first time a method for determining the location of the crop fields that supplied a site with food. This method uses the modern distribution of plant species found in the site's plant assemblage as markers for locating the fields in which they grew.

To determine the geographical location of nonlocal fields, we examined the distribution of plant taxa in the Philistine Plain and adjacent areas (see table 23.1 above). We used some of the Ashkelon plant species as geographical indicators—species that allow us to identify their habitats even if they are found only in small quantities in the archaeobotanical assemblage. We assumed that if a plant that does not grow in the Philistine Plain was found in Ashkelon, it was brought from the region where it grows. The weeds and most of the wild plants would have arrived together with the cereal crop, having been harvested from the same fields; thus the region where these weeds grow today indicates where the crop grew in the past. Furthermore, if several different weed species are found in the same cache of wheat, the grain probably originated in an area where all of these weeds grow together today.

The natural habitats of most of the weeds found in the Grid 50 excavation area lie within the Philistine Plain in which Ashkelon is located. But a few taxa do not grow there today (table 23.1). For example, the bay laurel was brought to the site, most likely as a medicine, from the Samarian or Judean Hills.

The largest wheat concentrations in Grid 50 were found in Building 234 (the “counting house”), in the South Street immediately to the east of Building 234, and in Room 58 of Building 58 to the south (table 23.2). There are several reasons why we characterize these as “piles” of wheat. First, in each case the wheat was concentrated in adjacent 1 × 1-m fine-grid squares, whereas very few wheat grains and weed

seeds were found in the surrounding excavation units. Second, in each of these wheat piles there was a large admixture of well-known weeds. Third, these piles were found burned and sealed under the destruction debris. We therefore conclude that each of these concentrations represents a pile of wheat that was deposited in a single event. Presumably, the wheat was contained in a sack or other container made of perishable material that did not survive the fire. Our habitat-indicator species were found in Room 227 of Building 234 and in the South Street wheat piles.

Indicator plants were found also in three other rooms in the Grid 50 excavation area: Room 221 of Building 234 and Rooms 406 and 260 of Building 260. No wheat concentrations were found in these rooms, however, so we cannot be sure that these plants came from harvested wheat fields. Nevertheless, they are not local species and must have been brought to the site, whether deliberately or not, from a considerable distance.

#### Building 234 Room 227

A large wheat concentration was found in Room 227 of Building 234, where 3,293 out of a total of 3,339 grains were localized in the northeastern corner of the room. Other plant remains in that pile included 263 grains of *Lolium temulentum* and 52 seeds of *Chenopodium murale*, both well-known and widespread weeds. This concentration of wheat and weeds in the same pile suggests that it was a load of wheat harvested from a single field.

In the same pile, two geographical indicator species were found: *Schoenus nigricans* and *Anthemis pseudocotula* var. *rotata* (figure 23.10). *S. nigricans* does not grow in the Philistine Plain but only in the Shephelah, the Sharon Plain, and the Samarian and Judean Hills. *Anthemis pseudocotula* var. *rotata* grows in the Philistine Plain, but not in the Shephelah. According to table 23.1, there are two regions where these two species grow together: the Sharon Plain and the Judean Hills. Thus, one or the other of these locations is the probable source of this wheat pile. Interestingly enough, a berry of the medicinal fruit *Laurus nobilis*, mentioned earlier, was found in Room 227 as well. Its closest habitat is also the Judean Hills (figure 23.1).

#### The South Street Pile

Another wheat concentration came from a similar pile in the South Street between Building 234 and Building 260. The wheat was found in two adjacent fine-grid excavation units, located just one meter

from the wheat pile in Room 227 of Building 234. The South Street pile contained large numbers of wheat grains and weeds: 2,738 wheat grains, 621 grains of *Lolium temulentum*, and 25 grains of *Phalaris paradoxa*, another well-known weed.

In this pile were found three weed species that serve as geographical indicators: *Anthemis pseudocotula* var. *pseudocotula* (figure 23.9), *Anthemis pseudocotula* var. *radiata* (figure 23.11), and *Linaria chalepensis* were found. The closest location where all three of these plants grow is the Judean Hills, about 40 km east of Ashkelon (figure 23.1).

The wheat concentrations in Room 227 and in the South Street are only one meter apart and their weed assemblage is similar, so it is possible that they belonged to one large pile. If this is true, we have five indicator species to work with (two in Room 227 and three in the South Street), and the closest common habitat of all five is in the Judean Hills.

#### Building 260 Room 406

Room 406 in Building 260 contains only one indicator plant, *Arnebia decumbens* (figure 23.12), which is a desert-border plant that grows today in the northern and western Negev. Although this plant is also found in the Judean and Samarian Hills, these areas are about twice as far from Ashkelon. Since this is the only indicator plant found in this room, we cannot rule out the possibility that the grain was brought from these highland regions east or northeast of Ashkelon.

#### Building 260 Room 260

Room 260 in Building 260 contains two indicator plants, the above-mentioned *Arnebia decumbens* and *Erucaria microcarpa*. *Erucaria microcarpa* (figure 23.13) grows today in the Philistine Plain, the Shephelah, the northern and western Negev, and in the Judean Hills, but not in the Sharon Plain or the Samarian Hills (table 23.1). These plants have different distribution patterns, so if they were brought to Ashkelon together in one event, they may have come from the northwestern Negev, which is the closest location where they both grow today. If these species were brought separately, *Erucaria microcarpa* could easily have come from the local Philistine Plain, whereas the closest habitats of *Arnebia decumbens* are in the northwestern Negev. But because both species also grow in the Judean Hills, the location from which the Room 227-and-South Street wheat pile discussed above is likely to have come, we cannot rule out that source.

Another possible explanation for the presence of these plants in Ashkelon is that they were brought by sheep or goats that had been grazing in locations where the plants grew, or they were attached to imported wool. The arrow-like fruit cluster of *Erucaria microcarpa* and the bristles on the calyx of *Arnebia decumbens* are easily caught in sheep's wool and goat hair. It is interesting to note that these two species were found only in Building 260.

#### Building 234 Room 221

Three indicator plants were found in Room 221 of Building 234: *Anthemis pseudocotula*, var. *pseudocotula*, *Anthemis pseudocotula* var. *rotata*, and *Schoenus nigricans*. If all three plants arrived together in a single shipment, the Judean Hills and the Sharon Plain are the closest habitats in which all of them currently grow. If they arrived separately, the two *Anthemis* varieties would probably have come from the nearby Philistine Plain while the *Schoenus nigricans* came with grain imported from the Shephelah or the Sharon Plain (figure 23.1).

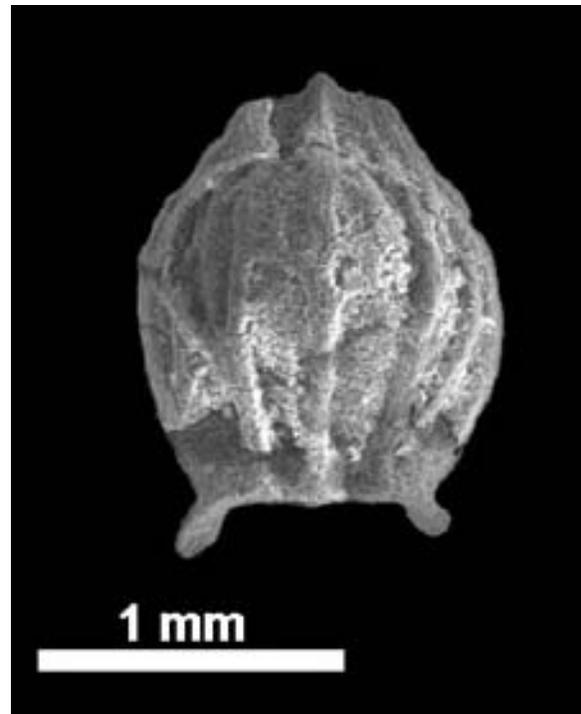


Figure 23.13: Archaeological *Erucaria microcarpa* = *Reboudia pinnata* (pink mustard)

The upper joint has five longitudinal ridges.

## Pit 267 in the South Street

In contrast to the other archaeobotanical assemblages in the Grid 50 excavation area, the remains of fruit (grapes and figs) account for the majority of the rich plant assemblage in Pit 267 (table 23.2). Grapes constituted the main component of the assemblage, represented by ca. 3,800 grape pips and raisins. The 5,188 fig nutlets found in the pit represent a much smaller number of actual figs because the number of nutlets per fig is very high. Grapevines no doubt grew in and around the Iron Age city, as shown by evidence of a local wine-production industry in the seventh century B.C. (Stager 1996a; 1996b; and chapter 2 of the present volume). Grapevines were also cultivated in and around the site in more recent times (Zohary 1982).

It is likely, then, that Pit 267 served as a silo for storing locally produced grapes and figs. This interpretation is supported by the absence of nonlocal weeds in this pit. Conversely, it is all the more likely that the presence of nonlocal weeds in nearby piles of wheat is a sign that the grain was imported from a distant location.



Figure 23.14: Archaeological *Ochthodium aegyptiacum* (Egyptian gold-of-pleasure)  
Side view of silique found in Room 58 of Building 58.

## Building 58 Room 58

A very large concentration of cereals was found in Room 58 of Building 58. Some 18,800 grains of small-grain wheat (*Triticum parvicoccum*) and emmer wheat (*Triticum dicoccum*) were found together with 1,425 barley grains (*Hordeum vulgare s.l.*).

Other plant remains in this grain pile included the following well-known and widespread weeds: 3,201 grains of *Lolium temulentum*, 34 grains of *Phalaris paradoxa*, and 24 seeds and 7 achene of *Bupleurum subovatum*. The concentration of large amounts of wheat and barley grains with well-known weeds and local wild plants such as *Sixalix arenaria*, *Thymelaea hirsute*, and *Ochthodium aegyptiacum* (Egyptian gold-of-pleasure; figure 23.14)—all together in the same pile—suggests that this pile represents a load of cereals brought from local fields.

*The Source of Sand Used As a Construction Material*

In addition to determining the geographical origin of the wheat found in Ashkelon, archaeobotanical finds can help us identify the source of sand used as a construction material at the site. We suggest that the nutlets of *Echiochilon fruticosum* var. *sieberi* (figure 23.3) arrived at the site mixed with the sand used in the building of houses. These nutlets were found in sizable quantities on the floors of most of the rooms of the Grid 50 excavation area (table 23.2).

*E. fruticosum* var. *sieberi* is a small bush from the Boraginaceae family, which is a common obligate sand plant, endemic to Sinai, Israel, southern Jordan, and Lebanon. The characteristic feature of the local variety is the egg-shaped nutlet, which tapers toward its end. The length of the nutlet is 2.1–2.6 mm and its width is 1–1.3 mm (Johnson 1957). The nutlets in Ashkelon resemble this variety, which is significantly different from the typical *E. fruticosum*, which grows in North Africa, from eastern Morocco to Egypt. The most important difference between *E. fruticosum* varieties is in the shape of their nutlets. While var. *sieberi* nutlets are egg-shaped, those of typical *E. fruticosum* are medially bent by almost 90° so that the upper half is vertical and the lower half is horizontal and directed away from the axis of the fruit (Johnson 1957).

In the twentieth century, no nutlets were available for inclusion in *Flora Palaestina* (Feinbrun-Dothan 1978:60–61). However, we have found a few fruit-bearing branches of the local variety *sieberi* in Ashkelon and at several locations in the Sharon Plain. It should be stressed that *E. fruticosum* is a common plant in the sand dune areas around Ashkelon, but not

in the *kurkar* (calcareous sandstone) ridges nearby (see the discussion of these ridges in *Ashkelon 1*, p. 13). These ridges constitute one of the four longitudinal strips or geological zones that run parallel to the coastal plain, which are (from west to east): sand, sand and fossil soils, ridges of *kurkar* sandstone, and alluvial soils (Dan and Yaalon 1976; Regev 1990). Geological surveys indicated that sand dunes were present in the Ashkelon area during the Iron Age (Netser 1994:66–81, 113–117).

The appearance of a conspicuous number of Boraginaceae nutlets in archaeological excavations has been mentioned by Helbaek (1970). He explained that the nutlet's heavy seed-case of calcium carbonate and silica turns whitish after the seed is burnt. Hillman (1972; Hillman et al. 1989) has suggested that the silica-impregnated nutlets of this family survive without charring even in moist, aerobic deposits.

There is thus a tendency toward overrepresentation of the Boraginaceae family nutlets with respect to associated charred remains. Indeed, most of the *E. fruticosum* nutlets found in the Ashkelon floor material show no signs of charring. Those samples that do exhibit charring were probably located on the surface of the floor.

Although *E. fruticosum* nutlets are collected by ants into their burrows, we think it unlikely that these nutlets are a recent intrusion due to ants because the presence of nutlets that show signs of charring indicates that the rest of the nutlets are part of the 604 B.C. assemblage. Moreover, most of the Grid 50 finds came from sealed archaeological contexts, having been buried under thick destruction debris formed by the collapse of roofs and walls. Instead, we suggest that the nutlets were brought in with sand that was used as a construction material in Iron Age Ashkelon.

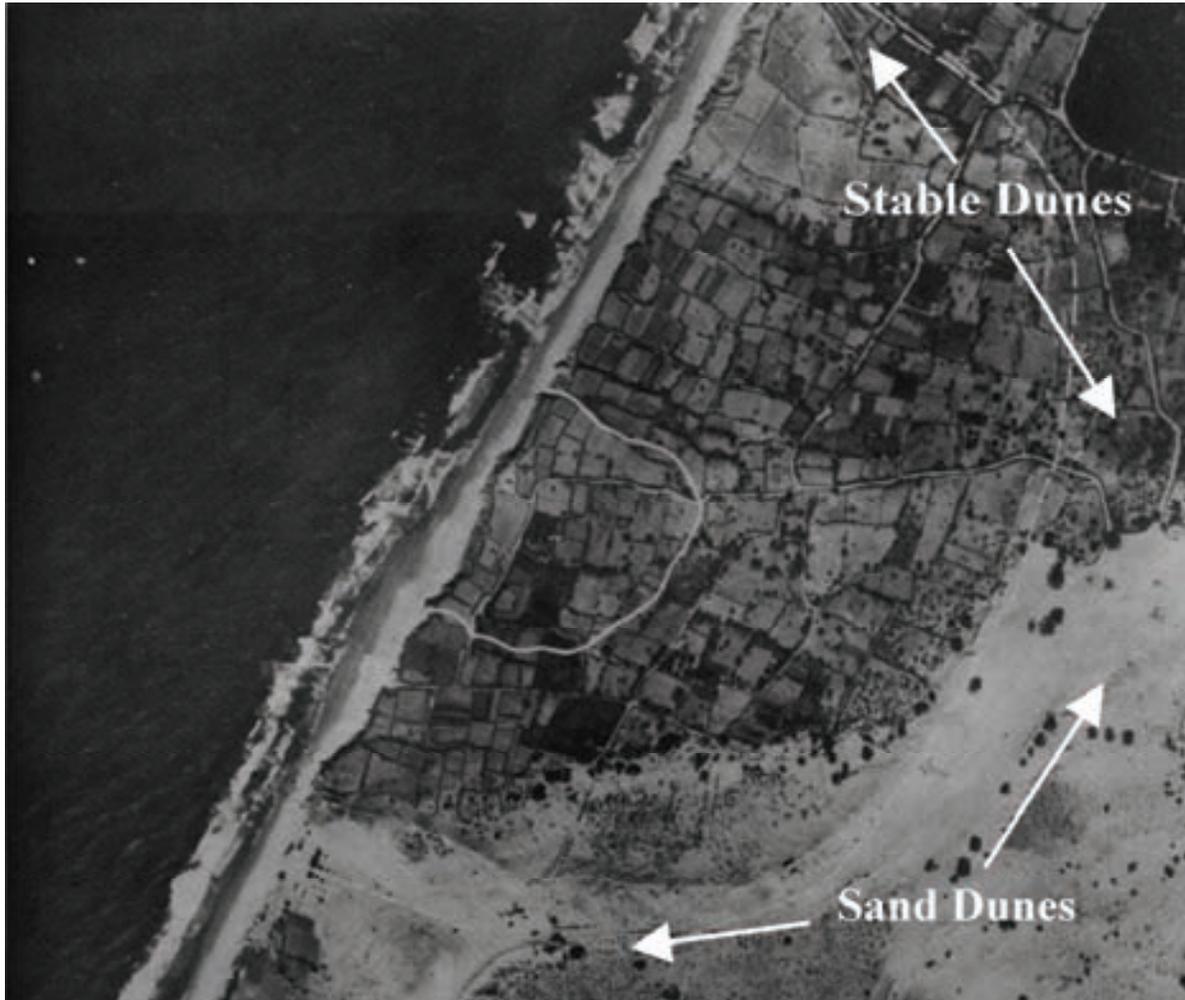


Figure 23.15: Aerial photograph of Ashkelon

There are loose sand dunes south and southeast of the site and stable dunes to the north and the northeast (Avi-Yonah and Eph'al 1975:125). *E. fruticosum* bushes are found in the loose dunes to the south and southeast but not in the stable dunes.

Sand is commonly spread as a leveling fill for the construction of beaten-earth floors and was used as a building material in Iron Age Ashkelon. *E. fruticosum* is an obligate sand plant. Assuming that the present-day distribution of *E. fruticosum* bushes is similar to that of the Iron Age, these nutlets indicate the original location of the sand. Based on the modern distribution pattern, it appears that the sand used for construction was transported from the loose dunes south and southeast of the site, but not from the stable dunes to the north or northeast, or from the seashore to the west (figure 23.15).

The topography of the ancient site of Ashkelon supports this interpretation. The western side rises on a cliff above the seashore and is very steep today, as it probably was during the Iron Age. This would explain why, when carrying heavy loads of sand, the ancient inhabitants of the city preferred the easier route to the south or southeast, inadvertently bringing with the sand many *E. fruticosum* nutlets from the bushes that happened to grow in the looser dunes on that side of the site.

The distribution of *E. fruticosum* nutlets within the Grid 50 excavation area provides further support for this interpretation. Large numbers of nutlets were found inside the rooms and in the streets, while only one nutlet was found in Pit 267, which was in other respects the richest archaeobotanical sample we analyzed (table 23.2). The reason for this is that sand was used as a construction material to level up the floors of the rooms and the street surfaces, whereas Pit 267 was a separate storage facility or silo.

Having concluded that *E. fruticosum* nutlets are a marker for the use of sand, we tried to estimate the amount of sand used for building purposes in Ashkelon. We examined both herbarium material and plants in the field in an attempt to determine the number of nutlets on a typical *E. fruticosum* bush, since this issue is not dealt with in the literature. We found that the average number of nutlets per bush is very low (fewer than 20), that not all bushes were fertile, and that very few nutlets (fewer than 10) were found in the sand under each bush. Exact quantification is not possible, however, because the productivity of *E. fruticosum* bushes is sporadic and each nutlet has an areole, a growth that contains oil, in its base. Because of these areoles, Boraginaceae nutlets are foraged by ants. As a result, the number of nutlets under the plants is less than plant's actual nutlet production. Assuming, however, that today's *E. fruticosum* community around Ashkelon is similar to that of the Iron Age, we can estimate that the amount of sand transported to the site was considerable. Regardless of such quantitative estimates, we have shown that

rare archaeobotanical finds can be used to reconstruct a neglected aspect of daily life that might otherwise have been ignored.

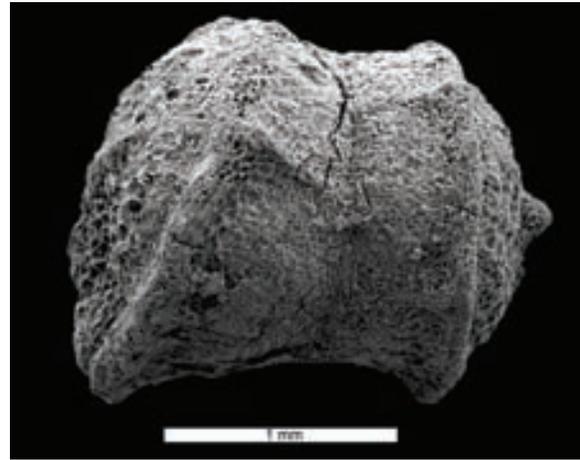


Figure 23.16: Archaeological *Beta vulgaris* ssp. *maritima* (white beet)

Side view of a dispersal unit with two joined fruits, typical of this subspecies. The connection area of the two fruits can be seen in the middle. This specimen was found in Room 58 of Building 58.

#### *Wet-habitat Plants and a Possible Change in Ashkelon's Open-water Surroundings*

Although there are very ancient sand dunes in the vicinity of Ashkelon that long predate the seventh century B.C., this area was increasingly covered by sand after the Iron Age, as happened elsewhere along the Mediterranean coastal plain (figure 23.17). From the Byzantine period until recently, large sand dunes have encroached upon the coastal strip. Some portion of Ashkelon's Iron Age surroundings must therefore have become covered over by sand in relatively recent times (Dan and Yaalon 1976; Netser 1994; Gvirtzman et al. 1998).

Another notable feature of the Ashkelon area is its high water table (Zohary 1982). Thus, if we posit an Iron Age environment with less sand coverage, we can propose two additional locales where grain fields do not exist today but could well have existed during the Iron Age and been exploited by the Iron Age inhabitants of Ashkelon. One such place is in the depressions between the *kurkar* ridges within a few kilometers of the site, where alluvial soil had accumulated and the water table is high. The second favorable habitat is the floodplain of the Nahal Shiqma 10 km south of Ashkelon, or, somewhat farther afield, the floodplain of the Nahal Sorek, which flows into the Mediterranean about 30 km north of the city.

The high water table allows us to assign a few wet-habitat plant species to these putative Iron Age field locales in the Ashkelon area: *Schoenus nigricans*, *Cladium mariscus*, and *Lysimachia dubia*, and perhaps also *Juncus acutus*. *Schoenus nigricans* is a very rare plant that does not grow today in the Philistine Plain. The identification of *Cladium mariscus* and *Lysimachia dubia* is not definitive due to poor preservation. Other species were found among the plant remains of Ashkelon that also grow in wet habitats but are not limited to them: namely, white beet (*Beta vulgaris* ssp. *Maritima*; figure 23.16), lilac chaste tree (cf. *Vitex agnus-castus*), sea barley (*Hordeum marinum*), fiddle dock (*Rumex pulcher*), pale-flowered flax (*Linum bienne*), and *Cephalaria joppensis*.

A historical source from the first century B.C. indicates that there was a large, deep lake near Ashkelon during the Hellenistic period. A temple dedicated to the goddess Derketo stood on its shore (Diodorus Siculus 2.4.2–6). The location of this lake is unknown. In the nineteenth century, Guérin (1869) mentions seeing a large, deep-water pool in the estuary of the Arivie River south of Ashkelon, but its location is also unknown. A few small ponds appear around Ashkelon on British maps of the late nineteenth and early twentieth century (Conder and Kitchener 1882; Palestine Map 1917). The British Palestine Exploration Fund surveyors Conder and Kitchener (1882:410–11) noted that one of the water sources for the Arab village of Majdal, situated a few kilometers inland from the site of ancient Ashkelon, was a lake located to the east of the village. An intermittent watercourse named Wadi Ibrahim ran south of Ashkelon; it is plugged today.

Although we did not find enough plant remains in the Ashkelon assemblage to prove the existence of wet-habitat fields, it is clear that in the past the Ashkelon area featured more abundant pools of open water than are present today. There is reason to believe that the main crop fields of the Iron Age city were located around such pools and in the depressions between the *kurkar* ridges.

#### *The Extent of Ashkelon's Agricultural Hinterland*

The distance between premodern settlements and the fields that supply them with plant food is usually less than 7 km (Chisholm 1968). We suggest that many of Ashkelon's fields were indeed near the city, in the depressions between the *kurkar* ridges that run parallel to the Mediterranean shoreline (figure 23.17). Relatively recent sand dunes now cover these ancient fields, so it is impossible to locate them precisely. However, scattered old vines, apparently rooted in

fertile soil underneath the sand and still producing fleshy grapes, are visible in the sand-covered depressions. A certain amount of Ashkelon's food no doubt came from fields adjacent to the city, as attested by some components of the plant assemblage.

But even though the arable land around Ashkelon was much more extensive during the Iron Age, we find it hard to believe that the farmland available within a 7-km radius could have supported a city with a population of 10,000–12,000, as estimated by Stager (1996a) based on the size of the 60-ha site. The subsistence requirements of the city's inhabitants would have been in excess of what could have been produced on nearby farmland.

To be sure, our knowledge of the productivity and efficiency of Iron Age agricultural systems is scarce and fragmentary; however, there is some data we can use to make reasonable estimates. Stanhill (1978) provides a quantitative analysis of the output of a typical farm in the Jezreel Valley during the early decades of the twentieth century. He based his analysis on the description and measurements made at the time by Elazari-Volcani (1930). The main source of Elazari-Volcani's data are records collected over a ten-year period (1914–1923) from an agricultural area totaling 1,000 ha. This area was cultivated by 50–60 farmers in the traditional manner. On average, each farmer cultivated 9–12 ha. Only two-thirds of the area was cultivated; the remainder was pastureland, uncultivated land, or occupied by buildings. Half of the cultivated area was devoted to cereals, 90 percent of it for rainy-season wheat. Since the total crop yield from a 9-ha area was 3,860 kg, of which 53 percent was wheat, Stanhill computed a land requirement of 1.7 ha per person. This puts the Jezreel Valley farmers of the early twentieth century at the lower level of subsistence farming (Clark and Haswell 1968).

Using Chisholm's (1968) formula, the 7-km radius that typically encompasses a settlement's crop fields yields ca. 1,100 ha of farmland in the case of Ashkelon. Using Stanhill's estimate of 1.7 ha per person, this amount of land would have supported just 650 people. This is only a rough estimate, of course, but it makes it clear that Ashkelon could not have relied solely on fields located immediately around the city. Regular shipments of cereals and other foodstuffs from farther afield must have occurred, as our analysis of the nonlocal weed species suggests.

Wheat was probably imported into Ashkelon from the Judean Hills, 40 km to the east. This is strongly indicated by the plant assemblage from the wheat pile in the South Street and the nearby Building 234. The Judean Hills are a likely place of origin for the plants

in other assemblages as well. Midway along the eastern trade route leading to the Judean Hills are the Shephelah foothills, which are home to various species found at Ashkelon. Other possible trade routes to and from Iron Age Ashkelon, as indicated by the plant remains, are the northern route toward the Sharon Plain and the southern route toward the Negev. The eastern and southern routes required overland transportation, which no doubt was more expensive than bringing grain from the Sharon Plain by sea (Faust and Weiss 2005).

Stager (1996a) suggests, based on the abundance of Phoenician pottery, that Ashkelon was supplied from the north. The plant remains provide independent support for this suggestion, indicating that the Sharon Plain was a possible source for the wheat pile in Room 227 of Building 234. The Sharon Plain, together with the Shephelah, is a likely source also for the wheat found in Room 221 in the same building.

The origin of imported commodities for an important seaport such as Ashkelon was not restricted to the area around the Nahal Sorek or the Sharon Plain. If wheat had been transported to the city from the north by ship, it could have come from many other seaports along the eastern Mediterranean coast, such as Jaffa, Dor, Akko, Tyre, and Sidon. All of the above-mentioned varieties of *Anthemis pseudocotula*, together with *Helianthemum stipulatum* and *Schoenus nigricans*, grow along the Mediterranean coastal plain from Israel to Lebanon (Heller and Heyn 1986; 1987; 1991; 1993; Zohary, Heyn and Heller 1980; 1984). Textual evidence of such trade is provided by Jeremiah 47:4, which describes a special relationship between the Philistines and the Phoenicians of Tyre

and Sidon. We can therefore conclude that a certain amount of the plant food consumed in Ashkelon was shipped to the city from various places along the coasts of modern Israel and Lebanon.

In summary, by using the late Iron Age plant remains from the Grid 50 excavation area in Ashkelon, especially the wheat piles, we have been able for the first time to reconstruct rarely discussed aspects of the city's economy. We conclude that the agricultural hinterland of Ashkelon was partly local and partly distant. At least some of the city's wheat supply came overland from the east, perhaps from as far as the Judean Hills, as well as from the north and the south. The results of our study agree well with the view of Iron Age Ashkelon as a major commercial center that was besieged and destroyed by the Babylonian army in the late autumn of 604 B.C. The plant assemblage shows interesting indications of anxiety in the face of the impending siege: piles of weed-infested wheat, signs of early harvesting, signs of insect-infested wheat, and the acquisition of wheat supplies from far away (Faust and Weiss 2005). This archaeobotanical indication of anxiety agrees nicely with the historical documents and with other archaeological evidence for siege and destruction by a fearsome army.

Acknowledgments:

We would like to thank Prof. Lawrence Stager for allowing us to analyze the plant remains from Ashkelon; Prof. A. Danin for sharing the Year 2000 database; and Dr. Avi Sasson for information regarding Wadi Ibrahim and the sources for the winter pools around Ashkelon. We also thank Lawrence Stager, Ofer Bar-Yosef, Julie Hansen, Ann Butler, Paul Goldberg and Avraham Faust for their helpful comments on earlier drafts of this report.

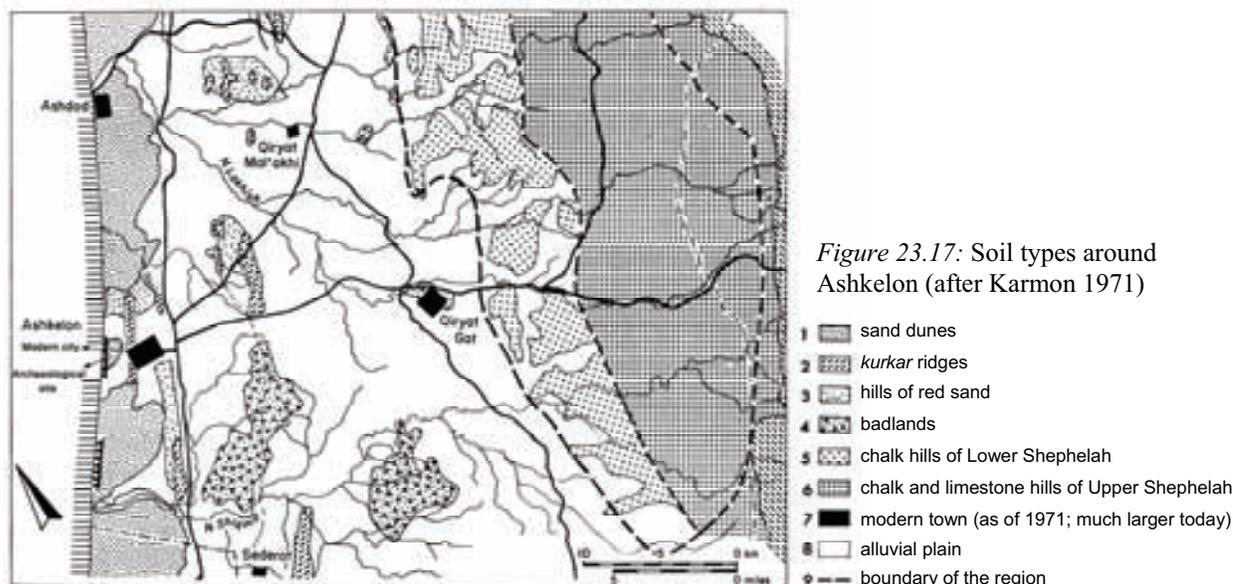


Figure 23.17: Soil types around Ashkelon (after Karmon 1971)

Table 23.2: Quantity of Archaeobotanical Remains According to Species, Organ, and Room Location within the Grid 50 Phase 7 Excavation Area

Species	Organ	Building 58		Building 260		Building 234			West Street	Building 406 Rm 406	Pit 267	South Street	Bldg 276 Rm 421	TOTAL
		Rm 52	58	Rm 252	260	Rm 221	227	234						
<b>Cereals</b>														
	<i>Hordeum vulgare</i> s.l.	10	1,922	2	16	6	5		11	45	162	11	2,190	
	rachis node					4	4	2	6	16	4	10	48	
	glume			4	4	8	13	2	6	4	25	13	91	
<i>Triticum dicoccum</i>	grain		1,425	1		1	7	4	1	2	5	2	1,448	
	spikelet fork	1	3,837										3,838	
<i>Triticum parvicoccum</i>	grain	59	17,384	28	22	3	11	19	17	121	2,784	43	23,840	
	rachis frag.		5			14			2	22	4		5	
	rachis node							1	2				43	
	<b>Total cereals:</b>	<b>70</b>	<b>24,573</b>	<b>34</b>	<b>42</b>	<b>9</b>	<b>44</b>	<b>27</b>	<b>43</b>	<b>210</b>	<b>2,984</b>	<b>79</b>	<b>31,503</b>	
<b>Fruits</b>														
<i>Amygdalus communis</i>	stone					2							2	
<i>Ceratonia siliqua</i>	seed		1			2					1		4	
<i>Ficus carica</i>	fruit							1	1	1			3	
	nutlet	2	288	106	208	58	45	8	57	3,139	1,397	37	5,478	
cf. <i>Ficus sycomorus</i>	ovary		1			8		2	3		9		23	
<i>Laurus nobilis</i>	stone						1						1	
<i>Olea europaea</i>	stone	5	6	1	5	1	15	3	8	2	57	20	155	
cf. <i>Pistacia</i> sp.	nutlet				2				3	16	16	3	42	
<i>Punica granatum</i>	seed	2	1		1				10	113	43	5	212	
<i>Vitis vinifera</i>	pedicel	1	10	5	5	3	12	5	2				0	
	peel													
	pip	5	86	136	163	62	74	21	67	1,880	934	188	3,805	
	pip imprint		1										1	
	raisin	3	2		1	1	1	1	5	32	19	1	69	
	undevel. pip		6			6	11			133	10	1	167	
	young fruit		4	2	2	1	3	3	1	30	3	2	50	
	<b>Total fruits:</b>	<b>10</b>	<b>387</b>	<b>268</b>	<b>386</b>	<b>126</b>	<b>193</b>	<b>38</b>	<b>95</b>	<b>5,346</b>	<b>2,489</b>	<b>257</b>	<b>10,014</b>	









Table 23.2: Quantity of Archaeobotanical Remains According to Species, Organ, and Room Location within the Grid 50 Phase 7 Excavation Area (continued)

Species	Organ	Building 58 Rm 52 58	Building 260 Rm 252 260	Building 260 406	Rm 221	Building 234 227 234	West Street	Building 406 Rm 406 423	Pit 267	South Street	Bldg 276 Rm 421	TOTAL	
<b>Weeds and wild plants (continued)</b>													
<i>Ranunculus</i> sp.	seed						1					1	
<i>Raphanus raphanistrum</i>	siliqua		1									1	
cf. <i>Raphanus raphanistrum</i>	joint	1										1	
<i>Rapistrum rugosum</i>	seed			1								1	
cf. <i>Reboudia pinnata</i>	upper joint	1										1	
<i>Retama raetam</i>	seed					1						1	
<i>Rumex pulcher</i>	nutlet	5							1	9		15	
	seed	1										1	
<i>Rumex</i> sp.	seed	2										2	
<i>Schoenus nigricans</i>	nutlet				2	1						3	
<i>Scorpiurus muricatus</i>	seed	12	2					4	5			23	
<i>Sherardia arvensis</i>	mericarp									1		1	
<i>Silene nocturna</i>	seed									1		1	
<i>Silene</i> sp.	seed	21						2				23	
cf. <i>Sisalix arenaria</i>	achene	1										1	
<i>Spergula arvensis</i>	seed					4						4	
<i>Spergula fallax</i>	seed	1										1	
cf. <i>Spergula</i> sp.	seed	2										2	
<i>Stipa bromoides</i>	grain											1	
<i>Teucrium capitatum</i>	mericarp											1	
<i>Thesium humile</i>	seed								1			1	
<i>Thymelaea hirsuta</i>	nutlet	1		5	1							19	
<i>Thymelaea passerina</i>	nutlet	2	2						8	3	1	17	
<i>Trifolium</i> sp.	seed				2							2	
<i>Trigonella foenum-graecum</i>	seed					1						1	
<i>Vicia</i> sp.	seed	1	17									18	
<i>Vigna luteola</i>	seed	1										1	
cf. <i>Vitex agnus-castus</i>	fruit	1										1	
<b>Total weeds and wild plants:</b>		<b>58</b>	<b>3,422</b>	<b>70</b>	<b>55</b>	<b>17</b>	<b>47</b>	<b>80</b>	<b>0</b>	<b>363</b>	<b>972</b>	<b>142</b>	<b>5,958</b>
<b>Grand total:</b>		<b>8,136</b>	<b>28,677</b>	<b>380</b>	<b>495</b>	<b>154</b>	<b>166</b>	<b>294</b>	<b>8</b>	<b>5,959</b>	<b>6,490</b>	<b>479</b>	<b>55,895</b>



## 24. ANIMAL REMAINS

by Brian Hesse, Deirdre N. Fulton, and Paula Wapnish

THE Grid 38 and Grid 50 excavation areas have produced samples of animal remains that can be linked to contrasting spatial and behavioral contexts within the social and economic setting of seventh-century B.C. Ashkelon. Analysis of these faunal materials provides insight into the nature of the use of animals in a relatively underreported time period in Levantine zooarchaeology (see Hesse and Wapnish 2002:table 17.8 for a tabulation of some of the comparable data).

A useful way to conceptualize the evidence that records the ancient behavioral contexts sampled by the Leon Levy Expedition to Ashkelon is through the use of James Deetz's (1977:94) model of focus and visibility. These continuous and cross-cutting variables can be simplified for explanatory purposes into a matrix of four basic categories: (1) high visibility–high focus; (2) high visibility–low focus; (3) low visibility–high focus; and (4) low visibility–low focus. Deetz offers these terms as general characterizations. He suggests that archaeological remains have high visibility when their physical mass on the landscape or contrast with the “background” makes them unmistakable, whereas they have high focus when there is a clear connection between the recovered artifacts and the specific past human behavior that produced them.<sup>1</sup>

Modern examples drawn from two contrasting categories of Deetz's matrix help elucidate his distinctions. The Fresh Kills Landfill on Staten Island is an exceptionally visible collection of archaeological remains; in fact, the mountain of garbage can be seen from space by astronauts and cosmonauts. However, this enormous pile of debris merges materials drawn to the island by a steady stream of trucks and barges carting garbage collected from a large number of New York and New Jersey neighborhoods, business districts, roads, industrial parks, and other facilities. The possibility of linking samples (at least those that are neither labeled by packaging nor include mail!) that could be excavated from Fresh Kills to one of these individual behavioral settings is low. This combination represents the high visibility–low focus cate-

gory of Deetz's model. On the other hand, archaeological remains may have low visibility and high focus. Here, the number of artifacts may be small and difficult to observe, but they are located in preserved arrays that, if discovered, can be clearly connected to past microbehavioral settings. A New Orleans household buried under sediments dumped by the Hurricane Katrina flood captures a sense of what is meant here. Many of the potentially recoverable finds in that ruin are in either (in the senses developed by Schiffer 1976) “behavioral” or “primary discard” contexts. They represent residues of recently completed or ongoing human activities in a very immediate way.

Combining the perspectives derived from samples with different visibility and focus offers opportunities to look at past behavior at contrasting scales. For instance, one can hypothesize that the size of a dump is more or less proportional to the size of the physical space from which the contained debris is drawn. Thus, enormous samples collected from a huge trash pit, such as the one found in the filled-in quarry in Grid 50 underlying the destroyed marketplace, may give a measure of the general parameters of, in this case, the production, exchange, and utilization of animal products across the textured social landscape of a complex urban settlement in the terminal phases of the Iron Age in the Levant.<sup>2</sup> On the other hand, patterns drawn from a few high-focus samples in complex sites tell us little about the general structure of the city-wide adaptive system unless they were chosen by statistically sound research designs aimed at recovering just that diversity of activity. Yet, they do give insight into particular components of that behavioral system; some of which may only be tangentially tied to the main arenas of animal management, food-production, and other sorts of production, as well as consumption and utilization activities. The differences between these samples, one high visibility–low focus, the other high focus–moderate visibility, may offer a modest measure of the diversity of the animal-processing activities going on in a complex community and its spatial expression.

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<sup>1</sup> The other two quadrants in Deetz's matrix are filled by “high focus–high visibility” sites, exemplified by the pyramids of Egypt, and “low focus–low visibility” sites, exemplified by a lone Neanderthal tooth in a stream-bank deposit in southern Germany.

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<sup>2</sup> Ashkelon has produced at least one additional example of a high visibility–low focus deposit, which was recovered from the Middle Bronze Age moat on the North Slope of the site (see *Ashkelon 1*, p. 224). This will be the topic of a future report.

*Modeling the Interpretation of the Faunal Evidence*

The zooarchaeological samples recovered from the debris that accumulated at Ashkelon both before and during the 604 B.C. destruction of the city conveniently map onto this distinction between focus and visibility. The Grid 50 excavation area produced two large collections of faunal remains.<sup>3</sup> The earlier collection includes the debris sampled by excavations that removed a deposit which had accumulated in a huge pit created by earlier stone-quarrying operations in the area. The latter collection includes two components: samples recovered from surfaces and rooms in the marketplace constructed near the end of the seventh century on top of the refilled quarry, and the destruction layer created by the actions of the invading Babylonian army.

What expectations can we apply to these materials? A trajectory in the long-term evolution of systems of animal production and use describes an arc of increasing spatial segregation of the activities of herd management from the sequence of places where animals were slaughtered, butchered into carcass parts, cooked, and consumed. Expectations can be constructed concerning the debris generated by activities associated with raising animals and with meat extraction. For example, as husbanders' goals are shaped more and more by the opportunities presented by urban markets and their more affluent consumers, the culls the herdsmen take from the flock will be divided into those selected for household consumption and those of high anticipated exchange value. It is also likely that pastoralists will have more than one market to supply and may anticipate outlets other than markets for their animal products, perhaps as

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<sup>3</sup> An important note about method: the processing of the hundreds of individual lots of animal remains collected from these archaeological contexts was done, for the most part, during the same field seasons in which they were excavated. The enormous volume of bones and teeth recovered from Ashkelon each day demanded that a kind of triage be applied. Decision-making about which lot of bones ought to be studied was an ongoing process based on the evolving appreciation of the stratigraphy of the site and the anticipated questions of the research design as they applied to various aspects of the site. Thus some materials were recorded that, on further study, turned out not to be part of the target contexts, and other bags of bones that should have been examined were not. It would have been better to have devoted a lab season to correcting that problem, but that turned out to be impossible. However, our sample is large enough to suggest that it can offer a robust view of the internal variability of animal-related activity for both the Grid 50 quarry-fill sample and the 604 B.C. destruction debris in the marketplace.

tribute (Wapnish 1996) or as offerings sent to a cult center (Wapnish and Hesse 1991). Since almost all zooarchaeological research in the southern Levant has targeted a single site, analysis faces the daunting problem of reconstructing a dispersed system from evidence gathered at a single point in an economic landscape.<sup>4</sup>

Thus the individual mortality patterns for domestic stock that are derived from samples recovered from pastoral villages or camps or found in urban dumps all will prove incomplete accounts of the actual culling strategies applied by herdsmen. It is for this reason that the production goals of pastoralists—emphasizing, say, a focus on meat, milk, fiber, or, most probably, herd security—which are typically inferred from mortality patterns deduced from archaeological samples (see, e.g., the discussions in Payne 1973; Redding 1981; and Wapnish and Hesse 1991; 2000) are really better understood as pictures of household resources,<sup>5</sup> products brought to market, or even responses to demands for tribute in periods when complex economic systems are in place.

Considering just the husbandry of basic domestic stock, there is an economic and political-economic dialogue between demand for high quality, well-fattened animals, expressed either by price signals or the ability to apply force to producers, and supply, where the risk calculus of producers leads them to keep quality beasts in use and divert less valuable ones to slaughter. Once delivered to a “market,” livestock are again potentially available for redistribution, but this time the key decisions will be by middlemen who determine the relative benefit of selling to local slaughterers as opposed to shipping animals on to market or tribute centers where higher prices or social benefits might be obtained. These complex

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<sup>4</sup> The development of a regional perspective on ancient animal production and use—like the heroic attempt of Seymour Gitin to create a multi-excavation working group to deal with the larger issues of the archaeology of the seventh century B.C.—would be a great achievement for Levantine zooarchaeology. Such a strategy holds out the promise of recovering evidence from the dispersed array of sites engaged in animal production, which, according to ethnographic parallels, must have been connected systemically in the late Iron Age. In the absence of such collaborative work, we are left to speculate about the nature of the wider economic structure that generated our samples.

<sup>5</sup> The quality of the animals consumed rather than sold by a pastoral household is determined to a great degree by the economic and political independence of that social unit and the perception of risk held by a herdsman. Wealthy herdsmen may choose to raise very high-market-value stock even though the risk of failure in producing these animals is great.

interactions produce different age and sex profiles of the animals represented in various archaeological samples. Sadly, there simply is no Urban Mortality Profile that can be distinguished from a Rural Mortality Profile for sheep, goats, pigs, and cattle. Rather, there are constantly fluctuating systems allocating stock to slaughter at different destinations based on shifting circumstances. Zooarchaeologists struggle with this problem.

One more easily measured variable in this mix is the abundance of animals of “prime” age, ones with both good carcass quality and the stamina to be herded to distant locations. As the political strength of a local community declines, we can predict that the ability of residents to consume higher quality animal products will similarly decline. For this reason, tracking the consumption of late adolescent livestock is likely to be informative.

A parallel and complicating factor is the fact that it is not just the age of livestock that is in motion in these systems. The relative volume of flow of the most common barnyard stock is also important. In Near Eastern urban settings, sheep are traditionally more prized than goats. An increase of goats may signal, among other possibilities, either pressure on producers to deliver animals usually consumed by the household, or demands on market centers to push more valuable beasts on to distant consumers.

The labor of cattle is crucial in the intensified agricultural systems of the Levant. The carcasses of these animals are also more efficiently utilized when consumers are organized into large groups. Thus it is easy to see that abundances of beef carcasses in a coastal market may be connected either to the intensification of agricultural production in the immediate hinterland (hence an abundance of cattle in local barnyards) or to the existence of large nodes of consumers, perhaps groups of workers supplied by organized distribution systems or hungry diners at major feasts. Other scenarios are easily imagined. We are a long way from generating clear and testable hypotheses about these questions. The best we can do now is to develop rough-and-ready, even ad hoc, models from an empirical consideration of the evidence and examine their plausibility in the light of other sorts of evidence that can be assembled.

Once slaughtered, an animal is transformed into a carcass. The constituent parts (hide, meat, bones) are then shaped by knives and other implements into consumable portions, each transformation producing byproducts and debris of varying sorts. Grantham’s (1992) goals in his work with the Druze sought to elucidate this process in an ethnographic setting where several of the behavioral intersections of car-

ness processing and food production could be predicted to have occurred and the bone byproducts of this activity could be tracked. The degree of spatial concentration of the activities he encountered is likely to be greater than that found in a larger and more complex community. A key result of Grantham’s work is recognition of the importance of culinary considerations: what the cook wants shapes the butchering process in powerful ways. One variable of interest is the abundance of different parts of the carcass. Presumably the meat-heavy carcass parts, the limbs and the rib cage, will be absent from market areas because they were consumed in households while those parts of the animal with little nutritional value, feet and heads, will be left in the market debris. This does not mean, however, that meat-heavy bones turn up in the residues of household meals as evidence of meat-eating. Some modern culinary techniques in the Middle East strip the meat from the skeleton before it arrives at the table. Thus an absence of bones may mark the actual site of meat consumption.

#### *Animal Remains in the Grid 50 Excavation Area*

In the case of the Ashkelon bone samples, the expected range of behaviors is broad in some cases and narrow in others. The two collections from the Grid 50 excavation area—the quarry fill and the marketplace debris—reflect strikingly different behavioral contexts for which there are contrasting expectations. With respect to the quarry fill: several observations shaped the excavators’ understanding of the way the debris found there actually accumulated. On the one hand, architectural features and ephemeral surfaces found in the fill deposit indicate that it took some time to refill the quarry pit (see chapter 3 in the present volume). On the other hand, the homogeneity of the ceramic evidence indicates that the task was accomplished in a relatively brief time period towards the end of the seventh century B.C. The sheer size of the pit, which was more than five meters deep, required large amounts of debris to complete the infilling process. This need, combined with the relatively short time available, suggests that fill material was taken from a relatively large sector of central and western Ashkelon; in particular, from areas where the garbage of elite and common households, craft production facilities, and markets had been thrown into streets and left to accumulate.<sup>6</sup> Otherwise, both the

<sup>6</sup> Our models of “bone garbage behavior” in Levantine settings are weakly developed. An ethnographic study of the process of creating bone debris has been done for a

volume of soil and the range of artifacts found in the pit are difficult to explain.

Moreover, given the quality of some of the ephemeral surfaces encountered, the filling of the pit seems to have been an episodic process that continued over several years. There may have been times, particularly at the end of the filling process, when the decision to build structures atop the quarry fill speeded the work, but otherwise most of the filling activity probably occurred informally, not as an organized task sponsored by a single authority; thus no single or seasonal event is responsible for the sample. For this reason, the sample of bone and tooth remains from the quarry fill is regarded here as one in which most of the finds are in secondary discard context. Characterizations of the evidence should represent a diverse, though mostly unspecifiable, sample of residues from multiple activities related to the processing and consumption of animals in late Iron Age Ashkelon. The abundances of various bone types should closely approximate the frequencies of those anatomical categories in living animals because the detritus from different parts of the slaughtering–butchering–cooking–eating–discard process would have been reassembled through the formation processes that produced the quarry fill.

The later sample associated with the 604 B.C. destruction of the Grid 50 marketplace merges two different kinds of material. After the filling of the quarry was completed, a suite of multiroom buildings, separated from one another by streets and open spaces, was constructed on the newly prepared surface. This complex served as some sort of marketplace and stood in use for only a short while before the invasion occurred. Given this history, the first sorts of faunal debris that can be predicted to be in the excavated samples from this layer were those fragments of bone, tooth, and horn discarded after the major refilling of the pit, and so not yet incorporated into the matrix of the developing site. These were materials, produced by the animal processing going on in the market, which were discarded on the streets and floors, perhaps kicked or pushed into nooks and crannies but not yet buried (a “perthotaxic” sample, in one language of taphonomy; see the discussion in Hesse and Wapnish 1985). The second category of

debris includes those animal parts and products that were still ready for “sale” or were in use (behavioral context—Schiffer 1976) at the time the marketplace was destroyed. Doubtless, these potential finds were reduced by scavenging carried out by survivors, and perhaps victors, searching for choice bits in and around the collapsed structures.

The *Babylonian Chronicle* tells us that the destruction occurred in the winter of 604 B.C.<sup>7</sup> This prompts us to look for a seasonal bias in the animal remains, which should reflect the situation at the end of the calendar year or in the preceding months. Most livestock are born in the late spring. Since the attack took place in the winter, the sample should include few very young animals (0–6 months of age).

The excavated area of the destruction in Grid 50 has been interpreted as a marketplace (see chapter 3 in the present volume). This suggests that household habitation debris, which normally would include the byproducts of meals, is not an important component of our sample. Rather, the animal parts collected in our sample should include items not yet sold or distributed, together with the byproducts of the final preparation of carcasses and other animal products for sale. The debris from the actual consumption of these animals presumably would be found in unexcavated dwellings elsewhere in the city. Thus we expect that the animal remains collected in the Grid 50 excavation area would contain evidence of the economic interface between marketers and purchasers (or distributors and recipients). There should be a combination of what was on offer in the market and the debris generated by the marketing activity. The latter ought to be more common than the former. We would expect to find considerable accumulated debris generated by the final trimming of carcass parts before they were sold or otherwise redistributed, whereas parts of the skeleton that are of high food value should be less common in our sample.

#### *Animal Remains in the Grid 38 Excavation Area*

The sample from the Grid 38 excavation area is also drawn from a well-defined context. The bones were collected from the use and destruction phases of **Building 776** and the adjacent **Alley** on the east side of the building.<sup>8</sup> **Building 776** was a specialized

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Druze village in the Golan and applied to the archaeological evidence from Qazrin (Grantham 1992) but this approach has not yet been applied to the study of large-scale urban settlements. Thus we have few models of what types of bone debris are likely to be associated with activity areas other than residential structures and sacrificial centers (Wapnish and Hesse 1991; 2000).

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<sup>7</sup> The *Babylonian Chronicle* says that Nebuchadrezzar captured and destroyed Ashkelon in the month of Kislimu/Kislev (November/December); see Grayson 2000:100.

<sup>8</sup> Although the bones were assigned to separate “use” and “destruction” phases pertaining to the period just before the 604 B.C. destruction, on the one hand, and to the actual

structure where activities focused on wine production, although weaving and other activities also took place, as suggested by the loom weights found throughout the building (see chapter 18) and the remarkable Egyptian bronze situlae (chapter 13). The sample available for our study therefore does not contain the debris produced by an animal production facility or a household in which animal products were routinely consumed. It comes from an “industrial area” where the industry in question does not have an obvious need for animal products.

No ethnographic model exists to help us evaluate the zoological evidence. Our expectation is that the bone remains represent the debris created by the occasional consumption of meat and other animal products by those engaged in wine production and the other specialized activities attested in the building. Since these may be seasonal projects, considerable uncertainty is associated with applying any interpretive model. The effects of urban scavengers like dogs may also have had some impact in creating the sample, although exceptionally few bones in the collection were gnawed. It may be best to view the description of this sample as a first inductive step in constructing a pattern for similar industrial installations.<sup>9</sup>

Important archaeological features in both the Grid 38 winery area and the Grid 50 marketplace are the networks of streets and alleys that run between the building complexes. In these outdoor contexts we can expect to find merged evidence of the various activities that took place in the surrounding buildings. This expectation is supported by Bill Grantham’s (1992) ethnoarchaeological work, which demonstrated, on the village scale, how culinary activities in a Druze village generate substantial quantities of refuse in the closest available dump site, which is often the neighboring street. This gives us some warrant for assuming that the faunal evidence from the streets

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moment of the destruction, on the other, the subdivided samples are far too small to support separate evaluation, so they were merged for the purposes of this report.

<sup>9</sup> See the suggestions of Stanley South (1977), which focus on the concept of “behavioral byproduct regularity,” an archaeological method that does not presuppose the suite of activities behind the pattern to be discerned. South’s inductive approach, one labeled “pattern recognition,” would be a valuable innovation in Levantine zooarchaeology. While much has been written about animal production systems in the Near East and their likely archaeological signatures—e.g., the iconic study by Payne (1973), the sophisticated expansion of his ideas by Cribb (1991), and, more generally, the work of Richard Redding—we have little in our interpretive armory to generate predictions of what different kinds of industrial installations in urban contexts should contain in the way of faunal material.

and plazas of the winery and marketplace may be compared and combined with the evidence found inside the buildings to generate a picture of the incorporation of animal products in the activity suites of these districts of Ashkelon in the late seventh century B.C.

### *Collection and Processing*

There are important constraints to the topics we can address here that are set by the limits of the research effort we were able to apply. Faunal remains from the 604 B.C. destruction and associated materials were processed in the field laboratory as they were excavated during several field seasons in the mid-1990s. The volume of materials was extraordinary, particularly that collected from the Grid 50 quarry fill, where hundreds of bone fragments were collected on each day of digging.<sup>10</sup> Judgments about what “was 604” changed as the stratigraphy of the site was better understood by the excavation team. Thus what is reported here is the distillate of this research process. Some bones we did examine turned out not to be relevant, whereas others we did not record should have been studied. The excavation methods applied to the massive quarry fill changed character as the

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<sup>10</sup> The exceptional recovery rates from the 604 destruction layer and the quarry fill were only part of the steady flow of faunal materials that moved through the field lab in those summer seasons. The Leon Levy Expedition adopted an intensive recovery strategy from the beginning and deployed it at a site where bone preservation is good and where a large and enthusiastic team of volunteers was available. While Ashkelon may be unusually rich in bone finds, there are many other important Iron Age sites where daunting samples can be, and are being, collected. Sadly, the number of zooarchaeologists tackling this material has not grown significantly since two of the present authors (Paula Wapnish and Brian Hesse) began our work in the 1970s. This fact is the predictable outcome of the reticence of academic institutions in Israel and elsewhere to employ archaeologists who do not aspire solely to be dig directors. The result of this practice is a necessary focus on narrow chronological issues and associated ceramic and stratigraphic evidence. This decision is coupled with the avoidance of research that can explore the nature of the economic and cultural systems that supported the Iron Age states which are such a focus of interest, both professional and public. Outsourcing research is an obvious option if funds to support scholars are diverted from those that fulfill the mandate to “dig, dig, dig.” However, policies that restrict the export (and, now, the return!) of biological and other “scientific” evidence will strangle this strategy at its birth. The Ashkelon excavation has supported a field zooarchaeologist since the first field season and now assists in the task of examining the huge collections available for study. This model should be adopted more widely.

true nature of this deposit was recognized; ultimately, some of the fill was removed with heavy equipment.

As a result of this collection process, the sum total of all the remains in our bone bags was, in fact, only a subset of what was available to be collected. But given the large size of the sample that was obtained, this is probably not a significant problem. A more serious deficiency arises from the fact that we were unable to examine the abundant bird remains with the aid of a reference collection and are forced to report our avian bone collection in a very generic way. As is reported below, strong and significant patterning was noted, so we hope to be able to refine these results in a future report.

#### *Spatial Variation in the Abundance of Bone Remains*

The 25,653 bone fragments we studied were not evenly spread across the excavated areas. A very large sample of 8,360 bone fragments was collected from the quarry fill in Grid 50. This is not surprising given its great depth and apparent function as a collection point for debris of many types. The quantity of bones recovered from the indoor and outdoor spaces in Grid 38 and 50 shows considerable variation. Most strikingly, the 24,298 bones recovered from the Grid 50 excavation area far exceeded the 1,355 bones recovered from Grid 38.

#### Cultural and Taphonomic Factors

Several different factors no doubt contributed to this variation. Some factors were probably cultural, related to the salience of animal products in various activity areas within ancient Ashkelon—in particular, Grid 50 contained a market where animal products were on offer, as we will see, whereas Grid 38 was a specialized activity area with no clear connection to the consumption of animal products.

Some factors relate to taphonomic processes. The thickness of the preserved destruction layer varies across the excavated areas; thus, even if bone recovery rates, measured in fragments per cubic meter, were uniform, our plan of bone abundances would still show some variation. After the 604 B.C. destruction there was a gap in occupation before the Persian-period resettlement of the site, allowing for a variety of “anataxic” processes (Hesse and Wapnish 1985) such as erosion produced by heavy rain, which removes bones from their first locus of burial and redeposits them downslope, perhaps into shallow depressions, creating areas with concentrations of bones and other areas that are relatively free of bones.

#### The Grid 50 Excavation Area

In the Grid 50 marketplace (figure 24.1), the largest number of bones was recovered from deposits in and around **Building 234**. Because a robber’s trench was not recognized until excavation had proceeded for some time, the 8,050 bone fragments assigned to **Room 227** are a combination of material recovered from the room itself and from the more northerly part of the **South Street**. This concentration of finds sharply contrasts with the number of bones found in the adjoining **Room 221**, which contained only 124 bone fragments.

The next most abundant context for bone finds is the combined yield from the streets and open spaces between the buildings of the marketplace. The **Plaza** and **East, West, and South Streets** produced a total of 3,217 bones.

**Building 406**, which consists of six excavated rooms, produced a total of 2,185 bones. Within this building, five of the rooms were analyzed, including part of **Room 373** (728 bones), **Room 423** (641 bones), **Room 431** (392 bones), **Room 406** (250 bones), and **Room 375** (174 bones).

The material that we were able to analyze from **Building 260** includes only samples from two rooms at the western end of the complex: **Room 252** (1,120 bones) and **Room 260** (1,002 bones).

Finally, in **Building 276**, two of four identifiable rooms produced a combined total of 219 bones. We have examined no bones from **Building 58** or from the east side of **Building 260**.

#### The Grid 38 Excavation Area

In the Grid 38 excavation area (figure 24.2), the small sample of bones that was recovered comes from the bone fragments scattered in small numbers in the various rooms of **Building 776** (361 from the use phase, 481 from the destruction phase, and 14 from the renovation phase of the building) and from the **Alley** (63 from the use phase and 436 from the destruction phase).

#### *Zooarchaeological Animals*

Our approach to analyzing the Ashkelon bone sample moved from considering coarser categories to tackling more specific ones. One motivation for this approach derives from the practical vicissitudes of the bone-identification process. Bone fragments vary greatly in terms of the ease with which they can be assigned to both taxonomic and anatomic categories, necessitating a flexible approach.

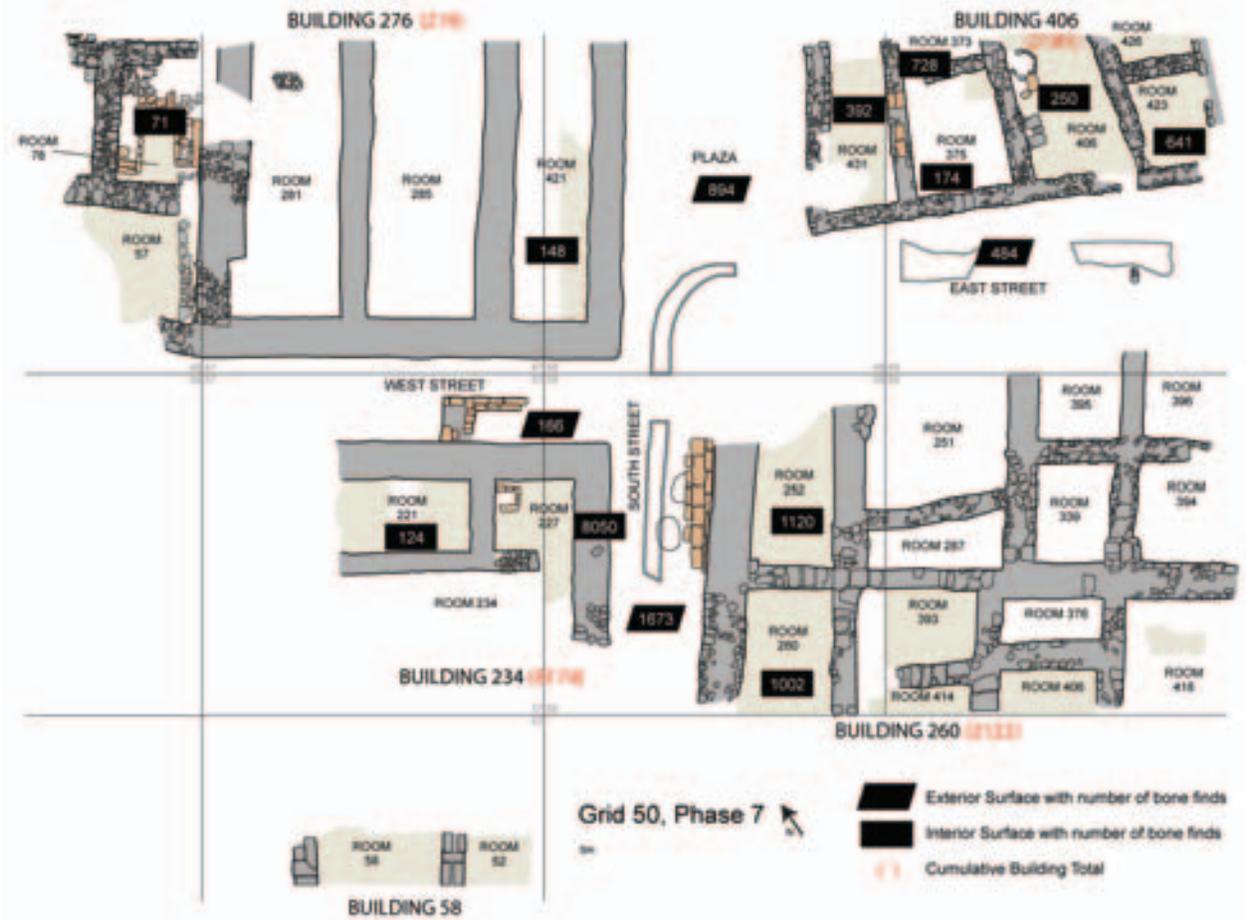


Figure 24.1: Quantities of animal bone finds in various locations in the Grid 50 excavation area

*Bone articulations and special finds:*

- Building 234 Room 227 and South Street:** *bird*—1 bone cache; *cattle*—1 shoulder blade; *gazelle*—1 ankle; *sheep/goat*—2 wrists, 1 partial spine, 6 whole mandibular tooth rows, 6 maxillary tooth rows; *sheep*—1 wrist, 9 feet; *sea turtle*—1 carapace.
- Building 260 Room 252:** *sheep/goat*—2 whole mandibular tooth rows, 1 whole maxillary tooth row; *sheep*—1 hind foot.
- Building 260 Room 260:** *sheep/goat*—2 mandibular tooth rows; *pig*—1 cranium.
- Building 276 Room 421:** *sheep/goat*—1 mandibular tooth row.
- Building 406 Room 375:** *cattle*—1 ankle.
- Building 406 Room 423:** *sheep*—1 wrist.
- Building 406 Room 373:** *bird*—2 bone caches; *cattle*—1 bone cache, 2 feet, 2 hips, 2 shins; *sheep/goat*—1 mandibular tooth row, 1 maxillary tooth row; *sheep*—2 hind feet.
- Building 406 Room 431:** *cattle*—2 forelimbs; *goat*—1 hind foot; *pig*—1 mandibular tooth row.
- South Street:** *sheep/goat*—1 pair mandibular tooth rows, 1 mandibular tooth row, 1 maxillary tooth row.
- East Street:** *cattle*—1 hind foot; *sheep/goat*—3 jaws (1 whole mandibular tooth row, 1 maxillary tooth row, 1 mandibular tooth row), 1 shin.
- Plaza:** *bird*—1 bone cache; *dog*—1 partial puppy; *donkey*—1 foot; *sheep/goat*—11 jaws (3 tooth rows, 2 whole mandibular tooth rows, 3 mandibular tooth rows, 3 maxillary tooth rows), 1 wrist; *pig*—1 maxillary tooth row
- Quarry fill (not shown):** *bird*—1 bone cache; *cattle*—1 ankle, 1 foot, 2 hind limbs, 4 jaws (2 maxillary tooth rows, 2 mandibular tooth rows); *equid*—2 feet, 1 head and jaw cache (2 mandibular tooth rows, 2 maxillary tooth rows), 4 hindlimbs; *gazelle*—2 mandibular tooth rows; *sheep/goat*—2 ankles, 1 bone cache, 1 foot, 2 hindlimbs, 1 spine, 86 jaws (1 tooth row, 58 mandibular tooth rows, 1 whole mandible, 27 maxillary tooth rows); *goat*—1 foot; *sheep*—2 ankles, 1 cranium, 4 feet, 3 forelimbs, 1 hindlimb; *pig*—1 mandibular tooth row.

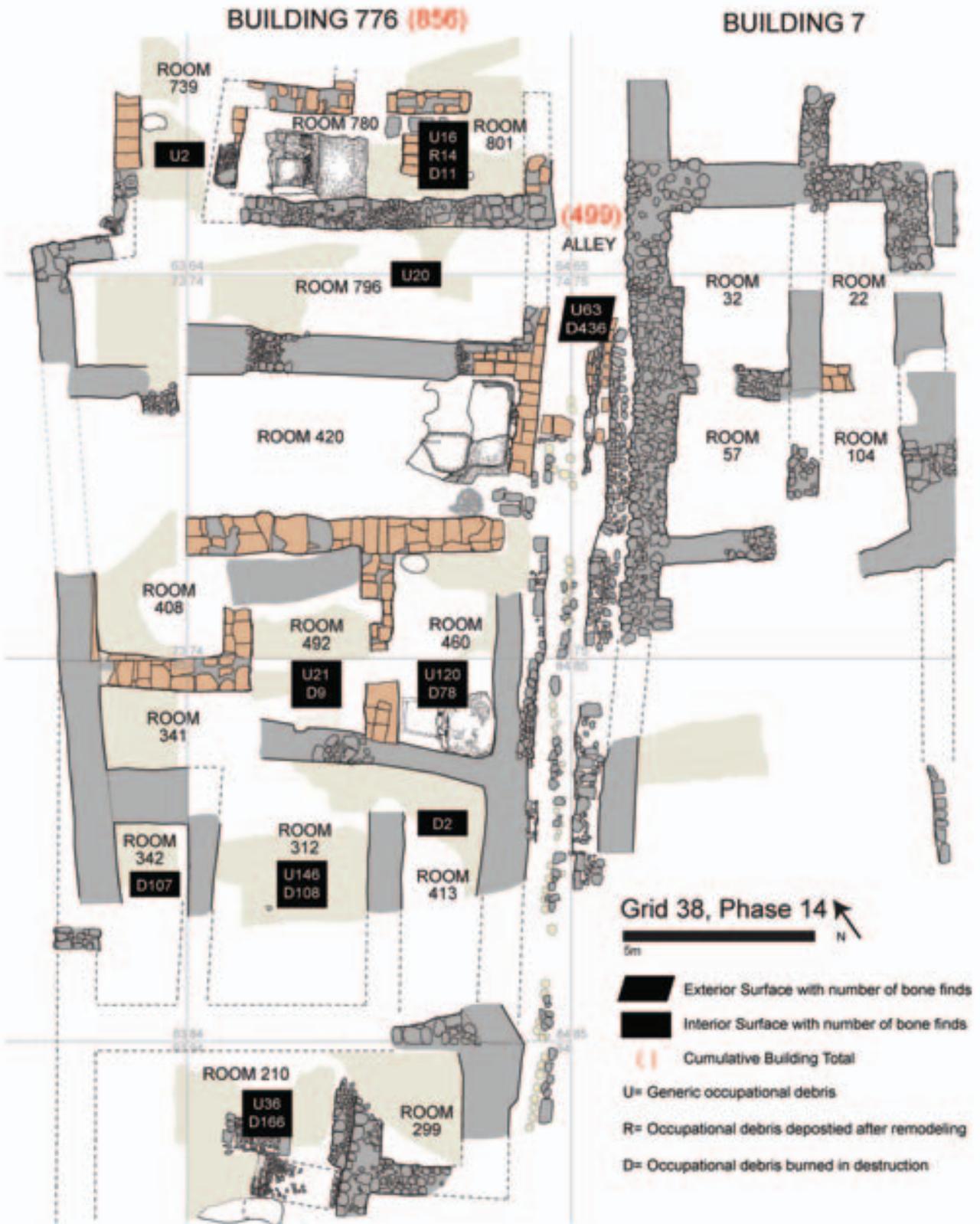


Figure 24.2: Quantities of animal bone finds in various locations in the Grid 38 excavation area

A key element here is the mix of species represented in the sample. If one knows in advance that a sample derives from animals belonging to a single taxon—the parade example being a bison kill site—then it is reasonable to assign all the bone fragments recovered, even those with no clear and defining morphological features warranting such an assignment, to that taxon. In our case, this is not possible.

The collection from Ashkelon contains mostly sheep (*Ovis*) and goats (*Capra*)—taxa that are notoriously hard to distinguish—and cattle (*Bos*). Much less common were the equids (*Equus*, probably all donkeys), pigs (*Sus*), camels (*Camelus*), deer (*Dama*, or, less likely, *Cervus*) and gazelles (*Gazella*). The few camel bone fragments (there were no teeth), all from Grid 50, are worth some mention since several were clearly byproducts (offcuts) of the bone-working industry so important in the economy of Ashkelon during much of its occupation.

Beyond the herbivores, a substantial collection of bird bones was recovered. Most were pigeon to duck size and only a few were as large as a small goose. A few dog bones are scattered within the sample. More interesting were the fragments of shell and carapace (no other skeletal elements were recovered) from either loggerhead or green sea turtles (*Cheloniidae*) that were found in a few locations in Grid 50.

*Bone Categories: Scrap, Long-bone Shaft Fragments, and Identifiable Bones*

The skeletal parts from all of these taxa are not equally identifiable. Ribs, vertebrae, fragments of bone shafts, and tiny tooth fragments can rarely be assigned to a specific animal category. Furthermore, the greater the taphonomic pressure on a faunal sample (the process of degradation of bone fragments to less and less recognizable form), the more the diagnostic features on individual bones are degraded and the lower the rate at which bones can be assigned to a particular genus or species. Thus we take a conservative approach, building a set of analytic categories of varying specificity.

At the most general end of the scale, small bone fragments with no useful morphological features preserved are assigned to the category of “scrap.” Next are the fragments of the shafts of long bones, which are identifiable only as “medium mammal” (approximately sheep-sized) or “large mammal” (cow-sized). Bone fragments which can be assigned to a more specific anatomical category than scrap or shaft are considered identifiable; at the very least, they can be assigned to some portion of the skeleton (e.g., head and teeth, backbone and rib cage, forelimb,

hindlimb, or toes) and to a taxon more specific than “animal.” Variations in the relative abundance of these three categories of bone finds—scrap, shaft, and identifiable—provides a rough measure of the taphonomic pressure experienced by the sample due to postdepositional processes such as trampling.

Examination of the variation in the abundance of these basic bone categories produces some modest contrasts in the Ashkelon excavation areas. The sample from the **Alley** in Grid 38 contained 71 percent scrap, 13 percent shaft, and 16 percent identifiable fragments, whereas **Building 776** contained 52 percent scrap, 16 percent shaft, and 32 percent identifiable. This result is consistent with the notion that materials tossed in the street would have suffered more damage than those discarded inside rooms.

In Grid 50, the sample from the quarry fill contained 42 percent scrap, 15 percent shaft, and 43 percent identifiable fragments. This is in keeping with the conclusion that the quarry pit was a collection point for garbage and did not normally form a surface trodden by occupants of the city. The bones from inside the buildings of the Grid 50 marketplace were 60 percent scrap, 19 percent shaft, and 21 percent identifiable. The bones in the streets were 50 percent scrap, 17 percent shaft, and 33 percent identifiable.

The Grid 50 buildings and streets differ from the quarry fill in the expected way. However, in comparison to one another, the building and street samples are the opposite of what is expected and they stand in contrast to what was found in Grid 38. Part of the explanation for this phenomenon may lie in the problematic nature of the large sample of 8,050 bone fragments from **Building 234 Room 227**. As was noted above, this sample merges bones from inside the room with some of the bones from the adjacent **South Street**. It therefore has a large amount of scrap (67 percent). But the counts of scrap from the other nonbuilding contexts in Grid 50 are also lower than expected. Perhaps the suddenness of the destruction and the fact that the space stood abandoned for some time affected the mix of taphonomic forces acting on the deposit. In addition, the abundance of scrap bone is affected by the rates of discard for the sorts of bones that enter the deposit in the first place. If parts of the carcass with greater resistance to destructive forces were more frequently discarded, then the percentage of scrap recovered will presumably decrease with the increased preservation of morphological features.

Our model of the production, distribution, and consumption of animals and animal products emphasizes that once an animal was slaughtered, its carcass was usually divided into parts for further processing.

Thus, in a complex urban site, it can be expected that considerable spatial disaggregation of skins, cuts of meat, and bones and antlers destined to be used as raw material for craft production, etc., will have occurred. Therefore it is important to consider how individual taxa are represented in a sample by different bone fragment types before attempting to estimate how common they were in the livestock that was

produced in or delivered to the city. Bone counts that measure the abundance of basic anatomical categories for medium and large mammals (even when the actual bones can be more specifically identified) give a quantitative picture of what we refer to as the “archaeological animal” (Hesse and Wapnish 1985), a useful descriptive tool for spotting patterns in the utilization of animal products.

Table 24.1: Distribution of Animal Bone Finds in Grid 38 Use and Destruction Phases in the Alley and Winery Building 776 Room 210

Category/ Taxon	Alley (use)		Alley (destr.)		Alley (all)		Rm. 210 (use)		Rm. 210 (destr.)	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
Scrap	19	30	335	77	354	71	4	11	69	42
LM long bone	1	2	2	<1	3	1			6	4
MM long bone	17	27	44	10	61	12	5	14	36	22
LM axial			2	<1	2	<1	1	3	2	1
MM axial	10	16	23	5	33	7	18	50	18	11
Ovis (sheep)	2	3	3	1	5	1	2	6	6	4
Capra (goat)			1	<1	1	<1			3	2
Ovis/Capra	10	16	22	5	32	7	3	8	21	13
Bos (cattle)	1	2	3	1	4	1			3	2
Sus (pig)	1	2			1	<1			1	1
Equus (equid)									1	1
Canis (dog)	1	2			1	<1				
Aves (bird)	1	2	1	<1	2	<1	3	8		
TOTAL	63		436		499		36		166	

Table 24.2: Distribution of Animal Bone Finds in Grid 38 Use and Destruction Phases in Winery Building 776 Rooms 312, 342, and 413

Category/ Taxon	Rm. 312 (use)		Rm. 312 (destr.)		Rm. 342 (destr.)		Rm. 413 (destr.)	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%
Scrap	94	64	54	50	47	44		
LM long bone							1	50
MM long bone	10	7	13	12	21	20		
LM axial	3	2	3	3	1	1		
MM axial	20	14	13	12	16	15		
Ovis (sheep)	5	3	6	6	15	14		
Capra (goat)								
Ovis/Capra	10	7	13	12	4	4		
Bos (cattle)	1	1					1	50
Sus (pig)								
Equus (equid)								
Canis (dog)			1	1	1	1		
Aves (bird)	3	2	5	5	1	1		
TOTAL	146		108		106		2	

Abbreviations: LM=large mammal; MM=medium mammal

Table 24.3: Distribution of Animal Bone Finds in Grid 38 Use and Destruction Phases in Winery Building 776 Rooms 460, 492, and 739

Category/ Taxon	Rm. 460 (use)		Rm. 460 (destr.)		Rm. 492 (use)		Rm. 492 (destr.)		Rm. 739 (use)	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
Scrap	83	69	54	69	4	19				
LM long bone	2	2	3	4						
MM long bone	2	2	10	13	5	24	2	22		
LM axial										
MM axial	12	10	1	1	9	43	5	56		
Ovis (sheep)	3	3	3	4					1	50
Capra (goat)										
Ovis/Capra	16	13	7	9	3	14	2	22	1	50
Bos (cattle)	1	1								
Sus (pig)										
Equus (equid)										
Canis (dog)										
Aves (bird)	1	1								
TOTAL	120		78		21		9		2	

Abbreviations: LM=large mammal; MM=medium mammal

Table 24.4: Distribution of Animal Bone Finds in Grid 38 Use and Destruction Phases in Winery Building 776 Rooms 796 and 801 and in Building 776 as a Whole

Category/ Taxon	Rm. 796 (use)		Rm. 801 (use)		Rm. 801 (renov.)		Rm. 801 (destr.)		Building 776 (all)	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
Scrap	8	40	4	25	10	71	10	91	441	52
LM long bone	1	5							14	2
MM long bone	6	30	4	25	3	21			117	14
LM axial	1	5							11	1
MM axial	2	10	6	38	1	7	1	9	122	14
Ovis (sheep)									41	5
Capra (goat)									3	<1
Ovis/Capra	1	5	1	6					82	10
Bos (cattle)									6	1
Sus (pig)			1	6					2	<1
Equus (equid)									1	<1
Canis (dog)									2	<1
Aves (bird)	1	5							14	2
TOTAL	20		16		14		11		856	

Abbreviations: LM=large mammal; MM=medium mammal

Table 24.5: Distribution of Animal Bone Finds in Grid 50 Marketplace Building 234 (Rooms 221 and 227) and Marketplace Building 260 (Rooms 252 and 260)

Category/ Taxon	Rm. 221		Rm. 227		Bldg. 234 (all)		Rm. 252		Rm. 260		Bldg. 260 (all)	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
Scrap	47	38	5,375	67	5,422	66	546	49	549	55	1,095	52
LM long bone			138	2	138	2	45	4	11	1	56	3
MM long bone	50	44	1,447	18	1,497	18	129	12	223	22	352	17
LM axial	2	2	98	1	100	1	51	4	22	2	73	3
MM axial	8	6	1	<1	9	<1	231	21	133	13	364	17
Ovis (sheep)	5	4	151	2	156	2	8	1	6	<1	14	1
Capra (goat)			29	<1	29	<1	5	<1	3	<1	8	<1
Ovis/Capra	11	9	689	9	700	9	76	7	42	4	118	6
Bos (cattle)	1	<1	51	<1	52	1	15	1	2	<1	17	1
Sus (pig)			1	<1	1	<1	1	<1	3	<1	4	<1
Equus (equid)			4	<1	4	<1						
Gazella (gazelle)			2	<1	2	<1	4	<1			4	<1
Canis (dog)			1	<1	1	<1						
Dama (deer)			1	<1	1	<1						
Camelus (camel)												
Sm. mammal												
Sm. carnivore												
Aves (bird)			38	<1	38	<1	3	<1	5	<1	8	<1
Cheloniida (sea turtle)			4	<1	4	<1	6	<1	3	<1	9	<1
Tools			20	<1	20	<1						
TOTAL	124		8,050		8,174		1,120		1,002		2,122	

Table 24.6: Distribution of Animal Bone Finds in Grid 50 Marketplace Building 406

Category/ Taxon	Rm. 373		Rm. 375		Rm. 406		Rm. 423		Rm. 431		Bldg. 406 (all)	
	Qty.	%	Qty.	%								
Scrap	223	31	36	21	120	48	410	64	273	70	1,062	49
LM long bone	18	2	10	6	10	4	5	1	5	1	48	2
MM long bone	30	4	53	30	67	27	80	12	23	6	253	12
LM axial	3	<1	5	3	1	<1	3	<1	4	1	16	1
MM axial	54	7	40	23	22	9	66	10	21	5	203	9
Ovis (sheep)	7	1	1	<1			3	<1	2	<1	13	<1
Capra (goat)							1	<1	13	3	14	<1
Ovis/Capra	44	6	13	7	21	9	67	10	34	9	179	8
Bos (cattle)	15	2	9	5	7	3	2	<1	13	3	46	2
Sus (pig)							1	<1	1	<1	2	<1
Equus (equid)	1	<1									1	<1
Gazella (gazelle)												
Canis (dog)	2	<1									2	<1
Dama (deer)									1	<1	1	<1
Camelus (camel)												
Sm. mammal												
Sm. carnivore												
Aves (bird)	330	45					3	<1	2	<1	335	15
Cheloniida (sea turtle)			7	4							7	<1
Tools	1	<1			2	1					3	<1
TOTAL	728		174		250		641		392		2,185	

Abbreviations: LM=large mammal; MM=medium mammal; Sm.=small

Table 24.7: Distribution of Animal Bone Finds in Grid 50 Marketplace Building 276 (Rooms 78 and 421)

<i>Category/ Taxon</i>	<i>Rm. 78</i>		<i>Rm. 421</i>		<i>Bldg. 276 (all)</i>	
	<i>Qty.</i>	<i>%</i>	<i>Qty.</i>	<i>%</i>	<i>Qty.</i>	<i>%</i>
Scrap	37	52	55	37	92	42
LM long bone			6	4	6	3
MM long bone	16	23	38	26	54	25
LM axial						
MM axial	10	14	13	9	23	11
Ovis (sheep)			4	3	4	2
Capra (goat)			2	1	2	1
Ovis/Capra	6	8	23	16	29	13
Bos (cattle)			6	4	6	3
Sus (pig)						
Equus (equid)	1	1			1	<1
Gazella (gazelle)			1	1	1	<1
Canis (dog)						
Dama (deer)						
Camelus (camel)						
Sm. mammal						
Sm. carnivore						
Aves (bird)	1	1			1	<1
Cheloniida (sea turtle)						
Tools						
TOTAL	71		148		219	

Table 24.8: Distribution of Animal Bone Finds in Grid 50 Marketplace Streets and Plaza

<i>Category/ Taxon</i>	<i>Plaza</i>		<i>South Street</i>		<i>West Street</i>		<i>East Street</i>	
	<i>Qty.</i>	<i>%</i>	<i>Qty.</i>	<i>%</i>	<i>Qty.</i>	<i>%</i>	<i>Qty.</i>	<i>%</i>
Scrap	405	45	898	54	90	54	210	43
LM long bone	4	<1	63	4	1	1	9	2
MM long bone	122	14	271	16	26	16	79	16
LM axial	3	<1	64	4	1	1	4	1
MM axial	152	17	208	12	20	12	103	21
Ovis (sheep)	28	3	18	1	2	1	8	2
Capra (goat)	4	<1	5	<1			3	1
Ovis/Capra	130	15	105	6	22	13	59	12
Bos (cattle)	17	2	30	2	2	1	4	1
Sus (pig)	1	<1	1	<1	1	1		
Equus (equid)	2	<1			1	1		
Gazella (gazelle)	1	<1						
Canis (dog)								
Dama (deer)	1	<1						
Camelus (camel)								
Sm. mammal								
Sm. carnivore								
Aves (bird)	21	2	9	<1			4	1
Cheloniida (sea turtle)			1	<1				
Tools	3	<1					1	<1
TOTAL	894		1,673		166		484	

*Abbreviations:* LM=large mammal; MM=medium mammal; Sm.=small

Table 24.9: Distribution of Animal Bone Finds in the Grid 50 Quarry Fill, Buildings, and Streets, and in Grid 38

Category/ Taxon	Quarry Fill		Buildings (all)		Streets (all)		Grid 50 (all)		Grid 38 (all)		Entire Collection	
	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%	Qty.	%
Scrap	3,539	42	7,671	60	1,603	50	12,813	53	795	59	13,608	53
LM long bone	173	2	248	2	77	2	498	2	17	1	515	2
MM long bone	1,050	13	2,156	17	498	15	3,704	15	178	13	3,882	15
LM axial	111	1	212	2	72	2	395	2	13	1	408	2
MM axial	1,139	14	599	5	483	15	2,221	9	155	11	2,376	9
Ovis (sheep)	261	3	185	1	56	2	502	2	46	3	548	2
Capra (goat)	97	1	53	<1	12	<1	162	1	4	<1	166	1
Ovis/Capra	1,540	18	1,026	8	316	10	2,882	12	114	8	2,996	12
Bos (cattle)	236	3	121	1	53	2	410	2	10	1	420	2
Sus (pig)	16	<1	7	<1	3	<1	26	<1	3	<1	29	<1
Equus (equid)	66	1	6	<1	3	<1	75	<1	1	<1	76	<1
Gazella (gazelle)	10	<1	7	<1	1	<1	18	<1			18	<1
Canis (dog)	16	<1	3	<1			19	<1	3	<1	22	<1
Dama (deer)	3	<1	2	<1	1	<1	6	<1			6	<1
Camelus (camel)	5	<1					5	<1			5	<1
Sm. mammal	3	<1					3	<1			3	<1
Sm. carnivore	1	<1					1	<1			1	<1
Aves (bird)	75	1	382	3	34	1	491	2	16	1	507	2
Cheloniida (turtle)	9	<1	20	<1	1	<1	30	<1			30	<1
Tools	10	<1	23	<1	4	<1	37	<1			37	<1
TOTAL	8,360		12,721		3,217		24,298		1,355		25,653	

Abbreviations: LM=large mammal; MM=medium mammal; Sm.=small

The use of just two basic size categories is warranted in much of Levantine historical zooarchaeology because many samples are dominated by only three taxa. The category of “medium mammal” consists almost exclusively of sheep and goats whereas the category of “large mammal” consists overwhelmingly of bones and teeth from cattle. The basic anatomical categories used here are “head” (including fragments of the cranium, the mandible, and teeth), “axial” (the vertebrae, ribs, and fragments of the sternum), “forelimb” (from the shoulder blade to the wrist), “hindlimb” (from the hip to the ankle), and “feet” (metapodials and phalanges). This corresponds to the typical initial division of the carcass of one of these animals. The distributions for the Grid 50 excavation area are presented in figure 24.3. The small sample available from Grid 38 is insufficient to generate patterns in which we can place much confidence.

The most distinctive pattern is found in the Grid 50 quarry sample. The overall variability is less than in the 604 B.C. destruction level; the relative abundance of various animal parts is more in keeping with the frequencies of the bones in a typical skeleton. This agrees with our speculation that the filled-in

quarry had collected a broad range of types of debris from a wide range of animal-processing activities.

The sample from **Building 260** in the Grid 50 marketplace shows the greatest divergence from this pattern. Most of the bones from medium and large mammals are fragments of ribs and vertebrae. Grantham’s work (1992) with the Druze suggests that these are the usual byproduct of meat soups and stews. There is little evidence in this building of other sorts of animal-processing activity.

The sample from **Building 406** contains many bones from feet, particularly those of large mammals. In our examination of the remains from Tel Dan (Wapnish and Hesse 1991) and Megiddo (Wapnish and Hesse 2000) this pattern was associated with skin-processing activities. Perhaps that model applies here as well.

The samples recovered from the streets and plaza of the marketplace are similar to what was found in **Building 234** (this similarity is probably due in part to the fact that some street material was assigned to **Room 227**, as explained above). The relative lack of limb bones, at least in comparison to the quarry sample, suggests that leg segments of animal carcasses were taken out of the marketplace.

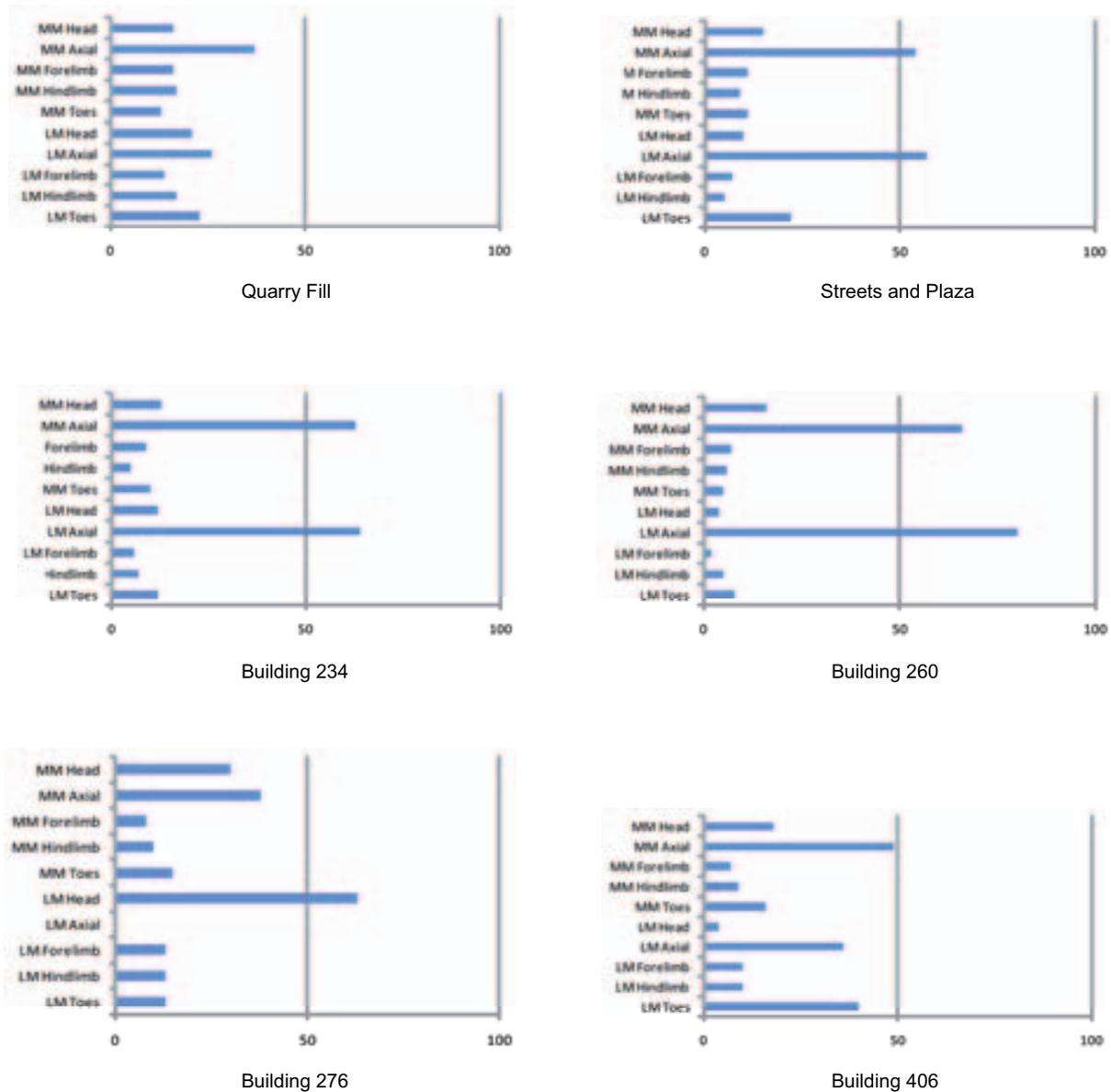


Figure 24.3: Percentages of medium mammal (MM) and large mammal (LM) parts found in various contexts in the Grid 50 excavation area, in the Phase 8 quarry fill and the Phase 7 marketplace buildings and streets

The small sample from **Building 276**, which consisted of 219 fragments, is distinctive for the abundance of crania, mandibles, and teeth from both medium and large mammals. We can suggest no specific behavioral model for this pattern.

*Special Finds and Articulations*

A relatively large number of bones were found as carcass parts (e.g., several phalanges that were part of the same foot). A number of well preserved tooth

rows of sheep/goats were also recovered. Bird bones were found in what might be considered “caches.” Many of the 507 bird bones were found in clusters rather than dispersed evenly within a layer or feature.

There are several patterns of interest. One feature of note is the large number of sheep/goat tooth rows (mandibulae and maxillae) in the streets and plaza. These parts of the skeleton contain relatively little meat. Although they are important culinary symbols in modern Middle Eastern meals, serving as guarantors of the edibility of a meat meal, we speculate that

they represent the debris associated with butchering and the sale or distribution of meat.

This idea is based on two pieces of anecdotal ethnozoarchaeology. Two of the present authors (Hesse and Wapnish) spent a summer in Harsin, a market town in the Zagros Mountains of western Iran. Each morning, the skinned carcasses of several sheep and goats were hung in the marketplace in locations along the walkways flanking the street. Throughout the morning, these carcasses steadily disappeared as a stream of customers purchased small chunks of meat and bone. All the transactions seemed to focus on the weight of the chunk rather than the part of the carcass being purchased. At the end of the day, all that remained at the sides of the street were heads and feet.

The second observation was made at a tomb located on the bluff overlooking the Mediterranean in modern Ashkelon. Apparently this tomb was (before the new city park and recreational area was constructed) the focus of some kind of "sacrificial" activity that included the slaughter and consumption of a goat. While there was abundant evidence of cooking and eating, the only bone remains left for us to observe were the head and feet.

These observations support our interpretation that the activities in the marketplace included butchery and the distribution of chunks of meat and bone destined for tables in Ashkelon households. The fact that our samples from the streets and plaza contain so few articulated feet suggests that slaughtered animals were skinned before arriving at the market.

Three concentrations of specific taxa in the Grid 50 marketplace are worth noting. (1) There was a concentration of cattle articulations in **Building 406**, with two forelimbs in **Room 431**, several articulations in **Room 373**, and an ankle in **Room 375**. As will be seen below, this focus on cattle in **Building 406** is reinforced by the data produced from a larger sample. (2) There were concentrations of sea turtle shell fragments in **Building 260** and **Building 406 Room 375**. One wonders whether the total lack of sea turtle limb bones is the result of the shell being specially valued or because the meaty portions of the animal were taken from the marketplace for consumption elsewhere in Ashkelon. (3) The greatest concentration consists of the abundance of bird bones in **Building 406 Room 373**. Of the 507 bird bones found in the excavations of the quarry fill and the 604 B.C. destruction level, 330 were found in this room alone. Most of these specimens were bones from the wings and legs of small to medium-sized birds. No crania or sterni (breastbones) were found, suggesting that this sample is the detritus from the processing of bird carcasses or, conversely, that wings and legs

perhaps were marketable as raw material for decorative items.

#### *Abundance of the Main Taxa*

Pigs, donkeys, camels, gazelles, dogs, deer, small carnivores (weasels and cats), and sea turtles each contribute less than 1 percent to the samples. Bird bones make up about 2 percent of the collections. The special concentrations of these species have already been described and little is to be gained by further analysis of such small subsamples. Their significance in the animal culture of Ashkelon was probably not due to their abundance but rather to their symbolic importance or their rarity. In this report, attention is focused on the taxa that apparently had importance in the animal processing activities of the seventh century B.C., at least as measured by the caloric and other practical value they provided.

The vast majority of bones can be assigned to one of three species: sheep, goat, or cattle. Sheep and goats are difficult to distinguish (Boessneck, Müller, and Teichert 1964) so there is a large residual category called "sheep/goat" that includes specimens not assignable to a particular species. To address this problem, two comparisons are made: comparing the abundance of sheep versus goats and then comparing cattle to the sheep/goat sample (which includes specimens assignable to one or the other of the two species and those that can be identified only as Caprinae).

There are several different zooarchaeological methods for the estimation of taxon abundance (Hesse and Wapnish 1985). Each makes different assumptions about the nature of the sample and so tends to produce an estimate with a particular inherent bias. The Total Number of Fragments (TNF) or Number of Identified Specimens (NISF) method uses the total number of bones assigned to a taxon as an estimate of the volume of remains of that animal category in the sample. This method assumes that individual bones most likely came from different carcasses, producing a low estimate of interdependence, often counting the same animal twice. Thus the TNF method sees hard-to-identify taxa as less salient than they probably were. The MNI (Minimum Number of Individuals) method makes the opposite assumption. It assumes that most bones are likely to have come from a small number of carcasses. Thus MNI tends to amplify the salience of rare taxa. The RF (Relative Frequency) method attempts to eliminate the outliers in the distribution—the bone types that are either especially frequent or especially rare—and concentrate on the bulk of the sample as an estimator.

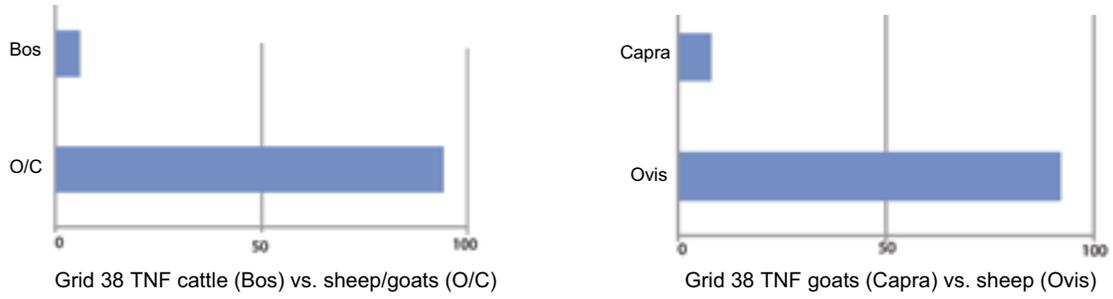


Figure 24.4: Relative abundance of cattle vs. sheep/goats and goats vs. sheep in the Grid 38 excavation area

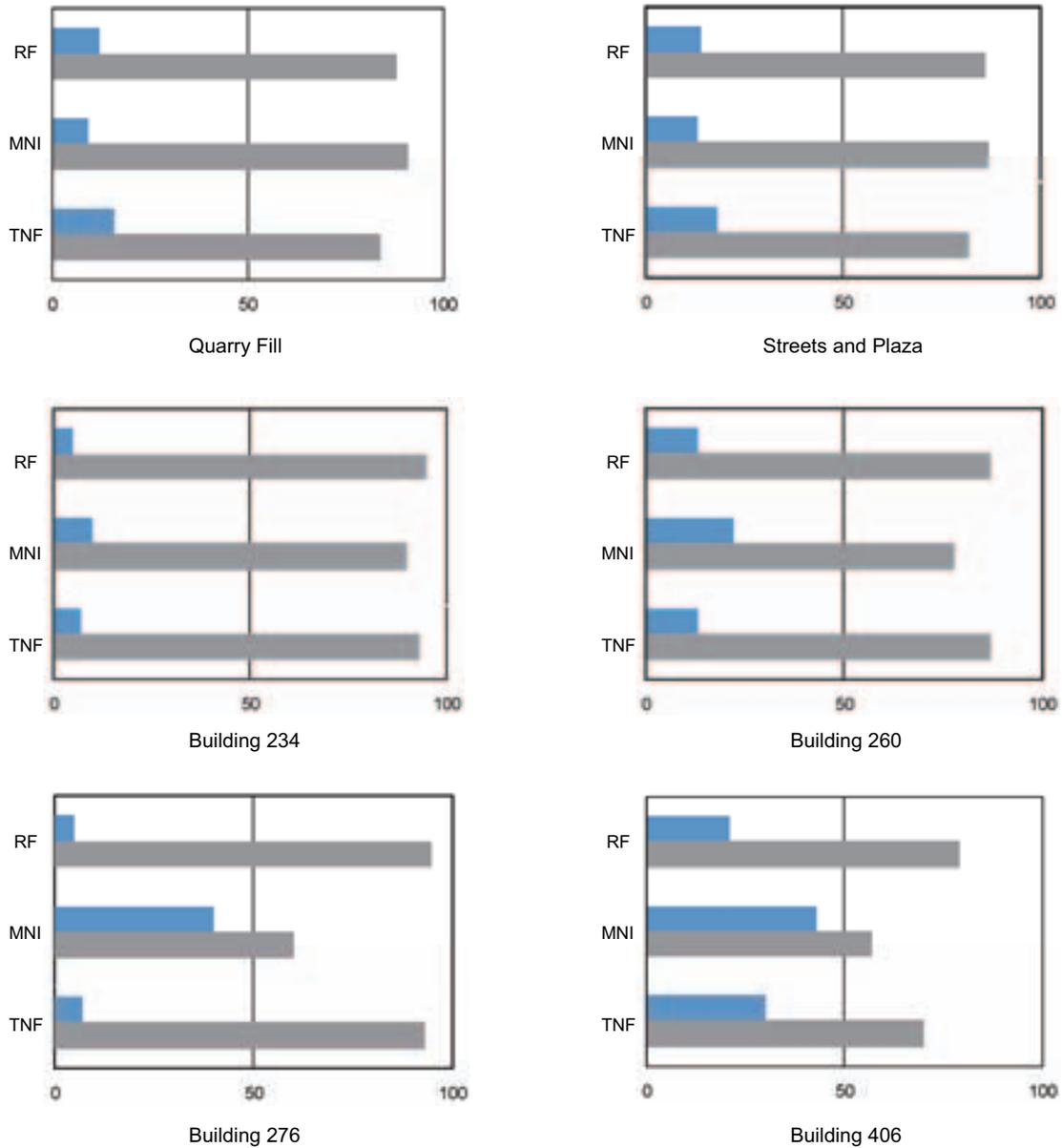


Figure 24.5: Relative abundance of cattle (blue bars) versus sheep/goats (gray bars) in the Grid 50 excavation area measured by Relative Frequency (RF), Minimum Number of Individuals (MNI), and Total Number of Fragments (TNF)

Other estimators focus on the utility of various animal parts but they are plagued by the problem that only a portion of the relevant evidence is preserved in a single sample. We have chosen to estimate the proportions of sheep/goats versus cattle using all three of the basic methods (TNF, MNI, and RF). However, the relative abundance of sheep versus goats is measured only by TNF because the number of bone categories is constrained by the difficulty of distinguishing these two taxa.

The relative abundances of the major taxa are presented in figures 24.4 and 24.5. The small sample sizes for Grid 38 restricted our analysis to the TNF method of estimation. Sheep/goats were nearly 16 times more common than cattle and the ratio of sheep to goats was approximately 12 to 1. This evidence suggests a combination of the urban preference for sheep with the lack of a corporate structure for feeding large populations. The Grid 38 sample was probably the result of workers in the winery preparing occasional meals.

In the Grid 50 excavation area, the emphasis on the utilization of sheep/goats is repeated (figure 24.5). They are about eight times more frequent than cattle in the quarry sample and nine times more frequent in the 604 destruction level. Only in **Building 406** was there a relatively abundant sample of cattle, a result that parallels the discovery of cattle articulations in that space.

The emphasis on sheep and goats at Ashkelon stands out in comparison to samples from contemporary sites in the southern Levant (Hesse and Wapnish 2002:table 17.8). At Tel Miqne–Ekron, for example, the ratio of sheep/goats to cattle was about 2.7 to 1, at Tell Jemmeh it was 6.6 to 1, at Tel Michal it was 2 to 1, at Tell Qiri it was 4.8 to 1, and at Tel Dan it was 1 to 1 in domestic contexts and 2 to 1 in the “High Place.” Since there is little difference between the quarry fill and the 604 destruction level at Ashkelon, there is no reason to suggest that the mix of species coming into the marketplace was different from that which reached the rest of Ashkelon’s consumers or that the period just before the Babylonian onslaught was marked by a change in the nature of the supply. More generally, these data suggest that the flow into Ashkelon of animals destined for slaughter came from the herds of specialized pastoral producers rather than the animals maintained by agropastoralists.

The abundances of sheep compared to goats show some contrasts. The quarry deposit contained the lowest proportion of sheep to goats (2.7 to 1). The sheep proportion was higher in the samples from the Grid 50 destruction (3.6 to 1). This contrast is an ex-

pected outcome of the hypothesis that the quarry fill contained debris from a wider swath of Ashkelon’s residents, some of whom did not acquire their animal products through the market. In the very small sample from the Grid 38 excavation area—a part of the site where relatively little animal processing activity took place—sheep were far more common than goats (11.5 to 1).

Looking at comparable samples from other Levantine sites, the Ashkelon values are all on the high side of the regional distribution. The sheep-to-goat ratio at Tel Dan and Tell Qiri was 1 to 1, at Tell Halif it was 2 to 1, at Tel Miqne–Ekron it was 3.5 to 1, and at Tel Hamid and Tell Jemmeh it was 4 to 1. This may reflect a general preference for sheep in the urban markets located in the southernmost parts of the Levant.

### *Mortality*

The selection of an animal to be sent to slaughter is a key decision in a pastoral management system. Herdsmen use these choices to achieve their production goals, one of which may be to deliver marketable animals to urban centers. “Marketable” is a complex variable shaped by the relative economic power of producer and consumer, a balance reset by political events, environmental changes, and shifts in the distribution of wealth. The risk associated with the production of different sorts of livestock varies. Raising well-fattened animals requires that they be allowed to live beyond the age when the body has achieved its basic adult dimensions and are fed a high-quality diet. These management choices lead to increased cost and increased risk, which is acceptable if the price is right. The growth curve for these animals flattens as they reach about one-and-a-half to two years of age. After this point, more and more food is required to achieve smaller and smaller weight gains. Thus, if the efficient production of meat is the goal, most of the animals delivered to the market should be adolescents and young adults. Deviations from that pattern encourage investigation. The abundance data from our samples indicate that sheep and goats were most of what was “marketed” at Ashkelon.

The age at death of sheep and goats (in this case mostly sheep) can be estimated by both the state of fusion of various bones in the skeleton and the degree of tooth wear (see the discussion in Hesse and Wapnish 1985). Fusion data gives less precise information. The fact that the epiphysis and diaphysis of a bone are fused indicates only that the animal died at some time later than the age of fusion for that bone. Since most of the skeleton is mature by the time the

animal is three to four years old, fusion data says little about the mortality of older animals.

If fusion rates for different bone elements are arranged on a graph in the order of fusion, a mortality estimate for the sample of animals is produced (figure 24.6 illustrates the results for the samples from Grid 50; there were insufficient data to produce an estimate for Grid 38). The curve for the quarry sample shows that few animals died before their first year and about 45 percent were slaughtered between the ages of one year and two-and-a-half years. The cluster of lines for the various parts of the 604 B.C. destruction sample shows slightly higher rates of young animals in the sample with fewer surviving to maturity. The largest of these, from **Building 234**, is probably the best estimator of the mortality pattern. It reveals the most abrupt slope, indicating that nearly 30 percent of the animals in the destruction sample were less than a year or so old at death, and 30 percent were between a year and two-and-a-half to three years of age when slaughtered.

Additional information about sheep and goat mortality is available based on tooth wear. The mandibular

dentition can be scored to estimate an age range for mortality. The contrast between the pattern found in the quarry fill and the pattern in the buildings and streets destroyed in 604 B.C. is interesting (figures 24.7 and 24.8). The key age intervals are “C” (6–12 months) and “D” (12–24 months). Nearly 50 percent of the sheep and goats in the quarry were culled in that eighteen-month span. By contrast, the destruction sample included only about 28 percent in that age category.

This might be explained in a couple of ways. It could be that the marketplace attracted somewhat more “finished” stock than circulated in the general Ashkelon economy. Alternatively, the smaller number of adolescent and young adult animals might be the result of the export of stock of that age out of Ashkelon to meet external demands or engage more attractive markets. Such an argument was developed to account for the unusual seventh-century sheep/goat mortality curves calculated for Tell Jemmeh and Tel Migne–Ekron in periods when these communities were strongly affected by the political and economic forces of the Assyrian Empire (Wapnish 1996).

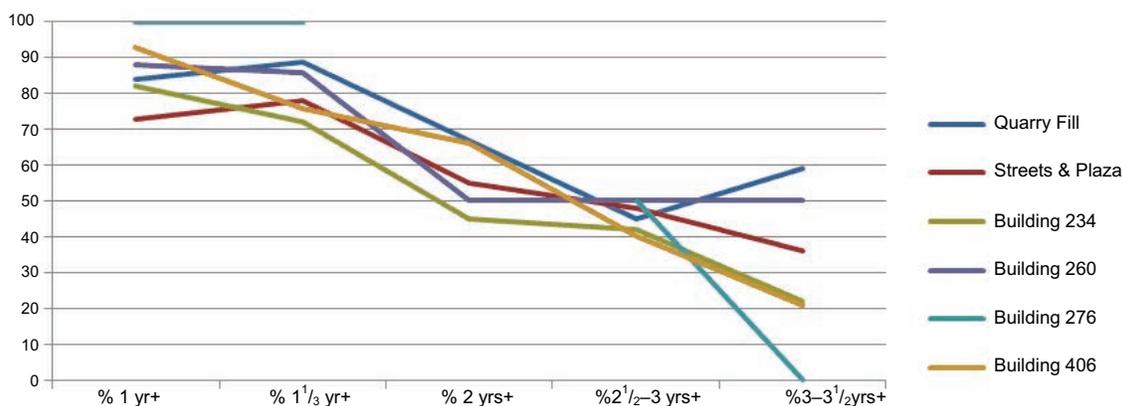


Figure 24.6: Mortality curves for samples from various contexts in the Grid 50 excavation area

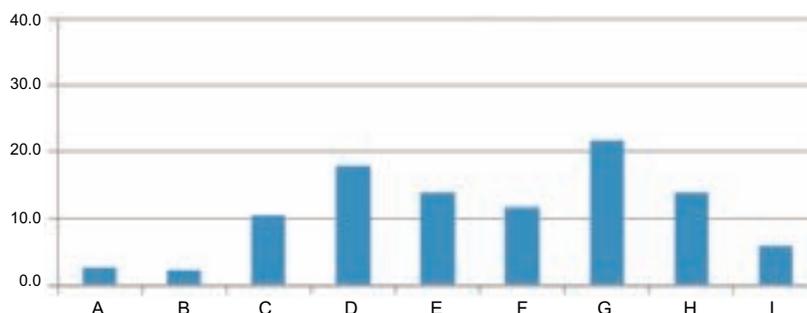


Figure 24.7: Percentages of tooth-age stages in samples from Grid 50 (all contexts except the quarry fill)  
**A** 0–3 mos. **B** 3–6 mos. **C** 6–12 mos. **D** 12–24 mos. **E** 24–36 mos. **F** 36–48 mos. **G** 48–72 mos. **H** 72–96 mos. **I** 96–120 mos.

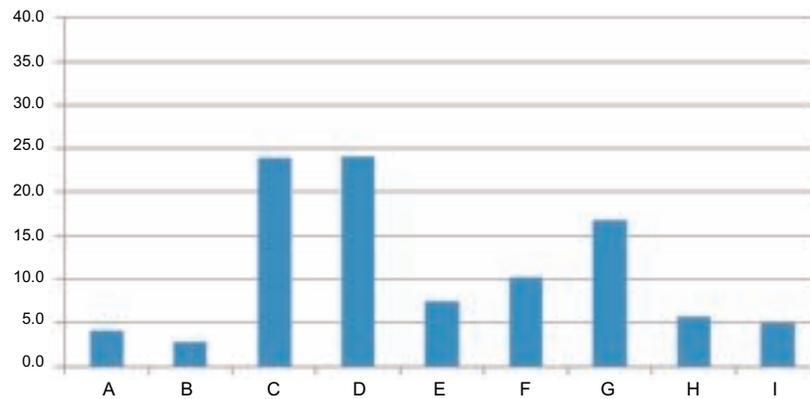


Figure 24.8: Percentages of tooth-age stages in the sample from the quarry fill in Grid 50

A 0–3 mos. B 3–6 mos. C 6–12 mos. D 12–24 mos. E 24–36 mos. F 36–48 mos. G 48–72 mos. H 72–96 mos. I 96–120 mos.

### Morphology

A modest number of bones in the sample were measurable. Osteometric data can indicate significant variations even within a single animal species. A very preliminary and unpublished investigation of the Ashkelon osteometry suggests that all three of the abundant animal species (sheep, goats, and cattle) were larger on average in the late Iron Age than comparable specimens found in the Middle Bronze Age sample from Ashkelon.

### Conclusion

The animal remains from the seventh-century B.C. deposits excavated at Ashkelon derive from two quite different contexts. An earlier sample was recovered from a large dump in the Grid 50 excavation area that filled in a stone quarry and probably served as the final collection point for materials discarded in a large sector of the western part of the city. The later materials were collected from the destruction layer produced by the Babylonian conquest of the city in the winter of 604 B.C. In the Grid 50 excavation area, this later bone sample was found in the debris of a marketplace that had been built above the filled-in quarry. The animal resources and byproducts these bones represent were close to their place of initial discard or may actually have been found where they were being used at the time the attack began.

Most of the taxa identified belonged to the species that are expected in this region and period. Cattle and

particularly sheep and goats were abundant. Compared to contemporary animal remains from other sites in the region, cattle were in fact relatively uncommon in Ashkelon and sheep were particularly abundant. There are some differences in the mortality patterns for the sheep and goats which suggest that prime-age animals were being exported out of the Ashkelon economy in the late seventh century B.C.

The distribution of animal remains in the destruction level showed concentrations of activity. One room contained a large sample of birds; another room contained limbs of cattle. Other areas of the marketplace produced bone debris that matches the expectations for soups and stews—perhaps it was the residue of meals consumed by the buyers and sellers who frequented the marketplace. The streets seem to have been collection points for the residue of butchering activities.

Although the experience of the ancient inhabitants must have been horrific as the Babylonian assault played out, the debris they left behind provides a remarkably detailed portrait of part of the system of animal use at the large port city of Ashkelon in the late seventh century B.C.

### Acknowledgments:

A host of volunteers and interns have contributed to this project, both in the field, where they assisted Paula Wapnish and Brian Hesse in the processing of finds, and in the lab at Penn State, where they helped Deirdre Fulton and Brian Hesse reconstruct the data file for the 604 B.C. sample, which sadly had become irretrievably corrupted. Our thanks go out to all of them.

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon

**Abbreviations** following Angela von den Dreisch, *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Cambridge, Mass.: Peabody Museum of Archaeology and Ethnology, Harvard University, 2004 [reprint]):

Astrag	Astragalus	GH	Greatest height	Metac	Metacarpal
Bd	Breadth distal	GL	Greatest length	Metat	Metatarsal
BFd	Breadth distal articular surface	GLl	Greatest length lateral	MH	Medial height
BFp	Breadth proximal articular surface	GLm	Greatest length medial	NC	Naviculocuboid
BG	Breadth glenoid cavity	GLP	Greatest length glenoid process	PH1	First phalanx
Bp	Breadth proximal	GLpe	Greatest length peripheral	PH2	Second phalanx
BT	Breadth trochlea	Hum	Humerus	PH3	Third phalanx
Calc	Calcaneus	Innom	Innominate	Rad	Radius
DC	Diameter caput femoris	LA	Length acetabulum	Scap	Scapula
Dd	Depth distal	Ld	Length dorsal	SD	Shaft diameter
DI	Depth lateral	LG	Length glenoid cavity	SLC	Smallest length of neck
DLS	Diagonal length sole	LmT	Length medial part of trochlea tali	Tib	Tibia
Dm	Depth medial	Lower M1	Lower first molar	Uln	Ulna
Fem	Femur	Lower P2	Lower second premolar	2/3 carp	Second and third carpal
GB	Greatest breadth	MBS	Middle breadth sole		

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Bos</i>	2/3 carp	GB=37.4
Grid 50 Building 406 Room 373	<i>Bos</i>	2/3 carp	GB=29.7
Grid 50 Building 406 Room 373	<i>Bos</i>	2/3 carp	GB=31
Grid 50 Quarry	<i>Bos</i>	Os crochu	GB=30.5
Grid 50 Quarry	<i>Bos</i>	Astrag	Bd=37.9; GLm=52.5; CHOPPED VENTRAL
Grid 50 Quarry	<i>Bos</i>	Astrag	GLl=73.1; Bd=46.3; GLm=66.6
Grid 50 Building 234 Room 227	<i>Bos</i>	Astrag	GLl=63.8; Bd=43; GLm=56.7; DI=34.4
Grid 50 Building 234 Room 227	<i>Bos</i>	Astrag	GLl=73.7
Grid 50 Building 260 Room 252	<i>Bos</i>	Astrag	GLl=57.1; Bd=38; GLm=51.9; DI=31.7
Grid 50 Building 406 Room 406	<i>Bos</i>	Astrag	GLl=67.9; Bd=42.4; GLm=61.9
Grid 50 Plaza	<i>Bos</i>	Astrag	GLl=68.2; Bd=45.5; GLm=63.9
Grid 50 Quarry	<i>Bos</i>	Calc	GL=132.4
Grid 50 Quarry	<i>Bos</i>	Calc	GL=133
Grid 50 Quarry	<i>Bos</i>	Fibula	GB=34.4
Grid 50 Quarry	<i>Bos</i>	Hum	Bp=51.8; BT=33.5; MH=31.9; WHOLE
Grid 50 Quarry	<i>Bos</i>	Hum	BT=71.8
Grid 50 Quarry	<i>Bos</i>	Innom	LA=34.4
Grid 50 Quarry	<i>Bos</i>	Innom	LA=65.3
Grid 50 Quarry	<i>Bos</i>	Metac	BT=53.1; Dd=31.6
Grid 50 Quarry	<i>Bos</i>	Metac	GL=204; SD=33.4; Bp=60.9; BT=62.2
Grid 50 Quarry	<i>Bos</i>	Metat	Dd=29.1
Grid 50 Quarry	<i>Bos</i>	Metat	SD=25.4; Bp=44
Grid 50 Quarry	<i>Bos</i>	Metat	Bp=43.8
Grid 50 Quarry	<i>Bos</i>	Metat	Bp=56.2
Grid 50 Quarry	<i>Bos</i>	Metat	Bp=44.3
Grid 50 Building 406 Room 431	<i>Bos</i>	Metac	SD=210; Bp=54.7
Grid 50 Building 406 Room 431	<i>Bos</i>	Metac	BT=50.9; Dd=28
Grid 50 Building 406 Room 373	<i>Bos</i>	Metac	BT=63.3
Grid 50 Building 406 Room 375	<i>Bos</i>	Metac	GL=192; SD=28; Bp=47.4; BT=51.8; Dd=28.2
Grid 50 South Street	<i>Bos</i>	Metat	Dd=31.6
Grid 50 Building 234 Room 227	<i>Bos</i>	Metat	BT=49.1
Grid 50 Building 406 Room 375	<i>Bos</i>	Metat	GL=222; SD=23.7; Bp=40.5; BT=46; Dd=27.5
Grid 50 Quarry	<i>Bos</i>	NC	GB=61.1; =CUT
Grid 50 Quarry	<i>Bos</i>	NC	GH=49.7
Grid 50 Quarry	<i>Bos</i>	PH1	GLpe=55.9; SD=22.6; Bp=25.3; Bd=23.7; EXOSTOSIS
Grid 50 Quarry	<i>Bos</i>	PH1	GLpe=56.4; SD=19.4; Bp=22.1; Bd=22.6
Grid 50 Quarry	<i>Bos</i>	PH1	GLpe=57.7; Bp=32.4; Bd=28.8; LIPPING

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Bos</i>	PH1	Bd=22.1
Grid 50 Quarry	<i>Bos</i>	PH1	GLpe=54; SD=21; Bp=24.8
Grid 50 Quarry	<i>Bos</i>	PH1	GLpe=58.4; Bp=28.5; Bd=26
Grid 50 Building 234 Room 227	<i>Bos</i>	PH1	GLpe=63.2; Bp=29.9
Grid 50 Building 260 Room 252	<i>Bos</i>	PH1	GLpe=65; Bp=30.2
Grid 50 Building 406 Room 373	<i>Bos</i>	PH1	GLpe=52.5; Bp=25.3; Bd=24.5
Grid 50 Building 406 Room 423	<i>Bos</i>	PH1	GLpe=63.7
Grid 50 South Street	<i>Bos</i>	PH1	GLpe=55.2; SD=20.5; Bd=24; Dp=30
Grid 50 Quarry	<i>Bos</i>	PH2	Bd=23.3
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=34.5; SD=19.8; Bp=26.1
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=41.3; Bp=32; Bd=30.5
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=38.2; SD=23.6; Bp=29.9
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=38.7; Bp=31.3
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=38.6; Bp=31.9
Grid 50 Quarry	<i>Bos</i>	PH2	Bp=31.7
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=42.9; Bp=26.8
Grid 50 Quarry	<i>Bos</i>	PH2	GLpe=40.8; Bp=29.2
Grid 50 South Street	<i>Bos</i>	PH2	GLpe=40.7; SD=27.1; Bp=33.3; Bd=29.4
Grid 50 Building 234 Room 227	<i>Bos</i>	PH2	GLpe=38.6; Bp=23.8
Grid 50 Building 234 Room 227	<i>Bos</i>	PH2	GLpe=43.4
Grid 50 Building 234 Room 227	<i>Bos</i>	PH2	GLpe=38; SD=24.3; Bp=30; Bd=28.7
Grid 50 Building 234 Room 227	<i>Bos</i>	PH2	GLpe=38.6; Bp=23.8
Grid 50 Building 234 Room 227	<i>Bos</i>	PH2	GLpe=39.1; SD=21; Bp=28.3
Grid 50 Building 406 Room 373	<i>Bos</i>	PH2	GLpe=38.8; SD=20.2; Bp=25.8; Bd=22.7
Grid 50 Building 406 Room 373	<i>Bos</i>	PH2	GLpe=36.3; SD=20.5; Bp=25.9
Grid 50 Quarry	<i>Bos</i>	PH3	DLS=65; Ld=55.8
Grid 50 Building 406 Room 373	<i>Bos</i>	PH3	MBS=20.1
Grid 50 Building 406 Room 406	<i>Bos</i>	PH3	MBS=21.2
Grid 50 Quarry	<i>Bos</i>	Scap	LG=51.2; GLP=59.2; BG=46.1
Grid 50 Quarry	<i>Bos</i>	Scap	LG=51.3; GLP=60.4; BG=41.6
Grid 50 Quarry	<i>Bos</i>	Scap	BG=56
Grid 50 Quarry	<i>Bos</i>	Tib	Bd=63.6; DEEP CUT
Grid 50 Quarry	<i>Bos</i>	Tib	Bd=26.6
Grid 50 Quarry	<i>Bos</i>	Tib	Bd=62.1
Grid 50 Quarry	<i>Bos</i>	Tib	GL=332; Bp=86.7; SD=34.7; Bd=58.3; Dd=37.1
Grid 50 Quarry	<i>Bos</i>	Tib	GL=322; Bp=80.3; SD=29.1; Bd=49.7
Grid 50 Quarry	<i>Capra</i>	Astrag	Bd=18.9; GLm=28.1
Grid 50 Quarry	<i>Capra</i>	Astrag	Bd=19.4; GLI=30.3; DL=17.5
Grid 50 Quarry	<i>Capra</i>	Astrag	Bd=17.2; GLm=24.5; GLI=26.6; DL=13.8; Dm=14.8
Grid 50 Quarry	<i>Capra</i>	Astrag	Bd=19.6; GLm=27.7; GLI=30; DL=16.2
Grid 50 Quarry	<i>Capra</i>	Astrag	GLm=28.4; GLI=30.9; GNAWED
Grid 50 Building 276 Room 421	<i>Capra</i>	Astrag	Bd=18.1; GLm=28.9; GLI=30.0; DL=16.2; Gm=16.8; CUT
Grid 38 Building 776 Room 210	<i>Capra</i>	Astrag	Bd=17.9; GLm=27.7; GLI=30
Grid 50 Quarry	<i>Capra</i>	Calc	GL=57.4
Grid 50 Quarry	<i>Capra</i>	Calc	GL=60.5
Grid 50 Quarry	<i>Capra</i>	Calc	GL=63.1
Grid 50 Building 234 Room 227	<i>Capra</i>	Calc	GL=64.5
Grid 50 Building 260 Room 252	<i>Capra</i>	Calc	GL=61.9
Grid 50 Quarry	<i>Capra</i>	Fem	Bp=42.4; DC=19.5
Grid 50 Quarry	<i>Capra</i>	Fem	Bp=21.6
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=47.6; BT=41; MH=38
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=33.8; BT=32.5; MH=28.4
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=34.6; BT=32; MH=29.3
Grid 50 Quarry	<i>Capra</i>	Hum	MH=30.7; CUT LAT
Grid 50 Quarry	<i>Capra</i>	Hum	Bp=45.6; CUT

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=33.9; BT=33.4; MH=29.9
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=33.3; BT=32.1; MH=29.9
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=33.4; BT=31.9; MH=28.4
Grid 50 Quarry	<i>Capra</i>	Hum	Bd=32.9; BT=32.4; MH=27.7
Grid 50 Plaza	<i>Capra</i>	Hum	BT=35; MH=30
Grid 50 South Street	<i>Capra</i>	Hum	Bd=32.8; BT=31.7; MH=29.3; EXOSTOSIS
Grid 50 Building 234 Room 227	<i>Capra</i>	Hum	MH=26
Grid 50 Building 234 Room 227	<i>Capra</i>	Hum	MH=34.8
Grid 38 Alley	<i>Capra</i>	Metac	GL=120; SD=16.1; Bp=27; Bd=28.5; BT=29
Grid 50 Quarry	<i>Capra</i>	Metac	GL=110; SD=14.8; Bp=23.3; Bd=27.5; BT=27.2; Dd=16.4
Grid 50 Quarry	<i>Capra</i>	Metac	Dd=18.9; IMMATURE
Grid 50 Quarry	<i>Capra</i>	Metac	Dd=18.8; BURN B/L
Grid 50 Quarry	<i>Capra</i>	Metac	Bd=31.7; BT=30.9; Dd=19.2
Grid 50 Quarry	<i>Capra</i>	Metac	Bp=24.8
Grid 50 Quarry	<i>Capra</i>	Metac	BT=25.8
Grid 50 Quarry	<i>Capra</i>	Metac	Bd=28.3; BT=27.7; Dd=17.1
Grid 50 East Street	<i>Capra</i>	Metac	Bd=28; BT=27.5; Dd=17.4
Grid 50 South Street	<i>Capra</i>	Metac	Bd=27.6; BT=28; Dd=16.2
Grid 50 Building 234 Room 227	<i>Capra</i>	Metac	Bd=29.4
Grid 50 Quarry	<i>Capra</i>	Metac	Dd=16.8; IMMATURE
Grid 50 Quarry	<i>Capra</i>	Metac	Bd=25.8; BT=25.4; Dd=17.3; CUT
Grid 50 Quarry	<i>Capra</i>	Metac	Bd=23.4; BT=24; Dd=16.3
Grid 50 Quarry	<i>Capra</i>	Metac	Bd=28.5; BT=28.3; Dd=20
Grid 50 Building 260 Room 252	<i>Capra</i>	Metac	GL=132.8; SD=16.5; Bp=23.1; Bd=29.4; BT=28.8; Dd=19
Grid 50 Quarry	<i>Capra</i>	PH1	SD=8.2; Bp=11.4; Bd=11.3; GLpe=36.7
Grid 50 Quarry	<i>Capra</i>	PH1	Bp=14.2
Grid 50 Quarry	<i>Capra</i>	PH1	SD=11.7; Bp=13.8; Bd=12.7; GLpe=35
Grid 50 Quarry	<i>Capra</i>	PH1	SD=11.5; Bp=13.2; Bd=13.1; GLpe=35.3
Grid 50 Quarry	<i>Capra</i>	PH1	SD=10.3; Bp=13.6; GLpe=38.6
Grid 50 Quarry	<i>Capra</i>	PH1	SD=10.3; Bp=12.5; Bd=11.8; GLpe=38.5; EXOSTOSIS
Grid 50 Quarry	<i>Capra</i>	PH1	SD=11.4; Bp=13.2; Bd=13.4; GLpe=36.9
Grid 50 Quarry	<i>Capra</i>	PH1	SD=10.5; Bp=13.2; Bd=14; GLpe=37.1
Grid 50 Quarry	<i>Capra</i>	PH1	SD=11.4; Bp=13.4; Bd=13.9; GLpe=28.7; CUT
Grid 50 Quarry	<i>Capra</i>	PH1	SD=11.1; Bp=13.3; Bd=12.5; GLpe=39.1
Grid 50 Quarry	<i>Capra</i>	PH1	SD=12.9; Bp=15.4; Bd=14.9; GLpe=41.3
Grid 50 Quarry	<i>Capra</i>	PH1	SD=14; Bp=16; Bd=16.9; GLpe=44.5
Grid 50 Quarry	<i>Capra</i>	PH1	GLpe=48
Grid 50 Quarry	<i>Capra</i>	PH1	Bp=14.8; GLpe=41.2
Grid 50 South Street	<i>Capra</i>	PH1	SD=12; Bp=12.8; GLpe=39.6; GNAWED
Grid 50 Building 234 Room 227	<i>Capra</i>	PH1	SD=11.3; Bp=13.6; Bd=13.2; GLpe=38.5; CUT
Grid 50 Building 234 Room 227	<i>Capra</i>	PH1	SD=10.3; Bp=12.5; Bd=11.8; GLpe=34.7
Grid 50 Building 234 Room 227	<i>Capra</i>	PH1	SD=10.8; Bp=13.5; GLpe=37.9
Grid 50 Building 234 Room 227	<i>Capra</i>	PH1	SD=11.8; Bp=14.6; GLpe=37.3
Grid 50 Building 234 Room 227	<i>Capra</i>	PH1	GLpe=39.5
Grid 50 Building 234 Room 227	<i>Capra</i>	PH2	SD=10.1; Bp=14; GLpe=23.9
Grid 50 Building 234 Room 227	<i>Capra</i>	PH2	Bp=16.3; GLpe=27.7
Grid 50 Building 260 Room 252	<i>Capra</i>	PH1	SD=10.2; Bp=13; GLpe=39.4
Grid 50 Building 260 Room 252	<i>Capra</i>	PH1	SD=12.2; Bp=14.7; GLpe=41.6
Grid 50 Building 260 Room 260	<i>Capra</i>	PH2	SD=12; Bp=13.4; GLpe=24.6
Grid 50 Building 406 Room 423	<i>Capra</i>	PH2	Bp=15.1; GLpe=25.6
Grid 50 Quarry	<i>Capra</i>	PH3	DLS=36.6; LD=30
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=37.6; BFp=34.9
Grid 50 Quarry	<i>Capra</i>	Rad	Bd=34.5; BFd=29.6
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=42.4; BFp=40
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=31.4; BFp=39.9

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=34.5; BFp=32.4
Grid 50 Quarry	<i>Capra</i>	Rad	Bd=31.4; BFd=27.4
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=39.1; BFp=36.4
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=32.1; BFp=30.4
Grid 50 Quarry	<i>Capra</i>	Rad	Bd=36.5; BFd=30.3
Grid 50 Quarry	<i>Capra</i>	Rad	Bd=31.3; BFd=25.6
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=31.5; BFp=30.6
Grid 50 Quarry	<i>Capra</i>	Rad	Bd=30.3
Grid 50 Quarry	<i>Capra</i>	Rad	Bp=33.5; BFp=30.4
Grid 50 Building 234 Room 227	<i>Capra</i>	Rad	Bp=34.5; BFp=32.3
Grid 50 East Street	<i>Capra</i>	Rad	Bp=31.5; BFp=29
Grid 50 Quarry	<i>Capra</i>	Scap	LG=29.8; GLP=38.3; BG=25.2
Grid 50 Quarry	<i>Capra</i>	Scap	LG=27.3; GLP=35.3; BG=24
Grid 50 Quarry	<i>Capra</i>	Scap	LG=31.8; GLP=39.5; BG=27.1; SLC=25.7
Grid 50 Quarry	<i>Capra</i>	Scap	LG=25.9; GLP=31.9; BG=24.5; SLC=18.7
Grid 50 Quarry	<i>Capra</i>	Scap	LG=24.7; GLP=31.4; BG=22.2; SLC=19.2
Grid 50 Quarry	<i>Capra</i>	Scap	BG=23.6; SLC=20
Grid 50 Quarry	<i>Capra</i>	Scap	BG=27.4
Grid 50 Quarry	<i>Capra</i>	Scap	LG=27.3; GLP=33.8; BG=23.1
Grid 50 Quarry	<i>Capra</i>	Scap	BG=21.9
Grid 50 South Street	<i>Capra</i>	Scap	BG=22.3
Grid 50 Plaza	<i>Capra</i>	Scap	LG=31.3; GLP=33.8
Grid 50 Plaza	<i>Capra</i>	Scap	BG=25.1
Grid 50 Building 406 Room 431	<i>Capra</i>	Scap	LGP=36.2; BG=25.3; SLC=20.3
Grid 50 Quarry	<i>Equus</i>	Lower P2	GL=28.1
Grid 50 Quarry	<i>Equus</i>	Scap	LG=45.4; BG=36.8
Grid 50 Quarry	<i>Equus</i>	Hum	Bd=62.8
Grid 50 Quarry	<i>Equus</i>	Rad	Bp=40.7; SD=25.4; Bd=36.2; BFd=35.2; Dd=27.5; Dp=28.3
Grid 50 Quarry	<i>Equus</i>	Tib	Dd=31.7
Grid 50 Quarry	<i>Equus</i>	Patella	GB=54
Grid 50 Quarry	<i>Equus</i>	Astrag	BFd=34.4; LmT=41.4; GH=42.1
Grid 50 Quarry	<i>Equus</i>	Metac	SD=23; Bd=32.8
Grid 50 Quarry	<i>Equus</i>	Metat	GL=228; SD=23.9
Grid 50 Quarry	<i>Equus</i>	Metat	GL=20.2; SD=21.2; Bp=33.8; BT=30.5; Dd=25
Grid 50 Plaza	<i>Equus</i>	Metat	Bp=40.1
Grid 50 West Street	<i>Equus</i>	Os tarsale 3	GB=36.5
Grid 50 Quarry	<i>Equus</i>	PH1	GL=65.4; SD=20.9; Bp=33.7; Bd=30.8; BFd=31; Dp=25.3
Grid 50 Quarry	<i>Equus</i>	PH1	GL=67; SD=23; Bp=36.1; Bd=32.1; Dp=26.4
Grid 50 Quarry	<i>Equus</i>	PH1	GL=67.8; SD=24.9; Bd=31.5; EXOSTOSIS
Grid 50 Quarry	<i>Equus</i>	PH1	GL=63.3; SD=19.8; Bp=33.1; BFd=27.8
Grid 50 Quarry	<i>Equus</i>	PH1	GL=72.2; SD=25; Bp=38.5; Bd=35; BFd=34.1; Dp=27; BFp=36.2
Grid 50 Quarry	<i>Equus</i>	PH1	GL=66; SD=21.3; Bp=34; BFd=30.5
Grid 50 Quarry	<i>Equus</i>	PH1	GL=71.7; SD=23.4; Bp=40.4; Bd=34.9; BFd=31.6; BFp=36.9
Grid 50 Quarry	<i>Equus</i>	PH2	GL=33; SD=30.4; Bp=35.4; BFd=32.7
Grid 50 Quarry	<i>Equus</i>	PH2	GL=38.8; Bp=38.8; Bd=35.5; BFp=35.4
Grid 50 Quarry	<i>Equus</i>	PH3	GB=44.6
Grid 50 Quarry	<i>Equus</i>	PH3	GB=42.4; BFp=38.5
Grid 50 Quarry	<i>Gazella</i>	Rad	Bp=26; BFp=22.8
Grid 50 Quarry	<i>Gazella</i>	Metac	Bd=22.6; BT=23.6; Dd=18.1
Grid 50 Quarry	<i>Gazella</i>	Metat	Bp=18.4
Grid 50 Building 234 Room 227	<i>Gazella</i>	Metat	Bp=18.8
Grid 50 Building 234 Room 227	<i>Gazella</i>	NC	GB=23.3
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=19.2; GLm=28.3; GLI=30.6; DI=16.4; Dm=16.8
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=19.1; GLm=28.7; GLI=30.5; DI=17; Dm=17.8
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=20; GLm=29; GLI=31; DI=16.8

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=17.7; GLI=28.5; DI=15.5
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=19.6; GLm=29.2; GLI=30.7; DI=17.6
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=18.5; GLm=28.4; GLI=30.6; DI=17.7; Dm=17.9; MEDIAL CUT
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=18.4; GLm=26.3; GLI=26.9; DI=15.4; Dm=16.2
Grid 50 Quarry	<i>Ovis</i>	Astrag	GLI=29.7; GLm=28.9; DI=16.5; Bd=18.3
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=19.8; GLm=29.7; GLI=31.3; DI=17.4
Grid 50 Quarry	<i>Ovis</i>	Astrag	Bd=18.9; GLm=27.5; GLI=30.3; CUT DORSAL
Grid 50 Quarry	<i>Ovis</i>	Astrag	GLm=27; WORKED
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=19.6; GLm=28.0; GLI=30.3; DI=16.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=18.8; GLm=27.9; GLI=29.8; DI=16.2; Dm=16.5
Grid 50 South Street	<i>Ovis</i>	Astrag	Bd=17.8; GLm=26.1; GLI=28.5; DI=15.5; Dm=14.9
Grid 50 South Street	<i>Ovis</i>	Astrag	Bd=19.1; GLm=26.3; GLI=28; DI=15.5; Dm=16.5
Grid 50 South Street	<i>Ovis</i>	Astrag	Bd=21.4; GLm=30.1; GLI=31.4; DI=17.1; Dm=18.2
Grid 50 South Street	<i>Ovis</i>	Astrag	Bd=19.2; GLm=29.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=18.2; GLm=29.5; GLI=29.8; DI=16.7; Dm=17.2
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=20.8; GLm=30.2; GLI=33.1; DI=17.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=19.9; GLm=30.5; GLI=30.8; DI=17.2
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=18; GLm=29.1; GLI=29.8; DI=16.5; Dm=17.1; BURN
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=20.3; GLm=30.9; GLI=32.5; DI=17.8
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=20.1; GLm=29.8; GLI=31.5
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=22; GLI=34.8; DI=19
Grid 50 Building 234 Room 227	<i>Ovis</i>	Astrag	Bd=18.4; GLm=28.1; GLI=29.3
Grid 50 Building 406 Room 423	<i>Ovis</i>	Astrag	Bd=21.1; GLm=30; GLI=33.2
Grid 50 Building 406 Room 431	<i>Ovis</i>	Astrag	Bd=21.1
Grid 50 Plaza	<i>Ovis</i>	Astrag	Bd=20.1; GLm=29.7
Grid 38 Building 776 Room 801	<i>Ovis</i>	Astrag	Bd=19.6; GLm=28.7; GLI=30; DI=17.1
Grid 38 Building 776 Room 210	<i>Ovis</i>	Astrag	GLm=31.2; Dm=17.9
Grid 38 Building 776 Room 310	<i>Ovis</i>	Astrag	Bd=19.6; GLm=27.5; GLI=29.1; DI=16.1; Dm=16.1
Grid 38 Building 776 Room 342	<i>Ovis</i>	Astrag	Bd=18; GLm=29.9; GLI=31.7
Grid 38 Building 776 Room 796	<i>Ovis</i>	Astrag	Bd=19.4; GLm=27.2; GLI=28.9
Grid 38 Building 776 Room 801	<i>Ovis</i>	Astrag	Bd=19.6; GLm=28.7; GLI=30; DI=17.1
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=63.9
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=65
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=57.3
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=63.8
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=60.8
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=70.3
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=60.9
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=61.3
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=63.6
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=60.7
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=57.6
Grid 50 Quarry	<i>Ovis</i>	Calc	GL=57
Grid 50 Building 406 Room 423	<i>Ovis</i>	Calc	GL=61.7
Grid 50 Building 406 Room 431	<i>Ovis</i>	Calc	GL=59.3
Grid 50 Plaza	<i>Ovis</i>	Calc	GL=66.4
Grid 50 Quarry	<i>Ovis</i>	Fem	DC=21.2
Grid 50 Building 234 Room 227	<i>Ovis</i>	Fem	Bp=51.4; DC=22.1; CUT
Grid 50 East Street	<i>Ovis</i>	Fem	Bp=47.8; DC=22.7
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=34.7; BT=33.7; MH=30.5; CUT MEDIAL AND LATERAL
Grid 50 Quarry	<i>Ovis</i>	Hum	BT=31.1; MH=28.4; =CUT
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=28.4; BT=28.3; MH=26.2
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=33.3; BT=30.5; MH=27.5
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=38.8; BT=37.5; MH=34.3
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=34.4; BT=32.1; MH=30.5

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=35.9; BT=35.6; MH=32.6
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=30.7; BT=28.4; MH=25.3
Grid 50 Quarry	<i>Ovis</i>	Hum	MH=29.7
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=35.2; MH=31.2; CUT MEDIAL
Grid 50 Quarry	<i>Ovis</i>	Hum	BT=29.4; MH=28.7
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=32.1; BT=30.5; MH=28.5
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=33.7; BT=31.5; MH=27.5
Grid 50 Quarry	<i>Ovis</i>	Hum	MH=30.9
Grid 50 Quarry	<i>Ovis</i>	Hum	MH=33
Grid 50 Quarry	<i>Ovis</i>	Hum	Bd=33.9; BT=33.4; MH=30.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	Hum	Bd=30.8; BT=30.4; CUT
Grid 50 Building 234 Room 227	<i>Ovis</i>	Hum	Bd=32.6; BT=31.9
Grid 50 Plaza	<i>Ovis</i>	Hum	MH=28.3
Grid 50 Plaza	<i>Ovis</i>	Hum	BT=31.2; MH=28.2
Grid 50 Plaza	<i>Ovis</i>	Hum	MH=29.5
Grid 50 East Street	<i>Ovis</i>	Hum	Bd=30.5; BT=30; MH=26.1
Grid 50 East Street	<i>Ovis</i>	Hum	Bd=33.9; BT=32.2; MH=28.6
Grid 50 South Street	<i>Ovis</i>	Hum	Bd=32.9; BT=31
Grid 38 Building 776 Room 210	<i>Ovis</i>	Hum	Bd=30.3; BT=29.9; MH=26.6
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=24.4; Dd=16.3
Grid 50 Quarry	<i>Ovis</i>	Metac	Bp=25.2
Grid 50 Quarry	<i>Ovis</i>	Metac	Bp=23.1; CUT ON DORSAL NEAR DISTAL, WHOLE SHAFT
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=27.6; BT=27.7; Dd=18.6
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=25.8; BT=25.3; Dd=17.4
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=29.5; BT=28.4; Dd=18.2
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=27.6; BT=27.3
Grid 50 Quarry	<i>Ovis</i>	Metac	GL=128; SD=13; Bp=24.4; Bd=26; BT=26.3; Dd=17.5
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=25.5; BT=25.4; Dd=16.8
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=25.4; BT=25.5
Grid 50 Quarry	<i>Ovis</i>	Metac	Bd=26.1; BT=26.4; Dd=17.3
Grid 50 Building 234 Room 227	<i>Ovis</i>	Metac	Dd=16.6
Grid 50 Building 234 Room 227	<i>Ovis</i>	Metac	Dd=16.0; BT=26.6; Bd=25.3
Grid 50 Building 234 Room 227	<i>Ovis</i>	Metac	Dd=15.8; BT=24.1
Grid 50 Building 234 Room 227	<i>Ovis</i>	Metac	Dd=16.1; SD=13.3; Bp=22.7; GLI=128.5
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=25.1; BT=25.6; Dd=16.7
Grid 50 Quarry	<i>Ovis</i>	Metat	BT=26.8; Dd=18.3; IMMATURE
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=22.1; BT=23.2; Dd=15.9
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=28.3; BT=28.1
Grid 50 Quarry	<i>Ovis</i>	Metat	Bp=20
Grid 50 Quarry	<i>Ovis</i>	Metat	GL=23.8
Grid 50 Quarry	<i>Ovis</i>	Metat	Bp=25.6; IMMATURE
Grid 50 Quarry	<i>Ovis</i>	Metat	GL=146.9; SD=11.7; Bp=20.3; Bd=23.6; BT=23.9; Dd=17.2; CUT
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=29.3; BT=29.7
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=23.7; BT=24
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=25.7; BT=26.5
Grid 50 Quarry	<i>Ovis</i>	Metat	SD=12.3; Bp=21; Bd=24.1; BT=25.2; Dd=16.5
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=24.8; BT=26; Dd=16.8
Grid 50 Quarry	<i>Ovis</i>	Metat	Bd=25; BT=25.6; Dd=17.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	Metat	BT=24.6
Grid 50 Building 234 Room 227	<i>Ovis</i>	Metat	Bd=28.5; BT=27.4; Dd=17.6; IMMATURE
Grid 50 Building 406 Room 373	<i>Ovis</i>	Metat	Bd=24.1; BT=24.3
Grid 50 Building 406 Room 373	<i>Ovis</i>	Metat	GL=130.9; SD=10.7; Bp=20; Bd=23.7; BT=23.6; Dd=15.5
Grid 38 Building 776 Room 210	<i>Ovis</i>	Metat	Bd=25.3; BT=25.4; Dd=16.9
Grid 50 Quarry	<i>Ovis</i>	NC	GB=22.4
Grid 50 Quarry	<i>Ovis</i>	NC	GB=25.6

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Building 260 Room 252	<i>Ovis</i>	NC	GB=25.5
Grid 38 Alley	<i>Ovis</i>	PH1	SD=9.7; Bp=12.6; Bd=13; GLpe=38.9
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=11.6; Bp=14.8; Bd=13.8; GLpe=40.4
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.3; Bp=12.4; Bd=12; GLpe=39.7
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.2; Bp=11.8; Bd=10.7; GLpe=33.3
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.7; Bp=15.2; Bd=13.7; GLpe=40.8; CUT LAT PROX MARGIN
Grid 50 Quarry	<i>Ovis</i>	PH1	Bp=14.4
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.2; Bp=12.5; Bd=11.1; GLpe=89.7
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=11.6; Bp=13.5; Bd=13.5; GLpe=42.3
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10; Bp=13.1; Bd=12.5; GLpe=42.2
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.3; Bp=12.7; GLpe=24; Dd=12.3
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.4; Bp=12.9; Bd=11.9; GLpe=43.5
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.4; Bp=13; Bd=12.1; GLpe=38.5
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.8; Bp=12.9; Bd=11.3
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.3; Bp=12.8; Bd=12.4; GLpe=39.5
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.3; Bp=11; Bd=10.5; GLpe=36.9
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=11.1; Bp=14; Bd=13.2; GLpe=42.5
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.7; Bp=12.2; Bd=11; GLpe=37.1
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=9.9; Bp=12.9; Bd=13; GLpe=38
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=8.5; Bp=12.4; Bd=12; GLpe=36.1
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.9; Bp=13.8; Bd=12.8; GLpe=39.1
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=8.6; Bp=17.8; Bd=12; GLpe=38.3
Grid 50 Quarry	<i>Ovis</i>	PH1	SD=10.6; Bp=13.2; GLpe=40.1
Grid 50 Quarry	<i>Ovis</i>	PH1	Bp=13.7; GLpe=37.9
Grid 50 South Street	<i>Ovis</i>	PH1	SD=11.6; Bp=14.4; GLpe=40.3
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=10.3; Bp=13.3; Bd=12.2; GLpe=40.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=10.9; Bp=12.9; GLpe=38.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=9.8; Bp=12.2; GLpe=35.3
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	Bp=13.2; GLpe=40.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=12.7; Bp=14; GLpe=39.2; DISEASED
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=11; Bp=13.1; GLpe=37.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	Bp=13.8; GLpe=40.9
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=10.8; Bp=12.9; Bd=12.4; GLpe=35.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=13; GLpe=36.4
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=12.8; GLpe=36.1
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	SD=12.6; GLpe=36.9
Grid 50 Building 234 Room 206	<i>Ovis</i>	PH1	SD=9.4; Bp=12.3; Bd=11.5; GLpe=40.3
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH1	Bp=13.2; GLpe=35.4
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH1	SD=10.5; Bp=13; GLpe=39.6
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH1	SD=8.2; Bp=10.9; GLpe=38.3; DIGESTED
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH1	SD=12.5; Bp=14.1; GLpe=41.8
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH1	SD=9.7; Bp=12.7; GLpe=36.6
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH1	Bp=12.4; GLpe=37
Grid 50 Building 406 Room 373	<i>Ovis</i>	PH1	SD=12.6; Bp=15.6; GLpe=40
Grid 50 Building 406 Room 373	<i>Ovis</i>	PH1	SD=8.6; Bp=12.1; Bd=10.9; GLpe=35.3; IMMATURE
Grid 50 Building 276 Room 421	<i>Ovis</i>	PH1	SD=10.9; Bp=13.6; Bd=11.9; GLpe=41.7
Grid 50 Building 276 Room 421	<i>Ovis</i>	PH1	Bp=13.3
Grid 38 Building 776 Room 210	<i>Ovis</i>	PH1	SD=10.9; Bp=12.9; Bd=12.4; GLpe=38.6
Grid 38 Building 776 Room 210	<i>Ovis</i>	PH1	SD=9; Bp=11.5; Bd=10.6; GLpe=34.6
Grid 38 Building 774 Room 460	<i>Ovis</i>	PH1	Bp=14.1; GLpe=39.8
Grid 38 Alley	<i>Ovis</i>	PH2	GLpe=25.2
Grid 38 Alley	<i>Ovis</i>	PH2	Bp=9.7; GLpe=21.2
Grid 50 Quarry	<i>Ovis</i>	PH2	GLpe=27.7; Bp=13.4; SD=10.0
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=9.2; Bp=12.7; Bd=10.8; GLpe=24
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=9.4; Bp=13.4; Bd=11.6; GLpe=31.5

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=8.1; Bp=13.2; Bd=10.7; GLpe=27.6
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=8.4; Bp=13.5; Bd=10.4; GLpe=24.1
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=2.5; Bp=10.4; Bd=8.8; GLpe=22.6
Grid 50 Quarry	<i>Ovis</i>	PH2	Bp=13.1; Bd=10.3; GLpe=27.1
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=10.9; Bp=13.9; Bd=11.1; GLpe=23.3
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=8; Bp=12.3; Bd=10; GLpe=24.1
Grid 50 Quarry	<i>Ovis</i>	PH2	Bp=13.3; Bd=10; GLpe=26.7
Grid 50 Quarry	<i>Ovis</i>	PH2	Bp=13.6
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=6.9; Bp=10.2; Bd=8.4; GLpe=20.2
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=8.6; Bp=12.8; Bd=10.2; GLpe=27.1
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=9.8; Bp=12.9; Bd=10.4; GGLpe=21.6
Grid 50 Quarry	<i>Ovis</i>	PH2	SD=8.7; Bp=13.1; Bd=10; GLpe=28.7
Grid 50 Quarry	<i>Ovis</i>	PH2	Bp=12; GLpe=26.2
Grid 50 Quarry	<i>Ovis</i>	PH2	Bp=12.6; GLpe=21.7
Grid 50 East Street	<i>Ovis</i>	PH2	SD=8.9; Bp=12.8; Bd=10.5
Grid 50 South Street	<i>Ovis</i>	PH2	SD=8.3; Bp=11.4; Bd=9; GLpe=20.9
Grid 50 West Street	<i>Ovis</i>	PH2	Bp=14.6; GLpe=30.5
Grid 50 Plaza	<i>Ovis</i>	PH2	SD=8.8; Bd=9.7; GLpe=24.6
Grid 50 Plaza	<i>Ovis</i>	PH2	SD=7.9; Bp=12.2; Bd=9; GLpe=22.8
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	Bp=13.4; Bd=11.7; GLpe=29.9; IMMATURE
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	Bp=13.9; Bd=10; GLpe=22.3
Grid 50 Building 234 Room 206	<i>Ovis</i>	PH2	SD=8.8; Bp=12.3; Bd=9.4; GLpe=20
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=10; Bp=13.6; Bd=10.6; GLpe=22.9
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=10.8; Bp=13.7; GLpe=23.3
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=8; Bp=12; GLpe=25.6
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=9.3; Bp=12.1; GLpe=27.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=9.9; Bp=12.5; GLpe=21.8
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=9; Bp=12.5; GLpe=22.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=9.9; Bp=13.3; GLpe=20.5
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=9.6; Bp=12.5; Bd=9.6; GLpe=21.8
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	Bp=12.8; GLpe=25.2
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH2	SD=10.1; Bp=13.4; GLpe=22
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH2	SD=10; Bp=13.4; GLpe=22.7
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH2	Bp=10.8; GLpe=20.6
Grid 50 Building 260 Room 260	<i>Ovis</i>	PH2	SD=8.1; Bp=13; GLpe=25.8
Grid 50 Building 260 Room 260	<i>Ovis</i>	PH2	SD=10.9; Bp=13; GLpe=24.9
Grid 50 Building 406 Room 373	<i>Ovis</i>	PH2	SD=7.2; Bp=10.2; Bd=8.3; GLpe=21.2
Grid 50 Building 406 Room 423	<i>Ovis</i>	PH2	Bp=13.6; GLpe=23.9
Grid 38 Building 776 Room 312	<i>Ovis</i>	PH2	GLpe=25.4; Bp=14.2; Bd=11.4; SD=10.2
Grid 38 Building 776 Room 312	<i>Ovis</i>	PH2	GLpe=23.2; Bp=12.9; SD=8.8; Bd=10.1
Grid 38 Building 776 Room 460	<i>Ovis</i>	PH2	Bp=12.9
Grid 38 Building 776 Room 460	<i>Ovis</i>	PH2	Bp=11; GLpe=22.4
Grid 38 Alley	<i>Ovis</i>	PH2	GLpe=25.2; BURNED
Grid 38 Alley	<i>Ovis</i>	PH2	Bp=9; GLpe=21.2
Grid 50 Quarry	<i>Ovis</i>	PH3	DLS=29.9; LD=22.7
Grid 50 Quarry	<i>Ovis</i>	PH3	DLS=27.5; LD=23.3
Grid 50 Quarry	<i>Ovis</i>	PH3	DLS=28.3; LD=22.9
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH3	DLS=31.7; LD=24.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH3	DLS=28.9; LD=22
Grid 50 Building 234 Room 227	<i>Ovis</i>	PH3	DLS=29.4; LD=24.5
Grid 50 Building 260 Room 252	<i>Ovis</i>	PH3	DLS=25.8; LD=20.5
Grid 50 Building 406 Room 373	<i>Ovis</i>	PH3	DLS=24.1
Grid 50 Quarry	<i>Ovis</i>	Rad+Uln	Bp=38.6; BFp=34.6; Ulna NOT FUSED
Grid 50 Quarry	<i>Ovis</i>	Rad+Uln	Bp=30.7; BFp=27.6; Ulna NOT FUSED
Grid 50 Quarry	<i>Ovis</i>	Rad+Uln	Bp=33.6; BFp=30.2

Table 24.10: Measurements of Bones Found in Seventh-Century B.C. Contexts at Ashkelon (continued)

<i>Context</i>	<i>Genus</i>	<i>Part</i>	<i>Measurements</i>
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=33.5; BFp=30; CUT
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=31.5; BFp=28.7
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=35.1; BFp=30.6
Grid 50 Quarry	<i>Ovis</i>	Rad	BFp=32
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=32.2
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=34.1; BFp=30.8
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=34.6; BFp=31.4
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=32.4; BFp=29.1
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=31.3; BFp=28.7
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=33.9; BFp=31.2
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=35.6; BFp=32.4
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=35; BFp=31.3
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=33.1; BFp=30.9
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=34.3; BFp=30.7; CUT ULNA
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=32.1; BFp=29.7
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=31.8; BFp=28.8; WHOLE
Grid 50 Quarry	<i>Ovis</i>	Rad	BFd=27.6; WHOLE SMASHED
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=31.5; BFp=28.2
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=33.5; BFp=30.4
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=37.4; BFp=33.8
Grid 50 Quarry	<i>Ovis</i>	Rad	Bd=33.8; BFd=29.4
Grid 50 Quarry	<i>Ovis</i>	Rad	Bd=30.5
Grid 50 Quarry	<i>Ovis</i>	Rad	Bp=33.2; BFp=30.9; Bd=30.8; Bfd=27.6; SD=16.8; GL=164; MAT ULNA
Grid 50 East Street	<i>Ovis</i>	Rad	Bp=34.7; BFp=30.3
Grid 50 South Street	<i>Ovis</i>	Rad	Bd=35.4; BFd=29.4
Grid 50 South Street	<i>Ovis</i>	Rad	Bp=33.5; BFp=31.4
Grid 50 South Street	<i>Ovis</i>	Rad	Bp=30.2
Grid 50 Plaza	<i>Ovis</i>	Rad	Bp=36.9; BFp=33
Grid 50 Plaza	<i>Ovis</i>	Rad	Bp=36.3; BFp=3
Grid 50 Plaza	<i>Ovis</i>	Rad	Bp=35.4; BFp=31.7
Grid 50 Building 234 Room 227	<i>Ovis</i>	Rad	Bp=33.3; BFp=30
Grid 50 Building 260 Room 252	<i>Ovis</i>	Rad	Bp=35.2; BFp=32.7
Grid 50 Building 406 Room 373	<i>Ovis</i>	Rad	Bp=33.3; BFp=30.7
Grid 50 Building 406 Room 373	<i>Ovis</i>	Rad	Bp=33.5
Grid 38 Building 776 Room 312	<i>Ovis</i>	Rad	Bp=32.6; BFp=30.5
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=27.3; GLP=34.1; BG=22.4; SLC=19.5
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=31.9; GLP=40.9; BG=24.7
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=32.8; GLP=40; SLC=24.5
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=75.2; GLP=31.5; SLC=17.4
Grid 50 Quarry	<i>Ovis</i>	Scap	BG=21
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=25.5; GLP=33.7
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=27.4; GLP=35.6; BG=21.3
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=24.9
Grid 50 Quarry	<i>Ovis</i>	Scap	LG=26; GLP=33.6; SLC=18.6
Grid 50 Building 234 Room 227	<i>Ovis</i>	Scap	GLP=33.8; BG=21.4; SLC=18.5
Grid 50 Building 234 Room 227	<i>Ovis</i>	Scap	GLP=30.8
Grid 50 Building 260 Room 252	<i>Ovis</i>	Scap	SLC=16.6
Grid 50 Building 406 Room 373	<i>Ovis</i>	Scap	GLP=35; BG=21.3; SLC=18.8
Grid 50 Plaza	<i>Ovis</i>	Scap	LG=26.8; GLP=34.2; BG=20.7
Grid 50 Plaza	<i>Ovis</i>	Scap	BFp=32.4; SLC=20.1
Grid 50 East Street	<i>Ovis</i>	Scap	BG=21.7; SLC=18.7
Grid 50 Quarry	<i>Sus</i>	Metat 5	GL=52.1
Grid 50 Quarry	<i>Sus</i>	PH1	GLpe=29.6; Bp=16.6; Bd=14.9
Grid 50 Quarry	<i>Sus</i>	Metat 5	GL=52.1
Grid 50 Quarry	<i>Sus</i>	Lower M1	GL=16.4



## 25. FISH REMAINS

by Omri Lernau

THIS REPORT describes the Iron Age fish remains excavated in the Grid 38 and Grid 50 excavation areas at Ashkelon. These remains date to the final years of the Philistine city before its destruction by the Babylonians in 604 B.C. The two excavation areas differ considerably from one another. In Grid 38, fish bones were found in a building that has been interpreted as a winery and in an adjacent alley (see chapter 2 of the present volume). In Grid 50, on the other hand, the fish remains come from a complex consisting of four buildings, a plaza, and four intersecting streets, which have been interpreted as a marketplace (see chapter 3). This marketplace existed for a relatively short time; it was built on top of a quarry that had been filled in with debris dating to the latter part of the seventh century, so the marketplace was in use only in the final decades of that century, until its destruction in 604 B.C.

The object of this report is to describe the excavated fish bones and their spatial and temporal distribution, and to clarify their significance for our understanding of life in Ashkelon during the final days of the city. The deposition of these bones in archaeological layers that accumulated over a relatively short span of time, on the order of a few decades, allows us to juxtapose data that reflect the situation in the city during a period of normal activity with data that reflect the final period of struggle, siege, and probable famine, just prior to the conquest of the city by the Babylonian king Nebuchadrezzar II.

### *Materials and Methods*

Identification and analysis of the fish remains recovered at Ashkelon followed standard zooarchaeological procedures (Reitz and Wing 1999). Bones were either hand-picked or collected by sifting excavated soil through sieves. Many bones were covered with a tough calcareous crust that had to be removed mechanically.

The specimens were identified to the lowest taxon possible by comparing them with a reference collection of bones of recent fish. Measurements of bones were obtained with a Mituyotu caliper (Morales and Rosenlund 1979). These were used to estimate sizes of the original fish (standard body length in centimeters) using allometric formulas obtained from the literature (Desse and Desse-Berset 1996; Desse et al. 1987; Van Neer 1989) or from the reference collection. Sizes are often given below as exact figures, but

one should bear in mind that this methodology allows only rough estimates, with a large margin of error. However, the accuracy of the estimates satisfies the present objectives.

Quantification of the fish remains included a count of the total number of the identified specimens for each taxon (NISP) and calculated estimates of the minimum number of individual fish represented (MNI). The MNI figures were determined by counting the most common element for each taxon, taking into account spatial and temporal distributions as well as the estimated sizes of the fish (differences of at least 15 percent in estimated sizes were considered to be indicative of different individuals).

Information about the fish taxa is taken from the following sources: Abraham et al. 1966; Bauchot and Hureau 1986; Ben-Tuvia 1953; 1971; 1986; Chao 1986; Froese and Pauly 2009; Golani 1996; Golani and Darom 1997; Goren 1974; 1983; Latif 1974; Lythgoe and Lythgoe 1992; Pullin and Lowe-McConnell 1982; Skelton 1993; Trewavas 1942.

### *Summary of Results*

The total number of bones obtained for analysis was 3,890. The skeletal element was recognized in 2,429 of them. The rest are mainly fragments of vertebrae, spines, etc. Taxonomic identification was accomplished for 1,606 bones (66 percent of all identified skeletal elements). A total of 910 bones were identified to the level of genus or species whereas 694 bones could be identified only to the level of the family. The bones were found to belong to eleven marine fish families and to three local freshwater families and two imported families from the Nile Valley.

Nine kinds of identified fish occur in the nearby Mediterranean Sea, constituting 63 percent of the identified specimens (NISP) and 66.5 percent of the MNI. Two kinds must have been imported to Ashkelon from the Nile Valley, constituting 14.5 percent of the identified specimens and 17.7 percent of the MNI. Two kinds came from the Red Sea, constituting 0.3 percent of the identified specimens and 1 percent of the MNI.

There remains a question about whether three kinds of freshwater fish, which constitute 22.3 percent of the identified specimens and 15 percent of the MNI, were available in the vicinity of Ashkelon. This question will be discussed below.

Table 25.1: Taxonomic Identification of Fish Bones

<i>Taxon</i>	<i>NISP</i>	<i>MNI</i>	<i>NISP/family</i>
<b>Marine Fish</b>			
Sparidae (porgies, sea breams)	256*	75	494
<i>Sparus auratus</i>	231		
<i>Pagrus</i> sp.	5		
<i>Dentex</i> sp.	1		
<i>Diplodus</i> sp.	1		
Serranidae (sea basses)	140*	34	180
<i>Epinephelus</i> sp.	8		
<i>Epinephelus aeneus</i>	29		
<i>Epinephelus marginatus</i>	1		
<i>Epinephelus costae</i>	2		
Sharks	154	13	154
Mugilidae (mulletts)	74*	28	86
<i>Mugil cephalus</i>	3		
<i>Liza ramada</i>	9		
Sciaenidae (drums, croakers)	23*	22	46
<i>Argyrosomus regius</i>	20		
<i>Sciaena</i> sp.	1		
<i>Sciaena umbra</i>	2		
Balistidae (triggerfish)			
<i>Balistes carolinensis</i>	44	7	44
Holocentridae (squirrelfish, soldierfish)			
<i>Holocentrus rubrum</i>	4	2	4
Carangidae (jacks, pompanos)	3*	3	3
Pomacanthidae (angelfish)	1*	1	1
Moronidae (temperate basses)			
<i>Dicentrarchus labrax</i>	1	1	1
Scombridae (mackerels, tunas)	1*	1	1
<b>Freshwater Fish</b>			
Clariidae (air-breathing catfish)			
<i>Clarias gariepinus</i> (Nile catfish)	309	28	309
†Centropomidae (snooks, latidae)			
<i>Lates niloticus</i> (Nile perch)	231	47	231
Cichlidae (cichlids)	40*	12	48
<i>Tilapia</i> sp.	6		
<i>Oreochromis aureus</i>	2		
†Mochokidae (squeakers)	2*	2	3
<i>Synodontis schall</i>	1		
Cyprinidae (carps)	1*	1	1
<b>Unidentified</b>	2,284		
<b>TOTAL:</b>	3,890	277	

NISP is number of identified specimens. Numbers marked with an asterisk (\*) reflect identification to the level of the family only. MNI is the minimum number of individual fish. "NISP/family" is the total NISP for the family. Imported freshwater fish are indicated by a dagger (†).

### Marine Fish Families Found at Ashkelon

#### Family Sparidae (porgies, sea breams)

The most common local marine fish represented at Ashkelon were porgies, with 494 bones (25.5 percent of all identified bones). A total of 231 bones were further identified to the species *Sparus auratus* (Linnaeus 1758), the gilt-head sea bream. Five bones belong to the genus *Pagrus*, one to the genus *Dentex*, and one to the genus *Diplodus*. Total MNI was estimated to be 75. Estimated sizes of porgies based on 342 measured bones vary between 15 and 74 cm, with an average of 23 cm.

Twenty species of the family Sparidae inhabit the Mediterranean. A very common fish group along the coast of Israel, these medium-sized fish occur primarily in warm inshore waters and sometimes in brackish bays and estuaries. The young congregate in shallow waters whereas adults are found in deeper waters. Many kinds of porgies are among the best edible fish in this region.

*Sparus auratus*, the gilt-head sea bream, is common along the coasts of the Mediterranean, including the coast of Israel. It specifically inhabits the Bardawil littoral of the northern coast of the Sinai Peninsula. It may attain a maximum size of ca. 50 cm but averages ca. 30–35 cm when caught. It is a sedentary fish, living solitarily or in small groups over littoral or sandy bottoms, down to depths of ca. 150 m. The fish is carnivorous, feeding on mollusks (mainly mussels), crustaceans, and small fish.

The dietary habits of *S. auratus* and some of its relatives in the porgy family have brought about the evolutionary development of distinctive features that are of special importance for the zooarchaeologist. The grinding of mussels and other calcareous substances requires massive jaws with large flattened molars, making the jaws both durable and easy to identify.

Porgy remains are the most common among the Ashkelon fish remains. This is true for many other excavated sites in Israel. Porgies are popular and highly valued, both today and in the past. They are also relatively easy to catch in shallow coastal waters. These are two good reasons for their abundance in the archaeological record, but it is important to keep in mind that this can also be attributed in part to the durability of their jaw bones, which are well preserved.

#### Family Serranidae (sea basses, groupers)

A total of 180 bones (11.2 percent of all identified bones) belong to the family Serranidae, with an esti-

mated total MNI of 38. Twenty-nine bones could be further identified to the species *Epinephelus aeneus* (Geoffroy Saint-Hilaire 1817), the white grouper; two bones could be identified as *Epinephelus costae* (Steindachner 1878), the golden grouper; and one bone as *Epinephelus marginatus* (Lowe 1834), the dusky grouper. Estimated sizes of the original fish, based on 96 measured bones, vary between 28 and 100 cm, with an average of 66 cm.

Sea basses are large, solitary, predatory fish found in shallow warm waters in the eastern Mediterranean. They are common along the coast of Israel. There are eleven species in the eastern Mediterranean, among them some of the best edible fish in the region. The white grouper is common along the Mediterranean coast of Israel. It can grow to a maximum length of 120 cm and a weight of 25 kg. Adults are found on rocky and sandy bottoms to a maximum depth of 200 m. Younger, smaller fish are caught among rocks in shallow waters. The white grouper feeds on small fish, cephalopods, and crustaceans, and it may be speared or caught with fishing rods, long lines, or trawls. Other species of sea bass that are considered here have similar lifestyles.

#### Subclass Elasmobranchii (sharks and rays)

A total of 154 centra (9.6 percent of all identified bones) came from sharks or rays, with an estimated total MNI of 13. Members of the subclass Elasmobranchii have cartilaginous skeletons that decompose after death leaving only durable teeth and centra. Centra consist of the central portions of vertebrae, which are calcified but not ossified. They are usually white, flat, and round, and so have an aesthetic value. They were sometimes perforated in order to create necklaces, as was the case with one of the excavated centra found at Ashkelon.

There are many species of sharks and rays in the Mediterranean but they are difficult to tell apart using their centra. Sharks have no scales and they are therefore considered nonkosher and taboo for Jews. But this was not an issue in Philistine Ashkelon, where they comprise a significant proportion of the fish remains.

#### Family Mugilidae (mulletts)

Eighty-six bones (5.4 percent of all identified bones) belong to the family Mugilidae, with an estimated total MNI of 28. Nine bones could be further identified to the species *Liza ramada* (Risso 1827), the thin-lipped grey mullet, and three bones could be identified as *Mugil cephalus* (Linnaeus 1758), the

flathead grey mullet. Estimated sizes of the mullets based on 63 measured bones vary between 16 and 57 cm, with an average of 34 cm.

Seven species of the family inhabit shallow waters, lagoons, and estuaries along the Mediterranean coast of Israel. The species under consideration are catadromous fish, meaning that the young migrate from the sea upriver, grow in freshwater, and return to the sea for breeding as adults. *M. cephalus* is the larger of the two and may attain a maximum size of about 80 cm. It feeds on small plankton and decayed organic matter on the bottom.

Feeding primarily on plant material, grey mullets typically move in dense schools, thus rendering them easy to capture in nets. Both species were known in ancient Egypt. Their migrations up the Nile were believed to announce the approaching inundation (Gamer-Wallert 1970:66–67). As in the past, mullets are regarded as excellent food fish today and are important commercial fish in Israel, where they are typically raised in fish ponds.

#### Family Sciaenidae (drums, croakers)

Forty-six bones (2.9 percent of all identified bones) belong to the family Sciaenidae, with an estimated total MNI of 22. Twenty bones could be further identified to the species *Argyrosomus regius* (Asso 1801), the meagre. Three bones were identified to the level of the genus *Sciaena*. Two of them belong to the species *Sciaena umbra* (Linnaeus 1758), the brown meagre. Estimated sizes of the fish based on 36 measured bones vary between 13 and 135 cm, with an average of 52 cm.

The Mediterranean supports three species of drums that belong to different genera, all of them important food fish. They are medium-to-large fish that inhabit shallow inshore waters and also occur along the Mediterranean coast of Israel. Drums are carnivorous; they feed on small fish, crustaceans, and mollusks. The meagre feeds on small fish and crustaceans, attaining a maximum size of about 200 cm. Small or medium-sized fish live along the coast, where they are caught with simple fishing gear, including various nets and lines. Larger specimens live farther from the shore and require more advanced fishing techniques. The brown meagre, a smaller fish, is usually found on rocky or sandy bottoms.

#### Family Balistidae (triggerfish)

Forty-four bones (2.7 percent of all identified bones) belong to the family Balistidae. All of them were identified to the level of the species *Balistes*

*carolinensis* (Gmelin 1789), the grey triggerfish. Estimated sizes of the triggerfish, based on four measured bones, vary between 31 and 41 cm, with an average of 35 cm.

The triggerfish may attain a maximum length of 60 cm. Its first dorsal spine is large and very strong, equipped with a locking mechanism that serves to hold it firmly inside crevices between rocks. Small schools or pairs of young *B. carolinensis* are found in shallow waters (4–15 m deep) among rocks and rich vegetation, while larger individuals move in deeper water and inhabit coarse sandy and silty bottoms near isolated rocks or shipwrecks.

The commercial value of this fish today is low, probably because of its tough skin. Nevertheless, its flesh is tasty and may be found as a special dish in the best fish restaurants. Triggerfish comprise more than 97 percent of a large assemblage of fish bones in the Pre-Pottery Neolithic C undersea site of <sup>c</sup>Atlit-Yam (Galili et al. 2004). Otherwise, they have been found only occasionally at excavated sites in Israel.

#### Family Holocentridae (squirrelfish, soldierfish)

Four bones (0.25 percent of all identified bones) belong to the family Holocentridae, further identified to the species *Holocentron rubrum* (Forsskal 1775), the redcoat or soldierfish. In the past, this tropical fish inhabited the Pacific and Indian Oceans and the Red Sea, from which it must have been imported to Philistine Ashkelon. In recent times, it passed through the Suez Canal and can be found today in the Mediterranean. The identification of at least two of the bones is reasonably certain. It is the only fish from the Red Sea that was found in the Ashkelon assemblage, albeit in a small quantity. Nonetheless, it shows that there were some connections or commercial ties with the Red Sea region in the late Iron Age.

#### Family Carangidae (jacks, pompanos)

Three bones (1.8 percent of all identified bones) belong to the family Carangidae. They could be identified to the level of the family only. Estimates of the sizes of the fish based on measurements of two bones are 48 and 84 cm. This marine family has ten representatives in the eastern Mediterranean, some of which may attain lengths of up to 200 cm. They are fast-swimming predators of the open sea. The two measurable bones were found in the quarry fill beneath the marketplace in the Grid 50 excavation area. The third bone came from the 604 B.C. destruction layer in Grid 50. It is a large clavicle, but the identification of the family is not certain.

#### Family Pomacanthidae (angelfish)

One posterior vertebra is compatible with the family Pomacanthidae; however, the identification is not certain. Like the Holocentridae, this family also inhabits the Red Sea; thus, if the identification is correct, it is another indication for commercial ties between Ashkelon and the Red Sea in the Iron Age.

#### Family Moronidae (temperate basses)

One bone belongs to the family Moronidae, to the species *Dicentrarchus labrax* (Linnaeus 1758), the European sea bass. Two species of Moronidae are found along the Mediterranean coast of Israel: *Dicentrarchus labrax* and *Dicentrarchus punctatus* (Bloch 1792), the spotted sea bass. They occupy shallow waters and brackish lagoons, and sometimes ascend rivers. They feed on crustaceans and smaller fish and may attain a maximum size of 80 and 50 cm, respectively. *D. labrax* is a clever and cautious fish. It is caught with spears, fishing rods, lines, and beach seines. Its flesh is highly prized.

#### Family Scombridae (mackerels, tunas, bonitos)

One small posterior vertebra belongs to the family Scombridae. No further identification is possible. These are swift, epipelagic predators of the open sea. The vertebra is compatible with this classification but the identification is not certain.

#### *Freshwater Fish Families Found at Ashkelon*

#### Family Clariidae (air-breathing catfish)

A total of 309 bones (19.2 percent of all identified bones) belong to the family Clariidae, further identified to the local species *Clarias gariepinus* (Burschell 1822), the North African or Nile catfish. There are 307 vertebrae (129 abdominal and 178 caudal) and only two fragments of neurocranium (braincase).

The braincase of the Nile catfish is made of massive, heavy, armor-like bones. As a result, the head of the fish, which contains very little edible flesh, comprises about one-third of the weight of the fish. For this reason, fishermen often cut off the heads and carry only the headless catfish with them. This would explain the fact that only vertebrae were found among the Ashkelon fish remains, despite the fact that the cranial shield of the catfish is very durable. Measurements of 186 vertebrae allowed estimates of the sizes of the original fish ranging from 27 to 90 cm with an average of 48 cm.

The Nile catfish is the largest freshwater fish in Israel today. It can attain a maximum length of 150 cm and a maximum weight of 20 kg. An inhabitant of lakes, large sluggish rivers, and slow-running streams, the Nile catfish occurs in Israel in coastal rivers and in the Sea of Galilee and other waters of the Jordan River system. It is found throughout the Levant as well as in the Nile River in Egypt, from which it takes its name, and is found in most areas of Africa (Boulenger 1907).

A typical feature of the Clariid family is an accessory air-breathing organ above the gills that allows it to survive in harsh conditions characterized by poor oxygenation or desiccation. Catfish can even cross dry land, using their strong pectoral spines to crawl from one stagnant pool to another. An omnivorous fish, the Nile catfish feeds on any available organic food source, including fish, frogs, reptiles, birds, small mammals, snails, crustaceans, and plant seeds and fruit. It can be caught by rod and hook or by nets.

The Nile catfish is edible and is an important food fish species in certain parts of the world today. Remains have been recovered in many excavations in Israel, but more often and in larger numbers at non-Jewish sites because of its lack of scales, which renders the catfish nonkosher and taboo according to Jewish and Muslim culinary laws.

Philistine Ashkelon and Ekron (Tel Miqne), and Canaanite Lachish and Megiddo, all have a similar proportion of Nile catfish in their assemblages of excavated fish bones. Remains of catfish have been found also in Turkey, in Sagalassos, outside of their natural distribution area. It has been shown by genetic analysis that the catfish of Sagalassos were imported from the Nile Valley, probably along with the Nile perch (Arndt et al. 2003).

The question of whether catfish found at sites in Israel were in fact of local origin, or whether they were imported from Egypt, has not yet been settled. As for the catfish in the present assemblage, it seems highly probable that they were caught locally, in light of their relative abundance in the destruction layer, as will be discussed below.

#### Family Centropomidae (Latidae) (snooks, lates fish)

A total of 231 bones (14.4 percent of all identified bones) belong to the family Centropomidae, further identified to the species *Lates niloticus* (Linnaeus 1758), the Nile perch. The estimated total MNI of this fish is 28. Estimated sizes of the Nile perch based on 116 measured bones vary between 27 and 192 cm, with an average of 81 cm.

*Lates niloticus* is confined today to the African continent (Greenwood 1976). It is a freshwater fish and is the largest fish in the Nile. It can attain a maximum size of 200 cm and a weight of 175 kg. The adult Nile perch prefers deep oxygenated waters. It finds shelter in rock crevices and is a voracious predator of smaller fish (Greenwood 1966). Its tasty meat has always been praised and even today it is exported from Kenya in the form of thick, frozen fillets.

*Lates niloticus* gave its name to the ancient Egyptian town Latopolis (Esna), which was dedicated to its worship. Ancient Egypt exported great quantities of processed Nile perch, mainly during the Bronze and Iron Ages, all across the eastern Mediterranean, as far as Cyprus, Turkey, and beyond (Van Neer et al. 2004). Philistine Ashkelon, with its Mediterranean port, received these fish as part of this long-lived commercial enterprise.

#### Family Cichlidae (cichlids, tilapias)

Forty-eight bones (3 percent of all identified bones) belong to the family Cichlidae, with an estimated total MNI of 12. Six bones could be further identified to the genus *Tilapia*, probably *Tilapia zillii* (Gervais 1848), the red-bellied tilapia or common St. Peter's fish. Two bones could be identified to the species *Oreochromis aureus* (Steindachner 1864), the blue tilapia or Jordan St. Peter's fish. Estimated sizes of the cichlids, based on 15 measured bones, vary between 13 and 41 cm, with an average of 25 cm.

The family Cichlidae includes about six hundred rather small tropical species with a wide range of forms and adaptations. Tilapias are small- to medium-sized freshwater fish, up to 25 cm in length. They are very common in Israel's rivers, lakes, ponds, and streams, particularly among stones and abundant vegetation.

There are seven cichlid species in Israel today, four of them large enough to have nutritional and commercial value. *T. zillii* is the most common. These fish attain a maximum size of 30–40 cm. They have unique breeding behaviors, sheltering their fertilized eggs, and sometimes their young offspring, in their mouths. A popular table fish today, tilapias have been introduced into various parts of the world, where they are raised on fish farms and are important in commercial and subsistence fisheries.

#### Family Mochokidae (squeakers, upside-down catfish)

Three bones (1.8 percent of all identified bones) belong to the family Mochokidae, genus *Synodontis*.

It was possible to identify one of them to the level of the species *Synodontis schall* (Bloch and Schneider 1801), the Nile squeaker. There are two pectoral spines and one cleithrum in the assemblage.

*S. schall* is a freshwater catfish that can attain a maximum length of 40 cm. Numerous species are found in the Nile, from where they were imported in small numbers to ancient Ashkelon and to several other excavated sites in Israel. *Synodontis* catfish were a popular food in ancient Egypt; this is attested by numerous representations in wall paintings and reliefs (Boulenger 1907).

#### Family Cyprinidae (carps)

One posterior vertebra belongs to the family Cyprinidae. This family includes a large number of freshwater fish of which ten species occur in Israel, most of them too small to have nutritional value. The larger kinds (barbels) are strictly freshwater fish that are common in the Sea of Galilee and other waters of the Jordan River system. Only one cyprinid, *Capoeta damscina* (Valenciennes 1842), occurs today in the coastal rivers that flow into the Mediterranean. The Ashkelon vertebra is compatible with a cyprinid classification, but the identification is not certain.

#### Temporal and Spatial Distribution of the Fish Bones

The Grid 38 and Grid 50 excavation areas were both covered with a destruction layer dated to 604 B.C. This layer covered the winery and alley in Grid 38. The layers beneath the destruction phase extend back to a point sometime earlier in the seventh century B.C., but it is not known exactly how much earlier. The temporal sequence of material found under the destruction layer in Grid 50 is more precisely defined. The complex of late seventh-century buildings in Grid 50 was built on top of a filled-in quarry and the quarry fill itself has been dated by its ceramic content to the second half of the seventh century.

I shall therefore refer in this report to three temporal phases in Grid 50: (1) the filling of the quarry, which reflects normal life in the city in the seventh century B.C.; (2) the destruction layer, which reflects the final crisis point in the month of Kislev (November–December) 604 B.C.; and (3) an intermediate phase, represented by the floors and living surfaces under the destruction layer, which reflect a period of several years immediately preceding the destruction. This intermediate phase does not always have a precise archaeological delineation, however, and might include material from the earliest or latest phase.

Table 25.2: Temporal Distribution of Identified Fish Bones in the Grid 38 Excavation Area

<i>Taxon</i>	<i>Before 604 B.C.</i>	<i>604 Destruction</i>
Nile catfish	149	58
Porgies	123	13
Mullets	29	0
Sea basses	20	6
Nile perch	18	4
Sharks	18	18
Drums	2	0
Cichlids	1	1
Squeakers	0	1
Angel fishes	0	1
<b>TOTAL:</b>	<b>360</b>	<b>102</b>

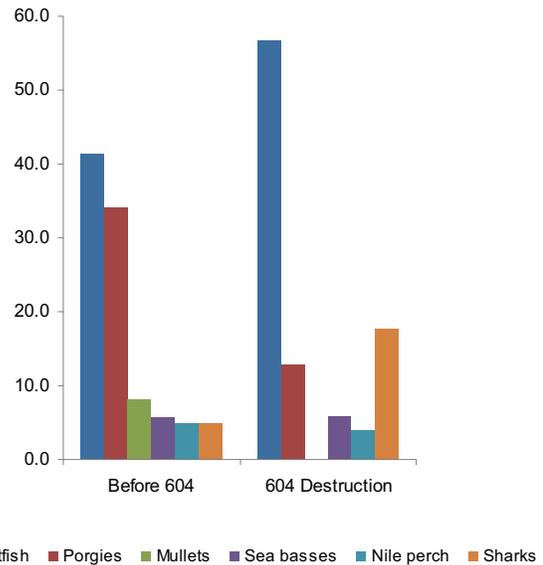


Figure 25.1: Percentages of fish by family in Grid 38

#### The Grid 38 Excavation Area

Excavation of the winery and the alley in Grid 38 produced a total of 921 fish bones. Of these, 156 bones were in the 604 B.C. destruction phase and 765 bones came from layers that preceded the destruction. Table 25.2 shows the distribution of 462 identified bones (ten families) in these two phases.

Figure 25.1 shows the same data for the six most common fish families, presented as percentages for each phase. There were relatively more bones of catfish and sharks in the destruction layer. There were fewer porgy bones and no mullet bones in the destruction layer, while the occurrence of sea bass and

Nile perch was very low and stayed about the same in both phases.

Building 776, which is interpreted as a winery, contained 670 fish bones in eight different rooms (table 25.3). The largest number of bones (528) was found in Room 312. These bones came from nine different kinds of fish but were mostly catfish, porgies, and mullets. One other room, Room 210, had a considerable number and variety of fish bones. Food was probably served and eaten in these rooms. The number and variety of bones in the remaining six rooms was small, only 72 bones in all. The total MNI for this building was 55, of which 28 were in Room 312.

There were 205 fish bones in the alley that ran beside the winery building. The taphonomic conditions in the alley were apparently worse than in the winery because only about a quarter of these bones could be identified (table 25.3). They belonged mainly to sea basses, Nile perch, and sharks, with only one catfish vertebra among them. The total MNI for the alley is 13.

There was a difference in the distribution of the skeletal elements between the winery and the alley. Bones of the head, which are poor in flesh, were found mainly in the alley, whereas vertebrae and spines from the flesh-carrying parts of the fish were relatively more abundant inside the winery. Head bones are often regarded as indicators of locations where fish are prepared for eating. Of special significance is the fact that only one out of 209 Nile catfish vertebrae was found in the alley.

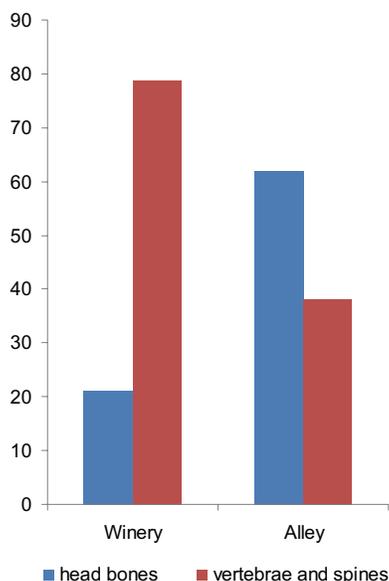


Figure 25.2: Distribution of skeletal elements between the winery and alley in Grid 38

Table 25.3: Preservation of Fish Bones in Grid 38 (total number of bones N versus MNI)

Room	Taxon	N	MNI
210	Nile catfish	30	4
	Porgies	4	2
	Drums	1	1
	Angel fishes	1	1
	Cichlids	2	2
	Mullets	1	1
	Sharks	16	1
	Unidentified	15	
	312	Nile catfish	174
Squirrel fishes		1	1
Nile perch		6	3
Sea basses		6	5
Porgies		122	6
Drums		1	1
Cichlids		1	1
Mullets		21	4
Sharks		1	1
Unidentified		195	
342		Sharks	2
	Unidentified	6	
413	Sea basses	3	2
	Porgies	3	1
	Mullets	1	1
	Unidentified	20	
460	Nile catfish	1	1
	Nile perch	2	2
	Mullets	1	1
	Unidentified	13	
796	Porgies	1	1
	Drums	1	1
	Mullets	1	1
	Unidentified	3	
801	Nile catfish	3	2
	Sharks	6	1
	Unidentified	5	
Alley	Nile catfish	1	1
	Nile perch	12	4
	Sea basses	14	4
	Porgies	5	2
	Mullets	2	1
	Sharks	8	1
	Unidentified	163	

The Grid 50 Excavation Area

Remains of fish were found in the fill inside the quarry in Grid 50, in the destruction debris from 604 B.C., and in the intermediate layers of excavated floors and fills between the quarry and the destruction layer. The identification of the families of fish in these three phases is shown in table 25.4.

Table 25.4: Taxonomic Identification of Fish Bones in Grid 50 According to Temporal Phase

Taxon	Destruction	Intermediate	Quarry
<b>Marine Fish</b>			
Porgies	109	26	214
Sea basses	4	18	127
Sharks	9	9	97
Mullets	10	3	42
Drums, croakers	7	4	32
Triggerfish	1	7	36
Squirrel fishes			
Jacks, pompanos	1	2	
Angel fishes	2	2	
Temperate basses	1		
Mackerels, tunas	1		
<b>Freshwater Fish</b>			
Nile catfish	29	8	63
Nile perch	6	23	174
Cichlids	4	3	38
Squeakers	2		
Carps	1		
<b>TOTAL:</b>	<b>183</b>	<b>101</b>	<b>831</b>

Figure 25.3 shows the distribution of fish in the three phases in terms of NISP and figure 25.4 shows the same data in terms of percentages per phase. These data show that the relative composition of families in the quarry phase was similar to the composition in the intermediate phase above the quarry. Porgies and imported Nile perch were dominant. In the destruction phase, porgies and local catfish were twice as common, while the Nile perch, sharks, and sea basses had almost completely disappeared.

There were 678 fish bones in the intermediate and destruction phases, mostly in the streets and plaza between the buildings (table 25.5). Buildings 234, 260, and 276 produced few bones, among them porgies, sea basses, sharks, and cichlids. Building 406 had 132 bones scattered in several rooms, especially in Room 423.

Table 25.5: Spatial Distribution of Fish Bones Found Above the Quarry in Grid 50

	Destruction	Intermediate	Total
<b>Buildings</b>			
234	3	5	8
260	3	3	6
276		11	11
406	68	64	132
<b>Open areas</b>			
East Street		47	47
West Street		36	36
South Street	288	9	297
Plaza		141	141
<b>TOTAL:</b>	<b>362</b>	<b>316</b>	<b>678</b>

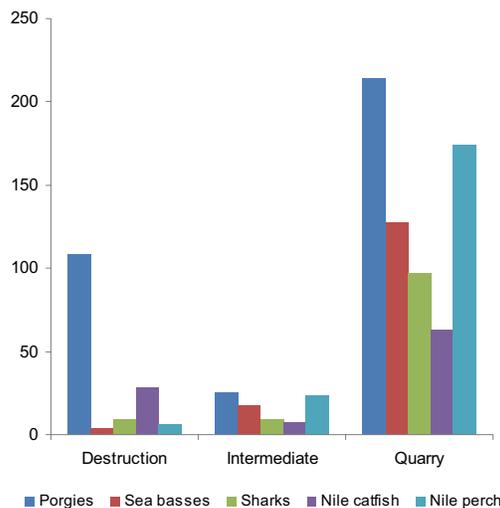


Figure 25.3: Temporal distribution of fish families in Grid 50 (NISP)

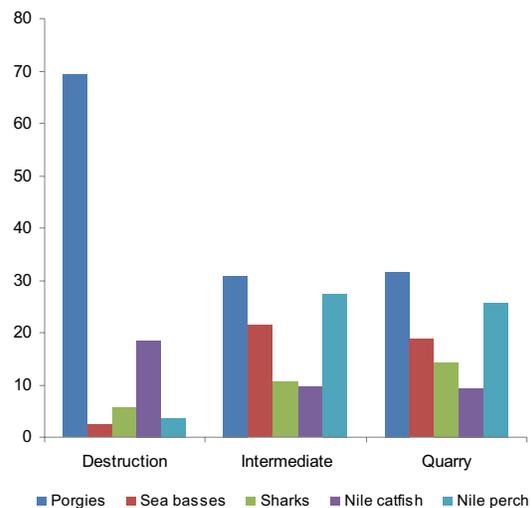


Figure 25.4: Temporal distribution of fish families in Grid 50 (%)

Fifty-one bones inside Building 406 could be identified as belonging to ten different families of fish (table 25.6). There were 521 fish bones outside the buildings in the streets and plaza. A destruction layer rich in fish bones was found in the South Street between Buildings 234 and 260.

Table 25.6: Identified Fish in Building 406 in the Grid 50 Excavation Area

Room	Taxon	NISP
423	Porgies	14
	Nile catfish	8
	Nile perch	5
	Sea basses	4
	Mulletts	4
	Drums	1
	Sharks	1
	Cichlids	1
373	Nile perch	1
	Drums	1
375	Porgies	2
	Nile perch	1
	Triggerfish	1
406	Porgies	2
	Nile perch	1
	Mulletts	1
431	Nile perch	1
	Porgies	1
	Sharks	1
TOTAL:		51

Table 25.7: Average Size in Centimeters of Fish Found in the Different Phases in Grid 50

Taxon	Destruction	Intermediate	Quarry
Nile catfish	45 (51)	48 (73)	50 (62)
Nile perch	44 (1)	77 (26)	82 (89)
Sea basses	61 (5)	63 (20)	67 (71)
Porgies	22 (93)	23 (71)	24 (178)
Mulletts	34 (9)	33 (21)	34 (33)
Drums	29 (6)	28 (5)	63 (25)

The number of specimens measured (N) is given in parentheses after the average size in centimeters.

#### Estimated Sizes of the Excavated Fish

Measurements of 839 excavated bones belonging to six families of fish found in the Grid 38 and Grid 50 excavation areas allowed estimation of the sizes of the original fish. Table 25.7 shows the average size of the fish in each of the main temporal phases. The average size of the Nile catfish, sea basses, porgies, and mulletts did not change significantly between phases. Note that the large reduction in the “average” size of the Nile perch (from 82 to 44 cm) in the transition from the predestruction phases to the destruction phase is meaningless because there is only one measured bone of *Lates niloticus* for that period. The one significant change was a halving of the average size of drums in the destruction and intermediate phases as compared to the earlier quarry phase.

However, a different way of looking at the data, by plotting size curves for each family of fish, shows more changes. Figures 25.5 and 25.6 present the size curves in terms of NISP and percentages. The size distribution for some families was quite different in the destruction phase as compared to earlier phases. In the destruction phase, the diagrams are skewed to the left (toward smaller sizes) for the Nile catfish, sea basses, drums, and mulletts. These are large and medium-sized kinds of fish. The porgies were smaller to begin with and their size distribution does not show a preference for smaller fish in the destruction layer.

The size distribution in the intermediate phase was similar to that in the earlier quarry phase for some fish (Nile perch, sea basses, and porgies). For others, the size distribution in the intermediate phase was closer to that of the destruction phase. This might be a result of the difficulty the excavators experienced in differentiating sharply between the final destruction phase and the floors underneath it.

#### Discussion

The assemblage of excavated fish bones from the late seventh century B.C. at Ashkelon is rather small. Although some quantitative, as well as qualitative, conclusions are presented below, the former should be regarded as tentative because of the relatively small number of bones involved.

There was a different distribution of fish bones in the “winery” in Grid 38 than in the “marketplace” in Grid 50. In Grid 38, there were many more fish bones in Building 776 than in the adjacent alley. There was also a different proportion in the building and alley of edible parts of the fish, represented mainly by vertebrae and fin spines, and inedible heads. Vertebrae were

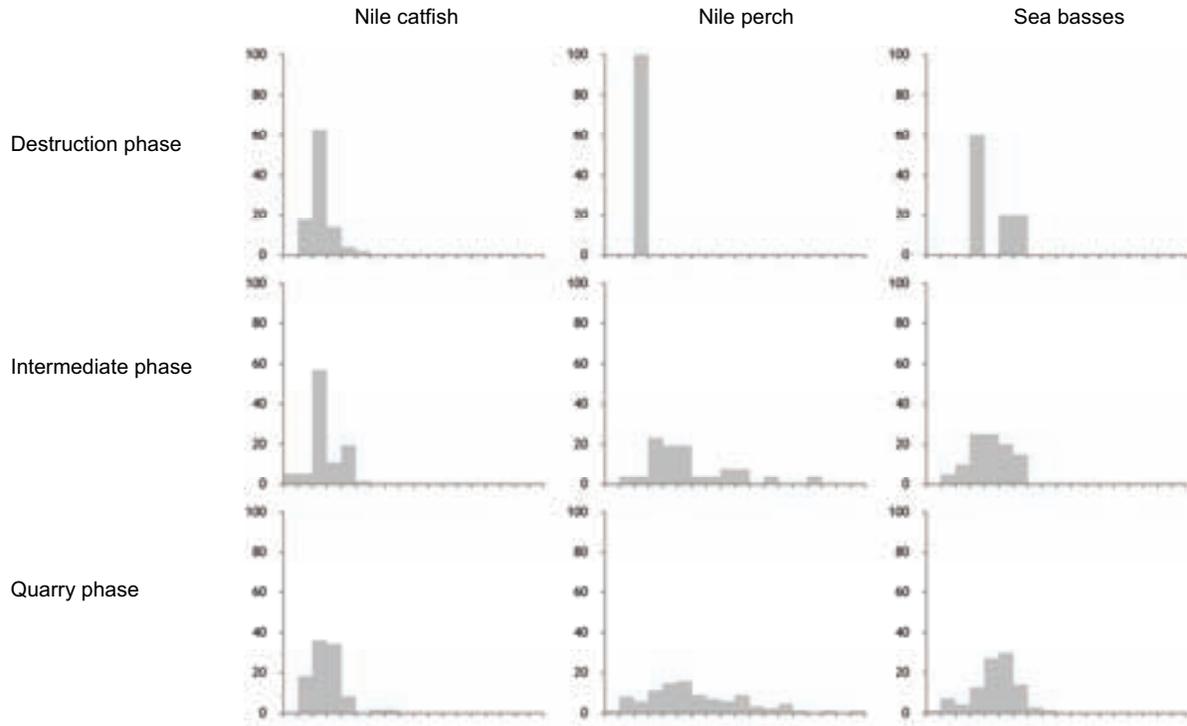


Figure 25.5: Size distribution of Nile catfish, Nile perch, and sea basses in Grid 50 according to temporal phase X axis is grouping of size measurements by 10-cm increments (range is 20 cm to 200 cm). Y axis is percentage of the whole.

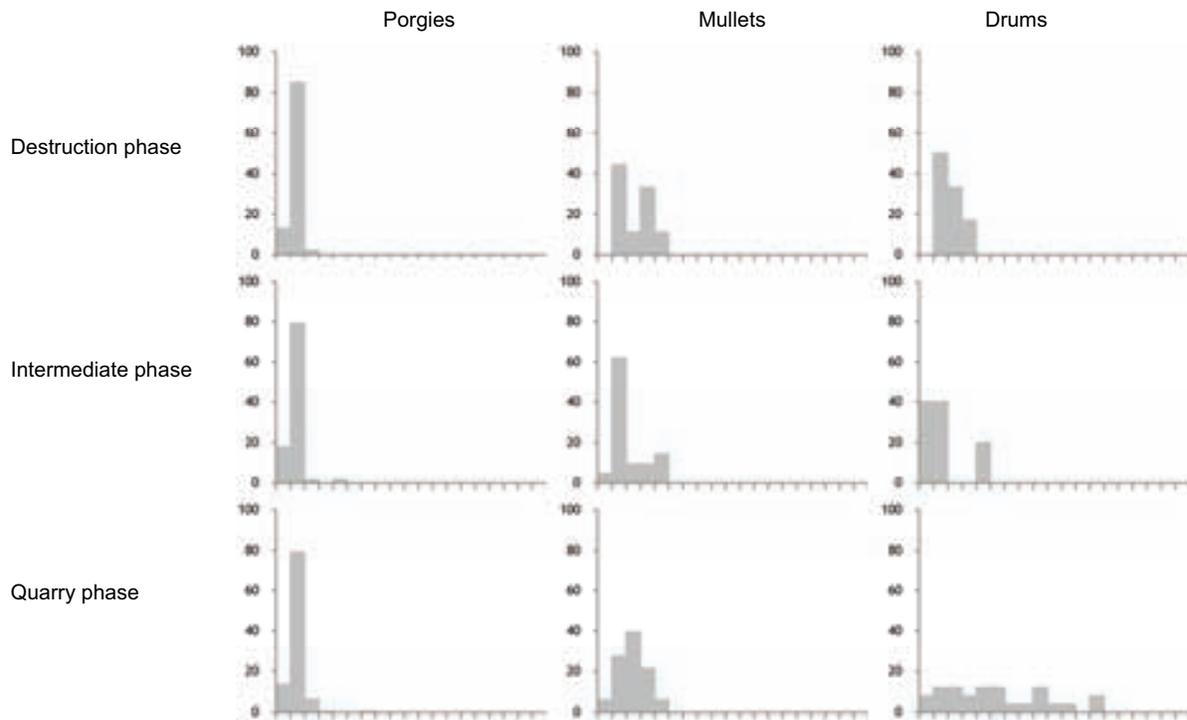


Figure 25.6: Size distribution of porgies, mullets, and drums in Grid 50 according to temporal phase X-axis is grouping of size measurements by 10-cm increments (range is 20 cm to 200 cm). Y-axis is percentage of the whole.

abundant inside the winery building, especially in Room 312, where the largest number of bones was found.

The data suggest that there were at least two rooms in the winery that served as dining areas, among other functions. The people who ate there enjoyed a large assortment of different kinds of fish from the Mediterranean Sea, as well as imports from the Red Sea and the Nile Valley. It seems to have been a well-to-do establishment and I would suggest that the diners were the people who operated, and perhaps owned, the winery.

The alley produced a higher proportion of head bones. These often indicate areas used for food preparation, including removal of inedible parts of fish, rather than for dining. The fish could in principle have been prepared in the alley, but I would suggest that they were, in fact, prepared inside the building, in an area which has not been identified, and that the refuse was washed out into the alley.

Differences were found between the distribution of the fish in the destruction layer and the pre-604 B.C. layers in Grid 38. These were similar to the differences found in Grid 50, and will be discussed below.

In contrast to Grid 38, the large majority of the fish bones in Grid 50 were found in the streets and plaza between the buildings. Only Building 406 had a sizable number of bones with a large variety of fish, especially in Room 423. This building consists of several elongated rooms that face the street and have been interpreted as “shops.” Room 423, the easternmost room, has a concentration of fish bones, raising the possibility that fish were sold in this shop.

### The Nile Perch

Clearly, the inhabitants of Philistine Ashkelon consumed many kinds of fish, both local and imported, including both marine and freshwater species. It is very probable that Ashkelon, a large coastal city, had a fishing fleet of its own. It took part in the intensive trade along the Mediterranean coast that brought to it, among other commodities, Nilotic fish. There was a widespread trade in processed Egyptian fish over a long period of time, with a special emphasis on Nile perch (Wim et al. 2004). These large fish presumably reached the coastal cities of the Levant by ship and were then transported to inland communities.

Bones of Nile perch have been recovered in almost all significant excavations in Israel. They are often found to be among the most abundant fish in the site. Figure 25.7 shows the frequency distribution of the main families of fish in Lachish in the Late Bronze

Age and Iron Age II (Lernau 2004), in Megiddo in Iron I and Iron II (Lernau 2006), in Philistine Ekron (Tel Miqne) in the Iron Age (Lernau, unpublished), and in Ashkelon in the pre-604 B.C. Iron II period. This diagram shows the differences in the frequency of occurrence of the various fish families among these sites and periods.

These sites are relatively similar in terms of marine porgies, sea basses, drums, and mullets. There are more Nile perch in Ekron and no sharks. The most conspicuous difference concerns the Nile catfish, which will be discussed later. As for the Nile perch, it is less common in the pre-604 Ashkelon assemblage, as compared to Lachish, Megiddo, and especially Ekron. The first season of excavations in Ashkelon in 1985 produced 438 fish bones dated to the Iron II period, of which 105 came from Nile perch (24 percent compared to 18 percent in the pre-604 phases of the present assemblage). This last figure agrees well with those of Lachish and Megiddo, emphasizing the importance of the trade in Nile perch over a long period of time.

Having reviewed these data, we must explain the striking disappearance of the Nile perch from the 604 B.C. destruction phase of Ashkelon (figure 25.8). The obvious explanation is that the city was besieged by the Babylonians, probably for a number of months, and the supply of Nile perch from Egypt was thereby interrupted.

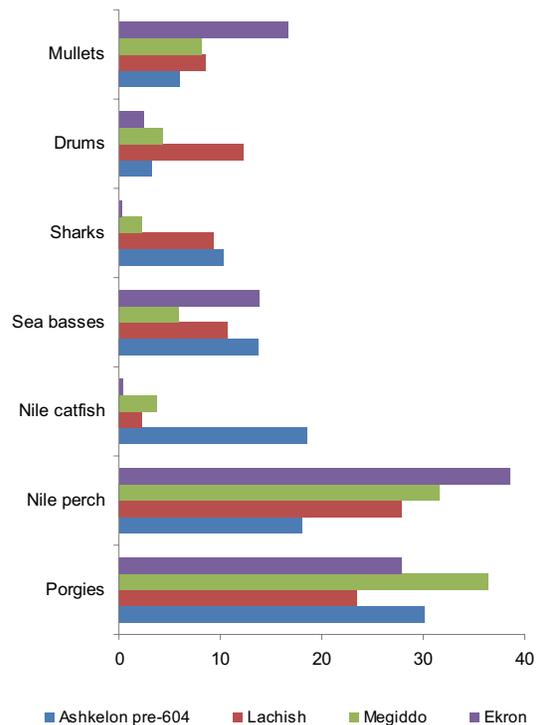


Figure 25.7: Intersite comparison of fish families

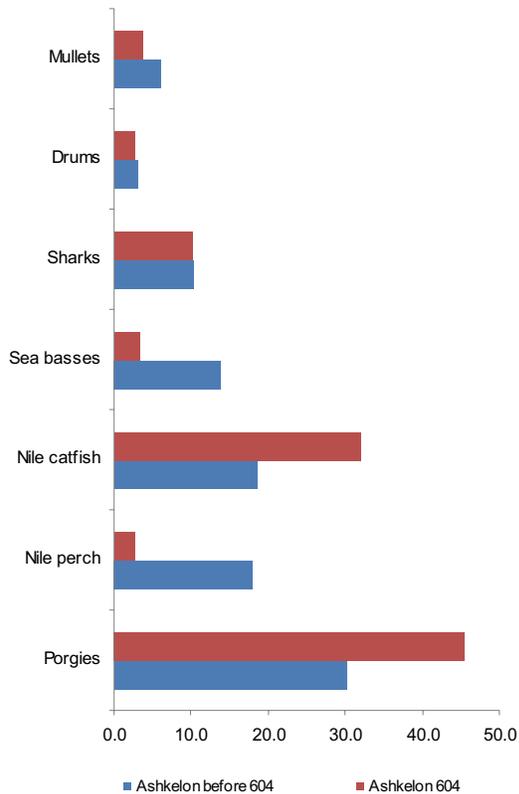


Figure 25.8: Comparison of predestruction and destruction layers at Ashkelon

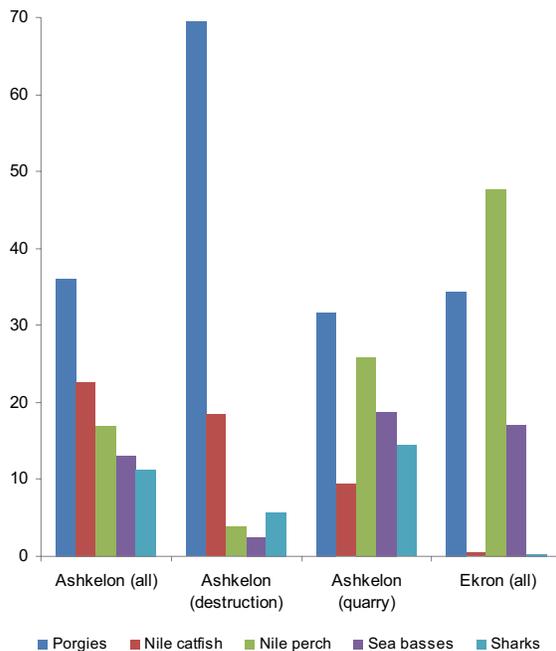


Figure 25.9: Comparison of fish families at Ashkelon and Ekron (Tel Miqne)

### Nile Catfish, Porgies, and Sea Basses

Figure 25.7 shows the relative abundance of Nile catfish in pre-604 Ashkelon, as compared to Lachish, Megiddo, and Ekron (18.6 percent in Ashkelon compared to 2.3, 3.6, and 0.5 percent). Catfish bones also comprised 14 percent of the Iron II assemblage from the first season of excavations of Ashkelon in 1985, as mentioned above. These data, which show a significantly greater popularity of catfish in Ashkelon than in other places, are difficult to explain in terms of the present climatic situation in the southern Mediterranean coast of Israel. Today, there are no perennial streams along the southern coast and no swamps in which catfish could thrive. However, there is evidence that the climate in this region was wetter prior to the Roman–Byzantine period. This evidence comes from isotope studies of Soreq Cave stalagmites in Israel that suggest “a drying of regional climate that coincides with the decline of the Roman and Byzantine Empires in the Levant region” (Orland et al. 2009).

If so, how can we explain the scarcity of local catfish in Lachish, Megiddo, and Ekron? This might have been a result of their greater distance from the coast, where swamps would have formed near the outlets of rivers. The increase in the frequency of catfish at the time of the siege of Ashkelon, and the marked diminution in the size of the fish that were caught (figure 23.5), can be explained if we assume that there were swamps near the city that were overfished in 604 B.C. in order to stockpile food in advance of the siege.

On the other hand, if climatic conditions during the Iron Age were similar to those at present, then a lack of running streams and swamps in the Ashkelon area would have necessitated importing catfish into the city, probably from the coastal rivers some distance to the north. In that case, the relatively high frequency of catfish at Ashkelon in comparison to Lachish and Megiddo might have been due to Philistine culinary preferences rather than environmental setting. Moreover, in that case, one would expect a decline in the occurrence of (imported) catfish during the Babylonian siege, parallel to what happened with the imported Nile perch.

However, this would not account for the general absence of catfish in Philistine Ekron. We may therefore draw the cautious conclusion that the data here provide independent support for the view that the climate along the southern Mediterranean coast of Israel was wetter at the end of the Iron Age than it is today, resulting in swamps populated with catfish in the vicinity of Ashkelon, albeit not in the vicinity of Ekron, which was situated away from the coast.

Figure 25.8 also shows changes in the abundance of other kinds of fish during the final stages of Philistine Ashkelon. The relative abundance of sea basses is greatly diminished (from 13.8 to 3.4 percent) and the proportion of porgies increases by half (from 30.1 to 45.4 percent of the total).

For sea basses, it is not only the numbers that change but also the sizes of the individual fish. In the pre-604 phase, there is a "normal" distribution of sizes, including many fish larger than 60–70 cm and some over 100 cm in length. Sizes of this magnitude are almost entirely absent in the later phase (figure 25.5). A similar change in the sizes of the larger kinds of fish, with a tendency toward smaller individual fish in the destruction phase, is evident for drums (despite their low rate of occurrence) and for mullets (figure 25.6). All these data may be interpreted as indicating a greater reliance on near-shore fishing and an avoidance of fishing in the deep sea. Porgies, which are usually caught in shallow inshore waters, do not exhibit diminished sizes in the destruction phase. Apparently, there was a disruption of the

normal functions related to the sea during the Babylonian siege of Ashkelon. A likely explanation is that the siege was not only terrestrial but the Babylonians also succeeded in obstructing the maritime approaches to the port of Ashkelon, which caused the cessation of deep-sea fishing based in that port. This, of course, makes eminent sense as a military strategy.

In conclusion, the analysis of the fish bones suggests that there was limited access to the open sea at the time of the Babylonian siege of Ashkelon, with the following results: the importing of Nile perch by ship from Egypt was blocked; sea basses caught in deeper waters offshore were significantly fewer; porgies caught in near-shore waters were significantly more abundant; several other kinds of relatively large fish show diminished sizes in the destruction phase; and Nile catfish, which were quite possibly available in swamps near the city, were both more common in the destruction phase and smaller in size. A possible explanation for these phenomena, although not the only one, is that the Babylonian siege of Ashkelon was nautical as well as terrestrial.



## 26. SOIL FLOTATION: A WINDOW INTO ASHKELON'S ENVIRONMENT AND ECONOMY

by Egon H. E. Lass

**T**HOUSANDS of soil samples were collected at Ashkelon for flotation and analysis. This report is concerned with 525 samples (200 from Grid 38 and 325 from Grid 50) from contexts associated with the 604 B.C. destruction of Ashkelon (see figures 26.5 and 26.6 and table 26.8 below). The total gross weight of these samples was 8,137.37 kg. The heavy fractions (the material that was actually sorted) weighed a total of 926.37 kg. The samples yielded 22,971 potsherd fragments, 227,775 bone fragments, 40,078 fish scales, 617 flint chips, 2,818 snail fragments, and 38,024 seashell fragments.

### *Methodology*

Samples were taken from the 1 × 1-m fine-grid squares that had been imposed on floors and surfaces, or from designated areas that were thought to contain significant material. The flotation method developed for arid countries by Robert Stewart at Tell el-Ḥesi (Stewart and Robertson 1973; cf. Richardson and McCreery 1978; Lass 1994) does not utilize any elaborate devices. A round barrel is filled with water and a round tub with a 1-mm mosquito screen in place of its bottom is immersed into the barrel. The sample is weighed and poured into the tub and the botanical remains (light fraction) are skimmed off the top of the water with a 0.5-mm strainer. The silt is then shaken through the mosquito screen at the bottom of the tub and the resulting heavy fraction is laid out to dry in the sun. The light fraction is taken indoors for a slower drying process. The barrel has to be cleaned out after the processing of approximately 150 kg of soil (Lass 1994:24; 2001:399; 2005:22–23; see *Ashkelon 1*, pp. 195–96).

The dried heavy fraction was weighed and calculated as a percentage of the gross weight. It was manually sorted under low magnification into various categories, which at Ashkelon were mainly potsherds, bones, fish scales, flint chips, eggshells, and snails,<sup>1</sup> as well as many other miscellaneous finds.

<sup>1</sup> Only snails or snail fragments in which the twirl was still intact were included in the count, assuring an estimate of the minimum number of individuals. In samples that had been sorted in the early years of the project, seashells were counted in an attempt to quantify an architectural technology in which such shells were used as a temper in white lime plaster. At a later stage, the emphasis was shifted to

The more massive heavy fractions were usually caused by roof, stone, and fired-brick collapses.

Since every sample had a different weight and its own unique cultural contents, a system was devised that expressed these relative quantities in a statistically rigorous way. Each category of find is presented in terms of the number of items per kilogram of soil (see table 26.8).<sup>2</sup> The values for each fine-grid square were entered into a computer and graphed. The goal of this study is not merely to complement the study of macroartifactual finds but to present unique and separate information in its own right (Lass 2001:100; Dunnell and Stein 1989:39).

### *Intersite Comparisons*

Intersite comparisons using soil samples that were analyzed using the same flotation procedure serve to highlight the global distributions in which Ashkelon participated (table 26.1). The number of flint chips per kilogram of soil at Early Bronze Age Lod reflects a site in which almost no metal was used. At Tell el-Far<sup>c</sup>ah (South) and Tell el-Fûl, the use of flint sickle blades and other tools, such as scrapers, was common. Every other site that has been sampled contains substantially more flint chips than Ashkelon. The amounts of flint at Ashkelon in the late Iron II period are so small as to be insignificant. Actual activity areas in which there was use of sickle blades and sharpening are few and far between.

The relative scarcity of flint chips in seventh-century B.C. contexts at Ashkelon is matched by the scarcity of eggshell fragments. The only other site comparable to Ashkelon in the small number of eggshell fragments per kilogram of soil is Lod. It is safe to say that the domestic chicken was not known at these two sites. Modestly domesticated chickens were represented at Tell el-Far<sup>c</sup>ah (South) and Tell el-Fûl, and fully domesticated chickens in Feature 98 at Modi<sup>c</sup>in (on eggshell identification, see Sidell 1993: 13 and Mikhailov 1997). But in the Iron II period,

snails, as a natural phenomenon that may or may not be influenced by human behavior.

<sup>2</sup> This is a major change in methodology from the technique used in Lass 1994, where weight served as the discriminating value. Table 26.8 records the mean number of items per kilogram of soil in each category; only those samples were included for which this standardized method of statistical counting was employed.

neither chickens nor geese had yet been domesticated. In the Grid 38 excavation area at Ashkelon, 12 kg of soil yielded one eggshell fragment on average. In the Grid 50 excavation area, 18 kg of soil yielded one eggshell fragment. Most of these were from geese (figure 26.1). The total number of eggshell fragments found in soil samples of Iron II contexts was only 522.

The Persian period at Ashkelon has not been fully sampled yet, but a few data are available. Grid 50 Square 57 Layer 22 contained 91 eggshell fragments in a gross weight of 1.5 kg of soil; Grid 50 Square 57 Layer 55 contained 92 eggshell fragments in a gross weight of 10 kg; and Grid 57 Square 68 Layer 203 contained 124 eggshell fragments in a gross weight of 10.2 kg. This rate of recovery amounts to 14 eggshell fragments per kilogram of soil, compared to 0.06 per kilogram in the seventh-century B.C. contexts reported here. During the Persian period there seems to have been a modest introduction of domesticated chickens at Ashkelon. For subsequent periods, soil samples taken from individual one-meter fine-grid squares contained more than a thousand eggshell fragments ranging in thickness from 0.20 to 0.43 mm, which is the thickness of chicken eggshells.

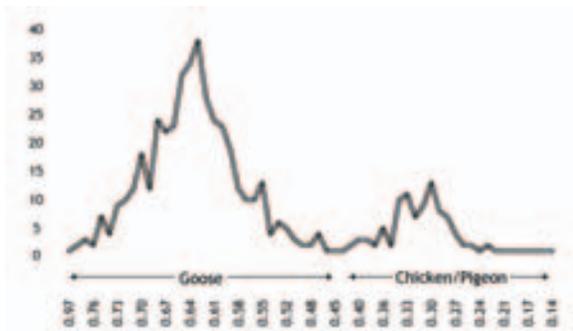


Figure 26.1: Graph of eggshell thicknesses

Each of the sites listed in table 26.1 has its own geological idiosyncracies. The heavy fractions of flotation samples from mudbrick sites like Lod and Tell el-Far<sup>c</sup>ah (South) are more or less comparable with those from Ashkelon. They are easy to work with in the process of flotation because they contain a substantial amount of sand, which helps to aerate and dry the soil, although because of their high oxygen content they produce a lot of foam and the botanical remains have to be washed. The highest values for heavy fraction were encountered in the cave at Suba, a result of waterlogged clayey soil. The same thing was found at Tell el-Fûl. The soil in these sites was practically impossible to dissolve. Feature 98 at Modi<sup>c</sup>in consisted entirely of plastered wall and roof collapse, adding immensely to the weight of the heavy fraction. At Tel Rehov every object, be it stone, bone, or a grain of sand, was covered with a coat of travertine.

An attempt was made to determine whether flint chips and snails occur naturally in the surrounding area, and hence have no cultural meaning in the soil samples from Ashkelon, or whether they exist at the site as a direct result of human activity. Two control samples were collected from locations well to the north of the tell and processed via flotation. Both of these samples contained tiny potsherd fragments and were discarded. In a second attempt east of the tell, in areas far apart from each other where absolutely no sign of human activity was evident on the surface or below it, two more samples were taken. Both contained tiny potsherd fragments. It appears that potsherds have become a part of the surrounding geology and nothing can be done about it. In any case, no flint was found in any of the samples. Furthermore, snails were far more numerous outside the tell than within it. It would appear that human activity discouraged the presence of snails and that the few flint chips found on the site did not occur naturally but were the result of human activity, such as resharpening of stone tools.

Table 26.1: Soil Flotation Statistics for Seven Archaeological Sites (number of items per kilogram of soil)

Site	N	Heavy Fraction (% of sample)	Pottery	Bone	Flint	Snails	Eggshell	Total items per kg of soil
Tel Rehov	64	21	0.8	24.0	1.4	1.9	0.6	40.7
Suba	51	34.3	15.2	0.3	0.6	1.2	0.4	17.4
Lod	208	5.6	2.1	19.9	39.7	0.8	0.05	43
Modi <sup>c</sup> in (Feature 98)	130	30	0.5	1.0	1.3	18.4	38.3	54.3
Tell el-Far <sup>c</sup> ah (South)	109	7.5	2.3	9.1	6.9	3.6	4.3	26.3
Tell el-Fûl	71	26	1.5	11.4	5.4	5.4	1.7	26
Ashkelon	525	11	2.8	28.0	0.08	0.35	0.06	36.3

The relatively large numbers of bone fragments found in soil samples from Tel Rehov and Lod are indicative of domestic deposits. The Ashkelon samples have even more bone fragments and Ashkelon has many more samples. This suggests that fish and animal products were processed there on an industrial scale.

From the botanical remains that did not float but were picked out of the heavy fraction, there is evidence that the economy at Ashkelon was weighted toward viticulture. Grain apparently did not predominate in the fields, though there were occasional olive groves. Among all of the samples that were sorted, 41 percent contained remains of grapes, 14 percent olives, 11 percent grain, and 6 percent legumes (see tables 26.2 and 26.3). This profile is very different from the one found inland; olives predominated at Tel Miqne–Ekron and Tel Rehov while the other sites had grain economies. At no time or location were legumes ever predominant; they are always the least in quantity.

The lack of grain at Ashkelon may explain the surprising paucity of rodents. In Grid 38, only 10 out of 69 sampled loci yielded evidence of rodents, though it must be admitted that only jawbones and teeth were investigated. Of those 10 loci, five had grain in them and the rest did not. In Grid 50, only 9 out of 67 sampled loci yielded evidence of rodents. Of these four had grain in them, the rest did not.

Table 26.2: Number and Percentage of Layers in which Botanical Remains Were Found

	Grid 38 N=69	Grid 50 N=67
Grapes	38 (55%)	52 (78%)
Olives	17 (25%)	36 (54%)
Grain	16 (23%)	22 (33%)
Legumes	12 (17%)	16 (24%)

Table 26.3: Number and Percentage of Samples in which Botanical Remains Were Found

	Grid 38 N=200	Grid 50 N=325
Grapes	85 (43%)	210 (40%)
Olives	22 (11%)	82 (16%)
Grain	31 (16%)	52 (10%)
Legumes	22 (11%)	21 (4%)



Figure 26.2: Otoliths of Cichlidae and Sciaenidae  
Photograph by Francis Ford

### Fish Otoliths

Ashkelon is located on the Mediterranean shore, so it comes as no surprise that fish remains are common in seventh-century B.C. contexts (see chapter 25). One way to identify fish is by their otoliths, the hard “stones” made of calcium carbonate that are found in their inner ears, which help them to keep their balance. On the obverse side of an otolith is the sulcus, which consists of two parts. The anterior part is called the ostium, an oval (or partial oval) depression, which is connected to the posterior part, the cauda, a curving elongated channel (Lernau 1988:241–42).

A substantial number of fish otoliths were found in the soil samples processed via flotation. The most common were those of Sciaenidae (Lernau 1988:296 and plate 143; Whitehead et al. 1986:865), which have very distinctive otoliths with a sulcus shaped like a tadpole, a massive ostium, and a downward-curving cauda (figure 26.2). All of the differently sized otoliths of the Sciaenidae look the same on the obverse side. Most of the 183 examples found in seventh-century contexts in Ashkelon are probably from the species *Argirosomus regius*, the meagre.

The second-most common otoliths were those of Mugilidae (Desse et al 1987:7), the mullets. Their otoliths are elongated, with a small triangular ostium and long cauda that is slightly curved at the end. A total of 147 otoliths of Mugilidae were found in soil samples from seventh-century contexts in Ashkelon.

The third-most common otoliths were those of Cichlidae, the St. Peter’s fish.<sup>3</sup> These are freshwater mouth breeders from the Sea of Galilee that have

<sup>3</sup> Otoliths of Cichlidae and Lethrinidae were identified on the Internet using Fishbase, with the help of Omri Lernau.

oval otoliths, serrated along the edges, with an ostium that is almost as long as the cauda (figure 26.2). A total of 48 otoliths of Cichlidae were found in soil samples at Ashkelon.

The fourth-most common otoliths were those of Lethrinidae, the emperor's fish. They have oval otoliths on which the cauda is fairly straight and high. They are found only in the Red Sea, not in the Mediterranean. A total of 30 otoliths of Lethrinidae were found in soil samples from seventh-century Ashkelon. The remainder of the otoliths recovered from the soil samples (23 from Grid 38 and 244 from Grid 50, for a total of 267) have not yet been identified.



Figure 26.3: Sparidae jawbones and tooth

Sparidae (mollusk-crushing sea bream) were identified in the soil samples not by their otoliths but by their characteristic jawbones and teeth (figure 26.3; see Lernau 1988:296 and plate 145). However, the counts of Sparidae remains are statistically unrelated to counts of fish identified by otoliths because a fish's teeth are much more numerous than its otoliths.

Tables 26.4 and 26.5 show the number and percentages of layers and samples in which otoliths and Sparidae jaws have been found. It is striking that in a city on the Mediterranean shore, two of the most popular species of fish must have been transported overland by caravan, in one case from the Sea of Galilee and in the other from the Red Sea.

Table 26.4: Number and Percentage of Layers in which Fish Otoliths and Sparidae Bones Were Found

	Grid 38 N=69	Grid 50 N=67
Sciaenidae	21 (30%)	35 (52%)
Mugilidae	12 (17)	26 (39%)
Cichlidae	7 (10%)	11 (16%)
Lethrinidae	3 (4%)	13 (19%)
Sparidae	10 (14%)	20 (30%)
Unidentified	15 (22%)	39 (58%)

Table 26.5: Number and Percentage of Samples in which Fish Otoliths and Sparidae Bones Were Found

	Grid 38 N=200	Grid 50 N=325
Sciaenidae	23 (12%)	65 (20%)
Mugilidae	14 (7%)	44 (14%)
Cichlidae	8 (4%)	19 (6%)
Lethrinidae	3 (2%)	18 (6%)
Sparidae	23 (12%)	55 (17%)
Unidentified	18 (9%)	94 (29%)

#### Other Finds

The soil samples from seventh-century B.C. contexts in Ashkelon yielded more metal fragments, beads, and other specialized products than any of the other sites for which comparable statistics have been tabulated. Within the site, the Grid 50 excavation area was richer than Grid 38 in metal and bone fragments (see tables 26.6 and 26.7). Of particular interest are the clay sealing fragments. Their relative frequency was about the same in the two areas. In Grid 38, 470 kg of soil yielded one sealing fragment, on average, compared to 445 kg in Grid 50. The majority of these sealing fragments consist of pieces of clay that bear finger and string impressions but do not have seal impressions. In most cases, the sealed object probably had four or five clay sealings affixed to it, only one or two of which had a seal impression. The sealing fragments found in the soil samples give evidence, not of the activity of sealing the item, be it a letter or a jar, but of the breaking and discarding of a sealing when the item was actually used.

In the Grid 38 winery, four clay sealing fragments were found in **Room 739** in the northwestern corner of **Building 776**. This concentration of finds raises the possibility that there was a record-keeping office of some kind in this part of the building. Another clay sealing fragment was found in **Room 460**, in the southern midsection of the winery building, close to a wine press.

In the Grid 50 marketplace, one clay sealing fragment was found in **Room 78** in the "terrace" west of **Building 276**. Six clay sealing fragments were found in the "shops" **Building 406**: four in **Room 431** on the west end of the building and two in **Room 423** on the east end. Two clay sealing fragments were found in **Building 234** and four more were found in **South Street** nearby, in the area where a bronze balance and several scale weights were also found.



Figure 26.4: Clay sealing fragments

Left: reg. no. 57422; Grid 38 Square 64 Layer 797

Right: reg. no. 57423; Grid 50 Square 58 Layer 262

The clustering of snails is probably related to human activities at the site. Wet organic waste would have attracted algae, which in turn attracted snails. Snails have a unique mouth structure called a radula, which is used for scraping up algae. Algae and snails are among nature's "cleaners" that consume waste left behind by humans. (The author thanks Jack Winter for this information on snails and algae.)

### Conclusion

The residues recovered from several hundred soil samples that were washed and sieved by means of a flotation apparatus, and then painstakingly examined and sorted, shed light on the activities that took place in Ashkelon in the late seventh century B.C. Fish scales and fish otoliths, which are difficult to recover by any other collection method, provide valuable evidence of the procurement and processing of an important commodity—and even an indication of the

species involved. Clay sealing fragments, which are easily overlooked in the course of excavation, were recovered from the soil samples. They attest to the opening of jars and/or written documents, so it is not surprising that they were found in disproportionate numbers in the Grid 50 marketplace, providing additional proof of the function of that area of the site. The scarcity of flint chips indicates the absence of a stone tool industry in seventh-century Ashkelon (see chapter 20 in the present volume for a similar conclusion). The scarcity of eggshell is in keeping with what is known about the domestication of chickens and other fowl in this period. Finally, the concentrations of snails in certain locations may be evidence of garbage dumps or sumps full of organic waste, as noted above.

Material recovered via flotation provides direct evidence of key aspects of the economic life of Iron Age Ashkelon, including *procurement* (e.g., net weights of fishermen who sold their catch in the marketplace), *processing* (e.g. fish scales from filleting in the outdoor markets, particularly in the vicinity of the corners of buildings), *storage* (e.g., clay seals that sealed records, correspondence, and/or containers), and *marketing* (e.g., scale weights for conducting transactions with silver).

### Acknowledgments:

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Table 26.6: Number of Items in Each Category

	Grid 38 N=200	Grid 50 N=325
Gross weight (kg)	2,350	5,787
Heavy fraction (kg)	248	679
Potsherds	8,335	14,636
Bone	55,685	172,235
Flint	148	469
Snails	587	2,231
Eggshell	200	322
Fish scales	4,632	35,446
Iron	56	172
Bronze	22	287
Beads	18	81
Clay sealings	5	13
TOTAL	69,688	225,892

Table 26.7: Number of Items in Each Category per Kilogram of Soil

	Grid 38 N=200	Grid 50 N=325
% of heavy fraction	11%	12%
Potsherds	3.5	2.5
Bone	23.7	29.8
Flint	0.06	0.08
Snails	0.2	0.4
Eggshell	0.09	0.06
Fish scales	2	6.1
Iron	0.02	0.03
Bronze	0.01	0.05
Beads	0.01	0.01
Clay sealings	0.002	0.002
TOTAL	29.7	39

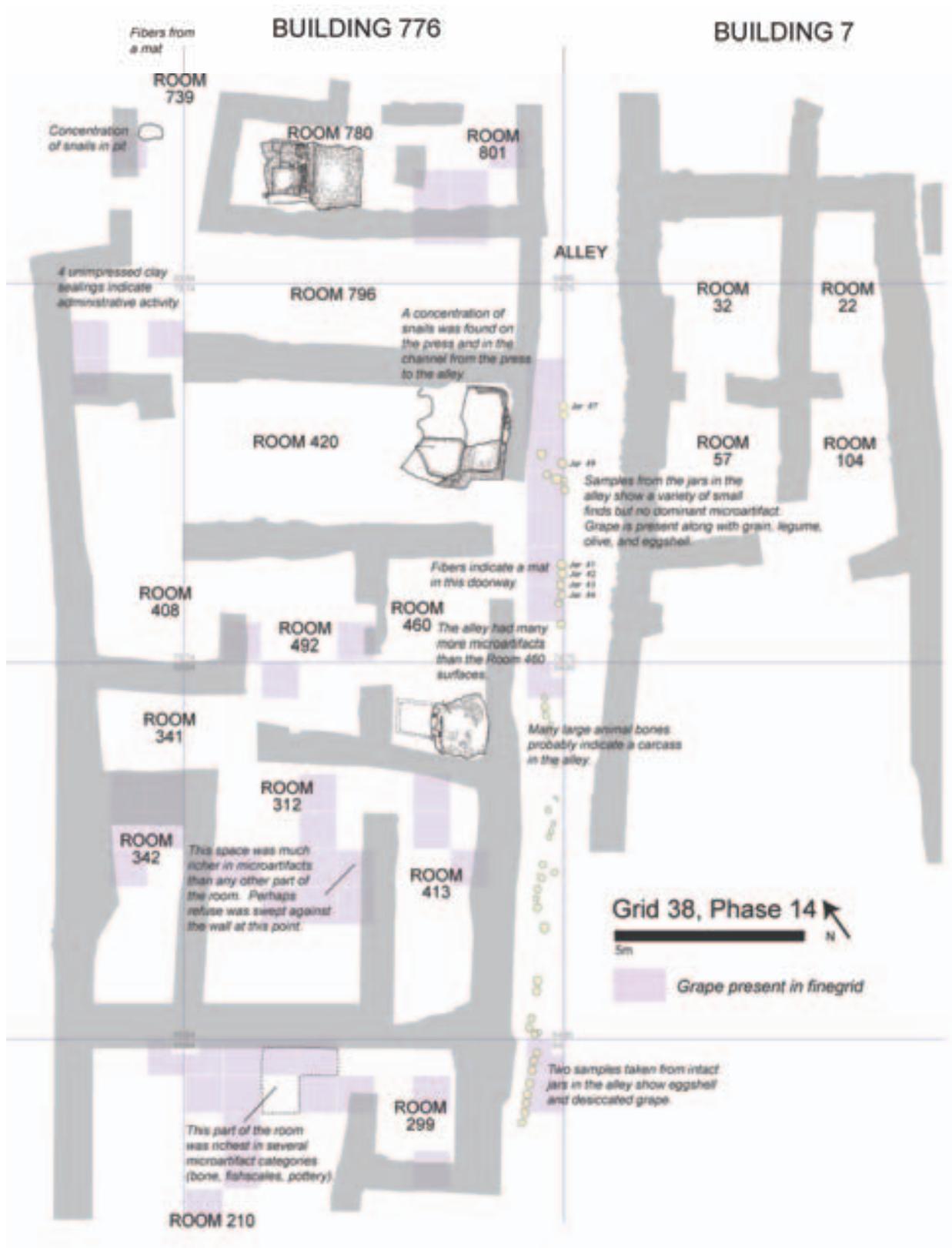


Figure 26.5: Spatial distribution in the Grid 38 winery of items recovered from soil samples



Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace Destroyed in 604 B.C.

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>38.63.F28.FG30</b>								
15.1	0.14 (1%)	0.13	8.15	1.72	0.07	0.00	7.62	fibers
<b>38.63.F28.FG40</b>								
19.5	0.16 (1%)	0.10	10.36	0.62	0.05	0.00	10.72	fibers
<b>38.63.F28.FG50</b>								
12.8	0.15 (1%)	0.31	27.66	6.09	0.23	0.00	22.19	bead
<b>38.63.LF737</b>								
11.2	0.75 (7%)	1.88	15.63	0.00	0.09	0.63	0.00	Sciaenidae otolith, 2 rodent jaws and teeth
<b>38.63.LF739.FG60</b>								
8.9	0.50 (6%)	1.01	10.67	0.79	0.34	0.11	0.00	5 bronze pellets
<b>38.63.LF739.FG69</b>								
11.0	0.30 (3%)	0.27	17.73	1.36	0.00	0.09	0.00	grape, bitumen, rodent jaw and teeth
<b>38.63.LF739.FG70</b>								
10.0	0.77 (8%)	1.00	8.80	0.90	0.00	0.70	0.00	
<b>38.63.LF739.FG79</b>								
5.4	0.20 (4%)	0.19	4.63	0.56	0.00	0.19	0.00	bronze
<b>38.63.LF739.FG80</b>								
5.7	0.25 (4%)	0.70	15.61	0.35	0.18	0.35	0.00	Sciaenidae otolith
<b>38.64.L61</b>								
24.9	2.26 (9%)	18.43	27.07	1.12	0.08	0.00	27.99	bitumen, plaster, egg
<b>38.64.L67</b>								
1.35	0.07 (5%)	0.00	17.04	0.00	0.00	0.00	22.96	
<b>38.64.L743.F743</b>								
8.4	2.10 (25%)	1.31	7.26	0.00	0.00	0.24	0.00	eggshell
<b>38.64.LF780.FG66</b>								
10.8	1.72 (16%)	2.78	4.26	0.37	0.00	0.00	0.00	Sciaenidae otolith, Sparidae jaw, slag
<b>38.64.LF784.FG61</b>								
10.6	0.39 (4%)	1.32	16.32	1.79	0.00	0.09	0.00	Sciaenidae otolith, bronze pellet, 2 iron, Sparidae tooth
<b>38.64.LF784.FG71</b>								
6.6	0.34 (5%)	0.91	20.91	2.27	0.30	0.45	0.00	2 iron, 2 Sparidae teeth
<b>38.64.LF785.FG77</b>								
26.6	1.58 (6%)	3.61	28.01	4.74	0.04	0.79	0.00	legume, grape, grain, murex, 2 rodent jaws and teeth, plaster, Sciaenidae otolith, Mugilidae otolith, 2 chicken eggshell, 2 goose eggshell
<b>38.64.LF785.FG78</b>								
25.6	1.25 (5%)	4.38	26.50	6.85	0.08	0.39	0.00	legume, grape, 2 rodent teeth, birdleg bone, basalt quern frag., 4 goose eggshell
<b>38.64.LF785.FG79</b>								
6.5	0.38 (6%)	1.85	15.08	4.77	0.00	1.08	0.00	bronze, grain, goose eggshell
<b>38.64.LF785.FG87</b>								
87.9	5.45 (6%)	2.70	24.35	2.97	0.16	0.52	0.00	grain, grape, olive, grape, 2 iron, plaster, 3 Sciaenidae otoliths, bone palette, rodent and Sparidae jaws, 4 goose eggshell
<b>38.64.LF785.FG88</b>								
33.0	2.02 (6%)	4.85	37.36	6.36	0.18	0.45	0.00	legume, grape, murex, cowrie, otolith, rodent tooth, bird foot, 2 goose eggshell
<b>38.64.LF785.FG89</b>								
6.5	0.49 (8%)	1.38	12.00	2.77	0.46	0.00	0.00	murex, plaster, goose eggshell
<b>38.64.LF797.FG98</b>								
1.24	0.14 (11%)	8.06	37.90	4.03	0.00	1.61	0.00	bead
<b>38.64.LF797.B22</b>								
9.1	0.6 (7%)	3.85	12.64	2.97	0.44	0.11	0.00	bead, Sciaenidae otolith, 5 Sparidae teeth, clay seal impression
<b>38.64.LF799</b>								
6.4	0.42 (7%)	0.78	22.34	5.63	0.00	0.78	0.00	grape, rodent jaw

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt.</i> <i>in kg</i>	<i>Heavy Frac.</i> <i>kg (%)</i>	<i>Sherds</i> <i>per kg</i>	<i>Bones</i> <i>per kg</i>	<i>Scales</i> <i>per kg</i>	<i>Flint</i> <i>per kg</i>	<i>Snails</i> <i>per kg</i>	<i>Shells</i> <i>per kg</i>	<i>Other finds</i>
<b>38.64.LF801.FG77</b>								
12.0	1.29 (11%)	3.83	19.42	0.08	0.17	0.58	0.00	grape
<b>38.64.LF801.FG79</b>								
13.0	0.43 (3%)	5.23	22.54	9.23	0.08	0.15	0.00	bead, twisted lead, olive, 2 goose eggshell
<b>38.64.LF801.FG87</b>								
30.1	2.4 (8%)	2.19	20.23	4.85	0.03	0.13	0.00	grape, bead, murex, surf-rounded sherd, many <i>Glycymeris violascens</i> seashells, rodent jaw and tooth
<b>38.64.LF801.FG88</b>								
6.2	0.31 (5%)	7.26	25.32	4.19	0.00	0.00	0.00	bronze pellet, olive, grape, grain, otolith, goose eggshell
<b>38.64.LF801.FG89</b>								
11.1	0.57 (5%)	2.81	28.33	11.58	0.00	0.18	0.00	legume, Sciaenidae otolith, eggshell (chicken), 5 goose eggshell
<b>38.64.LF802.FG77</b>								
8.5	0.55 (6%)	2.71	9.88	1.29	0.12	2.24	0.00	legume, murex
<b>38.64.LF802.FG78</b>								
10.1	0.43 (4%)	6.34	14.95	5.15	0.00	0.10	0.00	grape, legume, olive
<b>38.64.LF802.FG79</b>								
11.8	0.32 (3%)	5.00	9.49	4.41	0.00	0.08	0.00	2 goose eggshell
<b>38.64.LF802.FG88</b>								
8.4	0.41 (5%)	4.76	9.29	4.64	0.00	0.00	0.00	
<b>38.64.LF802.FG89</b>								
6.8	0.36 (5%)	6.91	27.35	6.47	0.00	0.29	0.00	legume, murex, Mugilidae otolith, goose eggshell
<b>38.64.LF806.FG68</b>								
9.55	1.02 (11%)	4.71	5.34	0.52	0.00	0.00	0.00	
<b>38.64.LF806.FG69</b>								
20.3	1.1 (5%)	1.67	11.18	2.17	0.00	0.05	0.00	grape, bronze pellet, orange fired mudbrick, Sciaenidae otolith, goose eggshell
<b>38.64.LF806.FG77</b>								
12.6	1.06 (8%)	2.22	6.27	0.63	0.08	0.08	0.00	legume, iron, many <i>Glycymeris violascens</i> seashells, 3 goose eggshell
<b>38.64.F54</b>								
3.8	0.42 (11%)	1.32	13.95	0.00	0.00	0.00	20.26	
<b>38.64.F56</b>								
0.95	0.07 (7%)	0.00	13.68	0.00	0.00	0.00	16.84	
<b>38.64.F67</b>								
3.35	0.02 (1%)	3.28	12.54	1.49	0.00	0.00	29.55	eggshell
<b>38.64.F68</b>								
2.5	0.13 (5%)	2.80	16.40	2.40	0.00	0.00	54.80	
<b>38.64.F71</b>								
2.9	0.18 (6%)	7.24	18.62	1.38	0.00	0.00	39.31	
<b>38.64.F72</b>								
0.9	0.03 (3%)	2.22	33.33	11.11	1.11	0.00	38.89	eggshell
<b>38.65.L1</b>								
23.0	2.31 (10%)	6.26	75.22	0.39	0.35	0.00	10.83	bead, 4 metal
<b>38.65.L22</b>								
0.88	0.1 (11%)	0.00	4.55	0.00	0.00	0.00	0.00	
<b>38.65.L50</b>								
4.42	0.5 (11%)	7.69	107.24	35.75	0.00	0.90	0.00	grape, 2 Sciaenidae otoliths, 1 Mugilidae otolith, 3 goose eggshell
<b>38.65.L63</b>								
3.53	0.4 (11%)	1.70	81.87	1.13	0.00	0.00	0.00	grape
<b>38.73.LF380.FG8</b>								
8.9	0.49 (6%)	1.24	25.73	2.36	0.00	0.56	0.00	grain, 9 goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt.</i> <i>in kg</i>	<i>Heavy Frac.</i> <i>kg (%)</i>	<i>Sherds</i> <i>per kg</i>	<i>Bones</i> <i>per kg</i>	<i>Scales</i> <i>per kg</i>	<i>Flint</i> <i>per kg</i>	<i>Snails</i> <i>per kg</i>	<i>Shells</i> <i>per kg</i>	<i>Other finds</i>
<b>38.73.LF380.FG18</b>								
8.4	0.56 (7%)	2.50	35.83	1.43	0.12	0.24	0.00	grape, grain
<b>38.73.LF380.FG19</b>								
10.8	0.69 (6%)	1.02	30.93	5.93	0.09	0.37	0.00	eggshell
<b>38.73.LF380.FG20</b>								
7.5	0.52 (7%)	1.73	16.27	6.80	0.00	0.67	0.00	grape, Mugilidae otoliths, bitumen, goose eggshell
<b>38.73.LF380.FG28</b>								
6.71	0.76 (11%)	2.09	29.21	2.83	0.15	1.34	0.00	clay sealing, olive, otolith
<b>38.73.LF380.FG29</b>								
9.2	0.61 (7%)	1.30	22.93	1.30	0.11	0.54	0.00	grape, Sciaenidae otolith, 4 Sparidae teeth
<b>38.73.LF380.FG30</b>								
10.2	1.04 (10%)	1.27	17.84	0.49	0.10	0.39	0.00	bronze, clay seal, murex, Sciaenidae otolith, Mugilidae otolith, legume, Sparidae jaw and tooth, rodent tooth
<b>38.73.LF380.FG40</b>								
6.3	0.54 (9%)	3.02	10.00	0.48	0.00	0.95	0.00	2 iron pellets, murex, grape, olive, Sciaenidae otolith, Sparidae tooth
<b>38.73.LF394.FG8</b>								
6.2	0.65 (10%)	2.26	25.16	3.39	0.00	0.81	0.00	fingerprint in clay, Cichlidae otolith, rodent tooth
<b>38.73.LF394.FG9</b>								
9.05	1.38 (15%)	2.87	47.07	8.18	0.11	0.66	0.00	Sciaenidae otolith, Mugilidae otolith, Sparidae jaw and tooth
<b>38.73.LF394.FG18</b>								
7.5	0.37 (5%)	0.93	11.07	1.33	0.00	0.27	0.00	murex, Sciaenidae otolith, 2 Sparidae teeth
<b>38.73.LF394.FG19</b>								
5.4	0.27 (5%)	1.48	19.26	5.00	0.19	0.00	0.00	Sciaenidae otolith, olive, Sparidae tooth
<b>38.73.LF394.FG28</b>								
11.7	2.04 (17%)	3.33	33.16	9.23	0.17	0.85	0.00	grape, olive, Sciaenidae otolith, 2 Sparidae teeth, 2 goose eggshell
<b>38.73.LF394.FG29</b>								
14.2	0.77 (5%)	3.73	41.20	9.93	0.07	0.35	0.00	bead, bronze, 2 otoliths, olive, grape (desiccated)
<b>38.73.LF394.FG30</b>								
7.3	0.48 (7%)	5.34	62.33	17.40	0.14	0.00	0.00	3 bronze pellets, 2 Sciaenidae otoliths and 1 other otolith, Sparidae jaw and teeth, goose eggshell
<b>38.73.LF394</b>								
4.7	0.24 (5%)	1.70	21.28	4.68	0.00	0.00	0.00	
<b>38.74.F420</b>								
3.8	0.5 (13%)	0.53	12.37	0.00	0.26	2.63	0.26	grape, orange fired mudbrick
<b>38.74.LF429.FG92</b>								
18.4	1.32 (7%)	2.61	0.83	0.92	0.00	0.43	0.00	grain, grape, Sciaenidae otolith, Sparidae tooth, rodent tooth
<b>38.74.LF429.FG93</b>								
40.0	2.87 (7%)	3.72	10.34	0.12	0.02	0.22	0.00	bead, bronze, 2 slag, grain, olive, legume, Sciaenidae otolith, 2 Sparidae jaws and tooth, 3 rodent teeth, 1 chicken eggshell, 4 goose eggshell
<b>38.74.LF429.FG94</b>								
7.8	0.54 (7%)	1.28	9.49	0.00	0.13	0.38	0.00	grain, Sciaenidae otolith, Sparidae tooth
<b>38.74.LF429.FG95</b>								
9.1	0.73 (8%)	2.64	11.10	0.88	0.11	0.66	0.00	grain, grape, murex, goose eggshell
<b>38.74.LF460.FG58</b>								
10.8	0.82 (8%)	3.43	29.07	7.04	0.00	0.00	44.81	iron, astragalus, goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>38.74.LF460.FG60</b>								
10.1	2.27 (22%)	2.57	57.03	12.67	0.20	0.50	0.00	4 iron, olive, grape, murex, Sciaenidae otolith, 10 Sparidae teeth, rodent tooth, 4 chicken eggshell
<b>38.74.LF460.FG69</b>								
10.5	1.1 (10%)	2.57	9.05	0.00	0.00	0.10	0.19	goose eggshell
<b>38.74.LF460.FG70</b>								
18.1	1.41 (8%)	4.31	63.81	2.38	0.00	0.11	0.00	bead, grape, Sciaenidae otolith, pig toe?, 3 Sparidae teeth, 2 chicken eggshell
<b>38.74.LF460.FG89</b>								
9.2	1.11 (12%)	4.78	24.35	0.00	0.00	0.00	21.41	2 Cichlidae otoliths, slag, fired mudbrick, goose eggshell
<b>38.74.LF460.FG90</b>								
9.7	1.09 (11%)	16.80	64.02	0.00	0.31	0.00	34.85	chicken eggshell, 6 goose eggshell
<b>38.74.LF460.FG99</b>								
9.8	1.15 (12%)	3.57	19.49	0.92	0.10	0.00	16.53	slag, chicken eggshell
<b>38.74.LF460.FG100</b>								
11.9	0.79 (7%)	10.42	52.10	0.00	0.34	0.00	25.21	bronze, 10 goose eggshell
<b>38.74.LF460.FG100 (jar contents)</b>								
9.1	0.46 (5%)	9.01	26.81	0.00	0.11	0.00	10.44	goose eggshell
<b>38.74.LF461</b>								
17.9	2.1 (12%)	4.02	57.60	0.67	0.11	0.00	103.7	tabun frags., 2 Sciaenidae otoliths, impressed clay, coral (all burned)
<b>38.74.LF462</b>								
13.0	0.8 (6%)	1.38	32.23	7.62	0.15	0.00	65.46	2 Lethrinidae otoliths, 3 goose eggshell
<b>38.74.LF463</b>								
7.2	0.72 (10%)	2.36	36.11	2.22	0.14	0.00	94.44	2 Mugilidae otoliths and 2 other otoliths
<b>38.74.L482.FG89</b>								
9.1	1.0(11%)	1.43	4.29	0.00	0.11	0.00	0.00	goose eggshell
<b>38.74.LF492.FG91</b>								
7.3	0.94 (13%)	1.64	12.05	0.82	0.00	0.14	0.00	Sciaenidae otoliths, Sparidae jaw, rodent tooth
<b>38.74.LF492.FG92</b>								
8.8	1.4 (16%)	2.50	16.14	1.14	0.11	0.11	0.11	lead, 4 chicken eggshell
<b>38.74.LF492.FG93</b>								
7.3	0.6 (8%)	1.37	17.53	0.27	0.14	0.14	0.00	fibers, Sciaenidae otolith, Sparidae jaw and tooth
<b>38.74.LF492.FG94</b>								
8.4	0.83 (10%)	2.50	17.62	0.00	0.00	0.24	0.00	ceramic weight, 3 Sciaenidae otoliths, 3 Sparidae jaws and tooth
<b>38.74.LF492.FG95</b>								
8.4	1.75 (21%)	2.86	16.31	0.00	0.00	0.12	0.00	bead
<b>38.74.LF493.FG30</b>								
12.4	0.5 (4%)	0.56	4.52	0.00	0.00	0.00	0.00	grape
<b>38.74.LF493.FG40</b>								
9.65	0.8 (8%)	2.49	17.51	2.18	0.10	0.31	0.10	olive, 2 goose eggshell
<b>38.74.LF493.FG50</b>								
12.4	2.3 (19%)	2.10	0.73	0.00	0.00	0.00	0.08	iron
<b>38.74.LF493.FG70</b>								
15.2	2.4 (16%)	4.93	22.04	0.00	0.00	0.07	0.00	grape, shell-plaster, 2 goose eggshell
<b>38.74.LF493.FG80</b>								
26.8	2.2 (8%)	4.81	30.78	0.67	0.00	0.07	0.00	grape, legume, Sciaenidae otolith, fungi/fibers, 7 chicken eggshell, 7 goose eggshell
<b>38.74.LF493.FG90</b>								
11.1	1.7 (15%)	8.11	74.95	0.45	0.00	0.18	0.00	grape, 7 iron, fungi/fibers, bitumen, 4 goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>38.74.LF508</b>								
8.4	0.8 (10%)	2.98	89.29	13.33	0.12	1.31	0.12	grape, grain, legume, bead, substantial bitumen
<b>38.74.LF509.FG40</b>								
17.1	1.6 (9%)	1.88	31.26	1.47	0.12	0.18	0.00	grape, legume, 2 Mugilidae otoliths, 1 Lethrinidae otolith, green stone, goose eggshell
<b>38.74.LF509.FG40 (jar contents)</b>								
4.3	0.7 (16%)	3.72	10.70	1.40	0.00	0.23	0.00	legume, olive, bronze pellet
<b>38.74.LF509.FG50 (jar contents)</b>								
3.0	0.5 (17%)	3.33	31.67	2.00	0.00	0.00	0.00	grape, grain, 2 iron pellets, otolith, goose eggshell
<b>38.74.LF509.FG70</b>								
12.8	2.7 (21%)	5.94	54.45	0.55	0.00	0.00	0.00	grape
<b>38.74.LF509.FG80</b>								
3.2	0.4 (13%)	3.44	28.75	0.00	0.00	0.00	0.00	grape, legume
<b>38.74.LF509.FG80 (jar contents)</b>								
0.6	0.08 (13%)	0.00	13.33	0.00	0.00	0.00	0.00	
<b>38.74.LF509.FG80 (jar contents)</b>								
8.52	0.67 (8%)	2.00	19.48	0.00	0.00	0.00	0.00	grape, 2 chicken eggshell
<b>38.74.LF509.FG80 (jar contents)</b>								
4.1	1.07 (26%)	1.22	11.22	0.00	0.00	0.00	0.00	grape, legume, bitumen, Sciaenidae otolith
<b>38.74.LF509.FG90 (jar contents)</b>								
1.8	0.3 (17%)	2.22	24.44	0.00	0.00	0.00	0.00	
<b>38.74.LF518</b>								
3.3	0.3 (9%)	0.61	6.36	2.12	0.00	3.94	0.00	
<b>38.75.L4</b>								
0.88	0.1 (11%)	1.14	4.55	0.00	0.00	0.00	0.00	
<b>38.75.L54</b>								
0.88	0.1 (11%)	0.00	0.00	0.00	0.00	0.00	0.00	eggshell
<b>38.83.LF298.FG3</b>								
8.4	0.66 (8%)	0.95	7.62	0.00	0.12	0.12	0.00	Sciaenidae otolith, 2 Sparidae teeth
<b>38.83.L320.FG49</b>								
41.7	9.4 (23%)	0.72	4.77	0.00	0.05	0.53	0.05	grape, Sciaenidae otolith, dark fired beam- and reed-impressed mudbrick
<b>38.83.L320.FG50</b>								
8.3	1.2 (14%)	0.96	13.37	0.36	0.00	0.48	0.00	grape, shell-plaster, dark fired mudbrick, black ash
<b>38.83.L320.FG59</b>								
24.7	10.1 (41%)	0.69	5.75	0.00	0.00	0.20	0.04	grape, bead, 2 Lethrinidae otoliths, dark fired beam- and reed-impressed mudbrick, charcoal, loom weights, chicken eggshell, goose eggshell
<b>38.83.LF342.FG39</b>								
5.8	0.5 (9%)	6.38	14.66	1.03	0.00	0.00	0.17	Cichlidae otolith, 2 Mugilidae otoliths, goose eggshell
<b>38.83.LF342.FG49</b>								
13.8	1.0 (7%)	2.25	13.99	0.22	0.07	0.07	0.22	2 beads, 7 iron, bronze pellet
<b>38.83.LF342.FG50</b>								
11.7	0.4 (3%)	0.77	4.02	0.00	0.00	0.00	0.00	grape, olive
<b>38.83.LF342.FG59</b>								
13.5	0.8 (6%)	1.04	24.00	0.00	0.00	0.15	0.00	2 goose eggshell
<b>38.83.LF342.FG60</b>								
4.4	0.4 (9%)	1.36	14.77	2.73	0.00	0.00	0.00	many shell fragments
<b>38.83.LF343.FG39</b>								
8.2	0.45 (5%)	5.12	12.32	0.24	0.12	0.24	0.00	grape, Cichlidae otolith, Mugilidae otolith

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>38.83.LF343.FG59</b>								
7.9	0.28 (4%)	1.90	12.53	1.27	0.00	0.25	0.00	grape, olive
<b>38.83.LF345.FG49</b>								
19.8	1.0 (5%)	0.51	4.66	0.00	0.00	0.20	0.20	grape, grain
<b>38.83.LF345.FG50</b>								
15.5	0.5 (3%)	0.26	7.10	0.00	0.00	0.06	0.00	grape, many shell fragments
<b>38.83.LF345.FG59</b>								
31.0	4.0 (13%)	0.42	4.10	0.00	0.13	0.03	0.13	grape, Sciaenidae otolith, many shell fragments
<b>38.83.LF346.FG39</b>								
10.9	2.5 (23%)	2.57	12.75	0.00	0.00	0.46	0.09	grape, grain, dark fired-mudbrick fragments
<b>38.83.LF346.FG40</b>								
12.1	2.1 (17%)	6.28	15.62	0.25	0.08	0.74	0.17	grape (desiccated), chicken eggshell
<b>38.84.LF280.FG2</b>								
23.2	1.72 (7%)	2.89	7.76	0.39	0.00	0.47	0.00	impressed clay sealing, bronze, bone, grain, legume, 2 Sciaenidae otoliths, 2 Sparidae jaws and teeth
<b>38.84.LF280.FG3</b>								
9.45	1.16 (12%)	4.87	12.38	0.32	0.00	0.21	0.00	iron, grape, grain, legume, rodent tooth, Sciaenidae otolith, Sparidae tooth
<b>38.84.LF280.FG4</b>								
4.4	0.28 (6%)	3.18	18.41	0.00	0.00	0.68	0.00	grain, goose eggshell
<b>38.84.L295.FG46</b>								
19.1	2.0 (10%)	2.93	0.79	0.00	0.00	0.05	0.00	grape, iron, orange and dark fired mudbrick
<b>38.84.L297.FG25</b>								
11.2	0.89 (8%)	1.79	9.38	0.09	0.18	0.63	0.00	olive, murex, Sciaenidae otolith
<b>38.84.L299.FG43</b>								
8.5	0.8 (9%)	1.29	6.00	0.24	0.24	0.12	0.00	
<b>38.84.L299.FG44</b>								
6.6	1.4 (21%)	1.52	6.06	0.00	0.00	0.15	0.00	
<b>38.84.L299.FG51</b>								
10.1	1.5 (15%)	4.55	37.72	0.89	0.10	0.10	0.00	grape, otolith, goose eggshell
<b>38.84.L299.FG52</b>								
16.9	2.5 (15%)	4.14	47.16	0.00	0.12	0.06	0.06	grape, plaster with very few shells, goose eggshell
<b>38.84.L299.FG53</b>								
11.2	0.73 (7%)	2.50	14.46	1.34	0.00	0.00	0.00	grain, goose eggshell
<b>38.84.L299.FG54</b>								
27.7	4.1 (15%)	3.47	7.41	1.59	0.04	0.04	0.11	grape, grain, 2 Mugilidae otoliths, bronze, slag, orange and black fired mudbrick, phytoliths
<b>38.84.L299.FG64</b>								
10.1	1.5 (15%)	4.26	19.21	0.50	0.00	0.20	0.00	grape, grain, frit eye of Horus, dark fired beam-impressed mudbrick, black ash
<b>38.84.L299.FG65</b>								
9.5	1.7 (18%)	5.26	53.79	2.00	0.00	0.42	0.11	grape, gold, otolith
<b>38.84.L308.FG1</b>								
9.9	1.5 (15%)	0.71	7.58	0.10	0.00	0.10	0.00	Sciaenidae otolith, goose eggshell
<b>38.84.L308.FG2</b>								
9.7	1.3 (13%)	1.55	6.19	0.00	0.00	0.00	0.10	
<b>38.84.LF312.FG34</b>								
12.7	1.2 (9%)	6+	19.45	0.79	0.00	0.00	0.16	grape, shell-plaster
<b>38.84.LF312.FG42</b>								
9.6	0.5 (5%)	2.71	13.65	2.50	0.10	0.00	0.00	
<b>38.84.LF312.FG44</b>								
10.5	0.64 (6%)	1.71	11.62	2.95	0.00	0.38	0.00	grape

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt.</i> <i>in kg</i>	<i>Heavy Frac.</i> <i>kg (%)</i>	<i>Sherds</i> <i>per kg</i>	<i>Bones</i> <i>per kg</i>	<i>Scales</i> <i>per kg</i>	<i>Flint</i> <i>per kg</i>	<i>Snails</i> <i>per kg</i>	<i>Shells</i> <i>per kg</i>	<i>Other finds</i>
<b>38.84.LF312.FG55</b>								
12.2	1.2 (10%)	6.80	156.31	23.69	0.16	0.98	0.25	grape, iron, fish vertebrae, goose eggshell
<b>38.84.LF312.FG63</b>								
14.6	2.0 (14%)	4.45	8.01	0.27	0.00	0.00	0.00	grape, otolith
<b>38.84.LF312.FG64</b>								
6.1	0.5 (8%)	4.10	27.70	0.33	0.00	0.16	0.00	grape, goose eggshell
<b>38.84.L371.FG10</b>								
10.3	1.0 (10%)	4.95	6.02	0.00	0.00	0.00	0.00	grape, fired-mudbrick fragments
<b>38.84.L371.FG20</b>								
9.7	1.1 (11%)	7.53	6.08	0.00	0.10	0.31	0.10	grain, fired-mudbrick fragments
<b>38.84.LF383</b>								
1.1	0.5 (45%)	0.91	7.27	0.00	0.00	0.00	0.00	grain
<b>38.84.L386</b>								
9.1	1.7 (19%)	1.43	7.03	0.00	0.22	0.22	0.22	orange fired beam-impressed mudbrick, phytoliths
<b>38.84.LF412.FG10</b>								
12.4	1.4 (11%)	4.45	53.27	1.05	0.08	0.16	0.08	grape, bead, iron, chicken eggshell, goose eggshell
<b>38.84.LF412.B75</b>								
0.2	0.1 (50%)	0.00	145.00	0.00	0.00	0.00	0.00	
<b>38.84.LF412.B119</b>								
37.5	5.7 (15%)	6.51	119.92	0.29	0.11	0.00	0.05	grape, grain, olive, shark's tooth, tabun frags., large animal bones, phytoliths, orange fired beam-impressed mudbrick, 4 chicken eggshell, 7 goose eggshell
<b>38.84.LF413.FG23</b>								
8.6	0.6 (7%)	0.93	10.70	1.16	0.00	0.00	0.00	goose eggshell
<b>38.84.LF413.FG36</b>								
11.5	0.5(4%)	1.22	12.78	0.00	0.00	0.09	0.00	
<b>38.84.LF413.FG37</b>								
11.5	0.5 (4%)	1.57	12.96	0.00	0.00	0.09	0.00	grape, Sciaenidae otolith, goose eggshell
<b>38.84.LF413.FG38</b>								
25.0	0.7 (3%)	0.36	4.48	0.00	0.00	0.12	0.04	iron
<b>38.84.LF413.FG58</b>								
24.5	0.6 (2%)	0.82	4.08	0.00	0.04	0.00	0.04	grape
<b>38.93.LF159.FG10</b>								
3.85	0.7 (18%)	1.30	7.27	0.00	0.00	0.26	0.00	grape, bronze/slag
<b>38.93.LF159.FG20</b>								
8.9	0.9 (10%)	2.58	8.43	0.00	0.11	0.00	1.12	olive, otolith, iron, goose eggshell
<b>38.93.LF159.FG30</b>								
7.0	1.0 (14%)	2.00	11.71	0.00	0.00	0.14	5.57	grain, legume, black ash
<b>38.94.L206.FG3</b>								
3.1	0.3 (10%)	7.42	296.77	27.42	0.32	1.29	0.32	grape, grain, 3 Mugilidae otoliths, bitumen
<b>38.94.L206.FG4</b>								
12.0	2.4 (20%)	13.33	108.25	0.42	0.00	0.25	0.00	grape, grain, legume, otolith, bitumen, shell-plaster
<b>38.94.L206.FG5</b>								
4.6	0.4 (9%)	5.87	80.00	4.35	0.00	0.22	0.00	Sciaenidae otolith, 2 goose eggshell
<b>38.94.L206.FG13</b>								
10.6	1.6 (15%)	33.49	88.58	14.34	0.00	0.94	0.00	grain, red ochre, 2 goose eggshell
<b>38.94.L206.FG14</b>								
21.6	4.4 (20%)	22.41	13.24	0.60	0.05	0.19	0.05	grape, grain, scarab, Sciaenidae otolith, blue bead, 15 iron/slag, dark gray ash, chicken eggshell
<b>38.94.L206.FG15</b>								
4.7	0.8 (17%)	19.15	33.19	4.68	0.00	0.64	0.00	grape, olive, dark ash, goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>38.94.L206.FG23</b>								
3.7	0.3 (8%)	6.22	19.73	6.76	0.00	0.54	0.00	red ochre, goose eggshell
<b>38.94.L206.FG24</b>								
6.5	1.1 (17%)	43.38	32.46	2.46	0.00	0.62	0.00	grain, olive, red ochre
<b>38.94.L207.FG11</b>								
6.4	1.5 (23%)	0.78	14.22	0.00	0.16	0.63	0.00	grape (desiccated), Sciaenidae otolith, orange fired reed-impressed mudbrick
<b>38.94.L207.FG21</b>								
35.8	7.3 (20%)	0.98	5.59	0.00	0.00	0.00	0.06	orange fired reed- and beam-impressed brick
<b>38.94.L207.FG22</b>								
19.4	2.2 (11%)	2.57	15.80	0.10	0.15	0.10	0.26	grape (desiccated), shell-plaster, orange fired mudbrick, 2 goose eggshell
<b>38.94.LF209.FG3</b>								
13.5	2.7 (20%)	2.81	18.74	1.56	0.07	0.22	0.15	otolith, 2 iron, chicken eggshell, goose eggshell
<b>38.94.LF209.FG4</b>								
14.9	2.3 (15%)	4.63	44.97	1.68	0.00	0.20	0.07	grape, bitumen, 5 goose eggshell
<b>38.94.LF209.FG5</b>								
8.8	1.0 (11%)	7.27	29.66	2.05	0.00	0.11	0.00	goose eggshell
<b>38.94.LF209.FG14</b>								
50.4	1.8 (4%)	1.27	7.08	0.06	0.00	0.04	0.00	6 goose eggshell
<b>38.94.LF209.FG15</b>								
5.3	0.7 (13%)	7.92	12.26	0.94	0.19	0.38	0.00	Sciaenidae otolith
<b>38.94.LF209.FG24</b>								
15.6	1.2 (8%)	3.14	20.96	9.49	0.00	0.26	0.13	2 Cichlidae otoliths, 5 goose eggshell
<b>38.94.LF210.FG1</b>								
8.3	1.2 (14%)	3.25	28.92	0.12	0.24	0.24	0.24	lead, orange and black fired mudbrick, phytoliths
<b>38.94.LF210.FG2</b>								
8.0	1.1 (14%)	1.63	13.75	0.00	0.00	0.13	0.13	red fired mudbrick
<b>38.94.LF210.FG11</b>								
84.1	12.0 (14%)	3.23	22.26	0.11	0.01	0.15	0.15	grape, bead, figurine leg, 2 iron, Cichlidae otolith, 2 Mugilidae otoliths, bone object, orange fired reed-impressed mudbrick, phytoliths, 4 goose eggshell
<b>38.94.LF210.FG12</b>								
8.0	0.8 (10%)	1.25	3.00	0.00	0.13	0.13	0.00	grape, olive, goose eggshell
<b>38.94.LF210.FG21</b>								
55.7	5.5 (10%)	2.55	27.02	0.00	0.02	0.11	0.32	grain, legume, Sciaenidae otolith, Cichlidae otolith, 3 Mugilidae otoliths, Grape (desiccated), chicken eggshell, goose eggshell
<b>38.94.LF210.FG22</b>								
5.6	1.1 (20%)	13.04	13.04	0.00	0.00	0.54	0.18	dark ash, fired-mudbrick fragments
<b>38.94.L231.FG1</b>								
8.4	1.3 (15%)	0.60	9.17	0.12	0.48	0.95	0.00	grape, bitumen, orange fired reed-impressed mudbrick
<b>38.94.L231.FG2</b>								
10.7	1.7 (16%)	2.43	10.28	0.09	0.09	0.28	0.09	grape, orange fired mudbrick, goose eggshell
<b>38.94.L231.FG11</b>								
9.5	1.1 (12%)	2.95	14.21	0.32	0.11	0.11	0.32	goose eggshell
<b>38.94.L231.FG12</b>								
10.5	1.3 (12%)	1.14	8.76	0.00	0.00	0.19	0.67	chicken eggshell
<b>38.94.L243.FG32</b>								
8.1	2.0 (25%)	1.85	69.14	0.62	0.12	0.25	3.21	grape, 2 Cichlidae otoliths
<b>38.94.L243.FG41</b>								
5.7	1.6 (28%)	1.58	17.89	0.70	0.00	0.53	0.00	grape

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>38.94.L252.FG37</b>								
7.5	0.42 (6%)	0.67	11.47	1.87	0.00	0.53	0.27	grape, 3 iron
<b>38.94.L255.FG42</b>								
0.7	0.2 (29%)	2.86	467.14	14.29	0.00	2.86	1.43	grape, otolith, burned bone
<b>38.94.LF272.FG3</b>								
4.42	0.5 (11%)	0.68	87.78	24.21	0.00	0.45	0.23	grape, Sciaenidae otolith, goose eggshell
<b>38.94.L296.FG5</b>								
2.65	0.3 (11%)	2.64	8.30	0.00	0.00	0.38	0.00	
<b>38.94.L296.FG6</b>								
3.53	0.4 (11%)	2.83	8.50	0.00	0.00	0.28	0.28	lead fragment
<b>38.94.L296.FG7</b>								
3.53	0.4 (11%)	0.28	7.65	0.00	0.00	0.00	0.28	
<b>38.94.L296.FG15</b>								
6.18	0.7 (11%)	0.81	2.75	0.00	0.00	0.00	0.00	grape
<b>38.94.L296.FG16</b>								
12.4	1.4(11%)	1.29	4.37	0.00	0.00	0.32	0.08	legume, grain, orange fired-mudbrick frag.
<b>38.94.L296.FG17</b>								
8.84	1.0 (11%)	1.58	10.63	1.24	0.00	0.34	0.68	grape, grain
<b>38.94.L296.FG27</b>								
7.95	0.9 (11%)	2.01	13.71	1.02	0.00	0.50	0.13	
<b>38.94.LF298.B63</b>								
6.18	0.7 (11%)	3.07	13.27	2.59	0.00	0.00	0.00	grape, olive, 9 goose eggshell
<b>38.94.LF298.B63 (jar contents)</b>								
4.42	0.5 (11%)	5.43	6.33	0.00	0.00	0.00	0.00	grape (desiccated), 5 goose eggshell
<b>38.94.LF298.B57 (jar contents)</b>								
19.4	2.2 (11%)	0.05	0.72	0.00	0.00	0.00	0.00	
<b>50.46.L54.FG8</b>								
9.2	1.4 (15%)	1.96	12.39	0.87	0.00	0.00	0.11	goose eggshell
<b>50.46.L56.FG48</b>								
8.2	0.9 (11%)	0.61	5.00	0.00	0.00	0.24	0.12	phytoliths
<b>50.46.L56.FG49</b>								
8.6	1.2 (14%)	0.70	4.30	0.23	0.00	0.47	0.00	grape, phytoliths
<b>50.46.L56.FG50</b>								
8.1	1.1 (14%)	2.72	7.78	0.99	0.00	0.49	0.00	grape, phytoliths
<b>50.46.L56.FG60</b>								
8.5	1.0 (12%)	2.59	6.82	0.00	0.00	0.00	0.00	grape, phytoliths, iron
<b>50.46.L56.FG68</b>								
21.5	3.5 (16%)	1.26	6.28	0.56	0.05	0.19	0.00	grain
<b>50.46.L56.FG69</b>								
14.7	2.3 (16%)	0.75	8.16	0.34	0.07	0.34	0.20	grape
<b>50.46.L56.FG70</b>								
14.7	1.8 (12%)	1.09	11.90	0.14	0.07	0.14	0.20	olive, phytoliths
<b>50.46.L56.FG79</b>								
3.9	0.4 (10%)	2.82	15.64	0.26	0.00	0.00	0.26	olive
<b>50.46.L56.FG80</b>								
5.1	0.8 (16%)	1.37	12.16	0.00	0.00	0.39	0.00	bronze, bitumen
<b>50.46.LF57.FG58</b>								
10.6	2.9 (27%)	0.66	7.45	0.00	0.00	0.09	0.00	grape
<b>50.46.LF57.FG59</b>								
10.1	1.0 (10%)	0.89	5.45	0.40	0.20	0.00	0.00	grape, chicken eggshell
<b>50.46.LF57.FG68</b>								
5.7	1.0 (18%)	1.58	9.47	0.00	0.18	0.00	0.18	
<b>50.46.LF57.FG69</b>								
6.5	1.0 (15%)	0.62	7.54	0.77	0.15	0.00	0.00	shell-plaster
<b>50.46.LF57.FG79</b>								
7.6	1.2 (16%)	1.32	12.76	1.18	0.00	0.13	0.26	grape, bead

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.46.LF57.FG80</b>								
10.2	1.2 (12%)	0.78	7.06	0.00	0.00	0.20	0.00	Sciaenidae otolith, goose eggshell
<b>50.46.L61.FG38</b>								
9.6	1.0 (10%)	3.44	17.92	0.52	0.21	0.31	0.10	
<b>50.46.LF78.FG50</b>								
8.0	1.1 (14%)	1.88	13.88	2.63	0.00	0.13	0.13	grain, string-impressed clay
<b>50.46.L100</b>								
21.0	2.5 (12%)	2.67	28.38	2.33	0.29	0.67	0.14	grape, Sciaenidae otolith, chicken eggshell
<b>50.46.LF55.FG8</b>								
9.3	2.6 (28%)	3.66	7.31	0.75	0.22	0.00	0.00	grain
<b>50.47.L269.FG98</b>								
6.2	1.0 (16%)	5.97	18.71	1.94	0.00	0.32	0.16	bronze pellet, Lethrinidae otolith
<b>50.48.LF383.FG4</b>								
4.8	0.7 (15%)	4.58	18.96	0.63	0.00	0.21	0.00	grape, 2 chicken eggshell
<b>50.48.LF383.FG6</b>								
11.7	2.2 (19%)	4.44	33.25	9.15	0.00	0.26	0.51	grape, olive, 2 beads, 3 bronze pellets, pumice, chicken eggshell, goose eggshell
<b>50.48.LF383.FG7</b>								
10.6	1.2 (11%)	2.45	13.30	1.32	0.19	0.28	0.28	iron, Sciaenidae otolith, 2 chicken eggshell
<b>50.48.LF383.FG8</b>								
10.0	1.7 (17%)	3.60	13.80	1.10	0.00	0.10	0.00	
<b>50.48.LF383.FG15</b>								
8.4	1.3 (15%)	5.71	33.10	2.62	0.00	0.00	0.12	bone frag. (spatula?), bronze, Sciaenidae otolith, pumice, chicken eggshell
<b>50.48.LF383.FG16</b>								
11.2	2.1 (19%)	5.89	20.63	2.14	0.18	0.09	0.27	olive, 4 Sciaenidae otoliths, shell-plaster, goose eggshell
<b>50.48.LF383.FG17</b>								
8.3	0.9 (11%)	4.70	17.47	5.30	0.24	0.24	0.48	bronze, semiprecious stone (carnelian?)
<b>50.48.LF383.FG18</b>								
10.2	1.6 (16%)	2.65	20.20	0.59	0.00	0.20	0.39	grape, otolith, tabun fragment
<b>50.48.LF383.FG24</b>								
6.8	1.1 (16%)	6.47	28.24	1.62	0.29	0.00	1.18	bone blank, Cichlidae otolith, bitumen, goose eggshell
<b>50.48.LF383.FG26</b>								
9.3	1.11 (12%)	6.67	52.15	14.84	0.32	0.00	105.9	iron, coral, goose eggshell
<b>50.48.LF383.FG27</b>								
7.4	1.3 (18%)	3.51	18.24	1.22	0.27	0.41	0.14	Cichlidae otolith, Mugilidae otolith, 2 iron
<b>50.48.LF383.FG28</b>								
8.2	1.06 (13%)	5.73	49.63	12.07	0.12	0.00	79.15	tabun frags, pumice, plaster, goose eggshell
<b>50.48.LF383.FG34</b>								
6.6	1.8 (27%)	4.55	29.09	2.88	0.00	0.15	0.15	grape, bronze, 2 iron, 2 Mugilidae otoliths, orange fired reed-impressed mudbrick, 2 goose eggshell
<b>50.48.LF383.FG35</b>								
5.7	1.1 (19%)	4.56	19.65	0.88	0.00	0.35	0.18	grape
<b>50.48.LF383.FG36</b>								
8.8	1.3 (15%)	3.41	28.86	1.48	0.00	0.45	0.11	grape, 2 iron, bitumen
<b>50.48.LF383.FG37</b>								
6.0	1.0 (17%)	1.33	23.00	2.67	0.00	0.17	0.17	grape
<b>50.48.LF383.FG38</b>								
14.8	2.5 (17%)	3.45	21.49	2.36	0.07	0.34	0.34	legume, olive, painted sherd
<b>50.48.LF383.FG39</b>								
9.5	1.8 (19%)	1.47	17.16	0.42	0.00	0.63	0.00	grape, goose eggshell
<b>50.48.LF383.FG45</b>								
7.6	1.5 (20%)	5.79	13.55	1.84	0.00	0.39	0.00	grape, 3 bronze pellets

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.48.LF383.FG46</b>								
9.4	1.3 (14%)	5.11	15.21	0.64	0.00	1.38	0.00	pumice
<b>50.48.LF383.FG47</b>								
9.4	1.5 (16%)	4.68	7.77	0.21	0.11	0.64	0.21	
<b>50.48.LF383.FG55</b>								
9.6	1.5 (16%)	4.69	28.23	2.60	0.00	0.31	0.83	bead, bone artifact fragment, slag, shell-plaster, pumice
<b>50.48.LF383.FG56</b>								
9.6	1.0 (10%)	5.31	27.92	1.56	0.00	2.50	0.52	grape, 2 beads, bronze, otolith, plaster
<b>50.48.LF383.FG57</b>								
12.4	1.8(15%)	7.98	43.63	4.03	0.08	0.16	0.24	grape, bead, 2 bronze pellets, 4 iron, Cichlidae otolith, Mugilidae otolith, 4 goose eggshell
<b>50.48.LF383.FG60</b>								
8.5	1.75(21%)	5.65	36.24	7.76	0.24	0.00	84.47	pumice
<b>50.48.LF383.FG70</b>								
8.6	1.2 (14%)	5.00	38.84	0.70	0.00	0.12	0.35	grape, 2 Sciaenidae otoliths, 2 goose eggshell
<b>50.48.L392.FG21</b>								
12.4	1.7 (14%)	2.18	41.61	21.45	0.00	0.89	0.73	grape, grain, olive, 10 iron, 4 bronze pellets, bitumen, goose eggshell, 2 Mugilidae otoliths
<b>50.48.L392.FG31</b>								
12.2	1.5 (12%)	3.11	27.62	4.92	0.16	0.25	0.33	6 bronze pellets
<b>50.48.L392.FG51</b>								
12.6	2.42 (19%)	3.25	31.35	5.56	0.16	0.00	78.89	otolith, chicken eggshell
<b>50.48.L392.FG61</b>								
14.4	1.91 (13%)	3.54	37.85	11.32	0.14	0.00	319.0	2 otoliths, 3 goose eggshell
<b>50.48.L392.FG71</b>								
13.7	2.74 (20%)	2.48	30.22	5.40	0.15	0.00	103.0	bead, amber, iron, bronze, 2 otoliths
<b>50.48.L392.FG81</b>								
12.9	2.6 (20%)	2.25	10.39	0.00	0.16	0.00	0.16	2 iron, goose eggshell
<b>50.48.L405.FG4</b>								
8.3	0.74 (9%)	1.81	17.47	1.93	0.12	0.12	0.00	2 bronze pellets, otolith, olive, grape, chicken eggshell, goose eggshell
<b>50.48.L405.FG5</b>								
4.59	0.52 (11%)	6.97	37.04	0.87	0.00	0.44	0.00	3 murex, 2 Mugilidae otoliths, grape, olive, 2 Sparidae jaws, rodent jaw and teeth
<b>50.48.L405.FG6</b>								
4.7	0.56 (12%)	1.70	22.55	6.60	0.21	0.43	0.00	murex, 2 otoliths, shark's tooth (?), olive, goose eggshell
<b>50.48.L405.FG7</b>								
10.2	1.17 (11%)	1.18	35.98	6.37	0.00	0.10	0.00	grape, goose eggshell
<b>50.48.L405.FG8</b>								
22.1	2.61 (12%)	1.49	42.17	29.77	0.05	0.59	0.00	grape, Sparidae jaw and teeth, murex, bronze pin, hook, 2 bronze, bead, 2 iron pellets, pumice
<b>50.48.L405.FG15</b>								
2.83	0.32 (11%)	5.30	32.16	5.30	0.00	0.71	0.00	murex, grain, grape
<b>50.48.L405.FG16</b>								
7.5	1.08 (14%)	1.87	27.87	1.73	0.27	0.00	0.00	2 murex, grape, numerous <i>Tellina donacina</i> clamshells
<b>50.48.L405.FG17</b>								
8.5	1.01 (12%)	2.00	44.47	16.47	0.00	0.24	0.00	2 bronze, iron pellets, otolith, grape, 5 goose eggshell
<b>50.48.L405.FG18</b>								
26.1	3.79 (15%)	2.15	41.76	22.41	0.08	0.77	0.00	grape, olive, 3 bronze pellets, iron pellet, murex, slag, red ochre, otolith, Sparidae jaw, grain, 2 chicken eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.48.L405.FG25</b>								
10.6	1.2 (11%)	2.83	50.28	17.55	0.19	0.19	0.00	large bead, murex, olive, grape, chicken eggshell
<b>50.48.L405.FG26</b>								
8.7	0.68 (8%)	1.95	26.44	5.52	0.23	0.23	0.00	3 otoliths, 2 murex, 2 bronze pellets, iron, grape, chicken eggshell
<b>50.48.L405.FG27</b>								
9.7	0.98 (10%)	2.47	33.81	8.04	0.00	0.41	0.00	7 bronze pellets, 4 iron, bird leg, Sparidae jaw and teeth, grape, grain, 3 murex, bitumen, goose eggshell
<b>50.48.L405.FG28</b>								
7.7	0.83 (11%)	4.29	30.00	5.45	0.00	0.52	0.00	olive
<b>50.48.L405.FG33</b>								
8.5	1.21 (14%)	3.18	32.47	4.59	0.24	0.24	0.00	bead, slag, olive, grain, tabun fragments, chert flake, 4 goose eggshell
<b>50.48.L405.FG35</b>								
12.0	1.76 (15%)	5.51	86.80	19.13	0.00	0.58	0.00	bead, 2 bronze pellets, 6 murex, olive, grape, grain, 3 Sparidae jaw and teeth, rodent jaw and teeth, 4 goose eggshell
<b>50.48.L405.FG36</b>								
5.7	0.58 (10%)	5.26	35.26	3.16	0.00	0.18	0.00	2 bronze pellets, murex, grain, olive
<b>50.48.L405.FG37</b>								
3.6	0.33 (9%)	3.33	49.72	4.72	0.28	0.00	0.00	5 bronze pellets, grape, murex, 2 goose eggshell
<b>50.48.L405.FG38</b>								
6.6	1.25 (19%)	4.39	22.12	5.15	0.15	0.00	0.00	plaster, 2 large bones (1 cut)
<b>50.48.L405.FG45</b>								
4.9	0.67 (14%)	6.73	10.00	10.00	0.20	0.00	0.00	bead, murex, grain, grape, tabun frags.
<b>50.48.L405.FG47</b>								
0.05	0.05 (100%)	0.00	14,560	1,380	0.00	0.00	0.00	grain (not floated)
<b>50.48.L408.FG92</b>								
4.0	0.7 (18%)	5.50	63.00	21.50	0.00	0.00	0.75	olive, otolith
<b>50.48.L412.FG95</b>								
4.7	0.5 (11%)	1.49	128.51	12.13	0.21	0.85	0.21	grape, bronze, 2 Sciaenidae otoliths, 1 Mugilidae otolith
<b>50.48.L428.FG9</b>								
2.55	0.2 (8%)	2.75	25.88	3.92	0.00	0.39	0.00	
<b>50.48.L428.FG10</b>								
4.8	0.53 (11%)	2.50	26.46	7.08	0.00	0.42	0.00	Sparidae jaw and teeth
<b>50.48.L428.FG19</b>								
11.7	1.04 (9%)	2.39	24.02	3.93	0.00	0.43	0.00	olive, grape, Sparidae tooth
<b>50.48.L428.FG20</b>								
6.7	0.4 (6%)	1.49	16.42	1.04	0.45	0.75	0.00	
<b>50.48.L428.FG29</b>								
7.6	0.4 (5%)	1.32	18.82	3.68	0.00	0.26	0.00	murex, grape
<b>50.48.L428.FG39</b>								
5.75	0.42 (7%)	0.52	24.17	4.00	0.17	0.35	0.00	grape, red ochre, goose eggshell
<b>50.48.L428.FG40</b>								
9.2	0.6 (7%)	1.20	23.48	4.78	0.00	0.33	0.00	iron, olive, grape, 1 Sciaenidae otolith, 1 Mugilidae otolith, 2 Sparidae teeth
<b>50.48.L428.FG50</b>								
3.95	0.2 (5%)	2.03	18.23	4.05	0.00	0.00	0.00	grape, Sparidae tooth
<b>50.48.LF429.FG9</b>								
3.85	0.61 (16%)	2.08	18.96	1.82	0.00	0.00	0.00	bronze pellet, murex
<b>50.48.LF429.FG10</b>								
9.6	1.38 (14%)	5.42	21.15	3.96	0.10	0.63	0.00	iron, grape, Sparidae jaw and tooth

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.48.LF429.FG19</b>								
8.65	0.83 (10%)	2.43	21.73	4.51	0.00	0.23	0.00	olive, grape, 3 Sciaenidae otoliths, Sparidae jaw and tooth
<b>50.48.LF429.FG20</b>								
6.65	0.46 (7%)	3.16	16.99	5.41	0.15	0.00	0.00	grape, 2 Sparidae teeth
<b>50.48.LF429.FG29</b>								
5.8	0.19 (3%)	0.69	9.66	3.62	0.00	0.17	0.00	bronze pellet, olive, grape, Sparidae tooth
<b>50.48.LF429.FG30</b>								
18.1	1.13 (6%)	1.22	15.79	11.30	0.00	0.22	0.00	iron, legume, grape, rodent tooth, 2 Sparidae teeth, pig's toe (?), 3 chicken eggshell, goose eggshell
<b>50.48.LF429.FG39</b>								
13.0	1.04 (8%)	2.08	19.92	22.15	0.08	0.15	0.00	grape, 2 otoliths, iron, Sparidae tooth, rodent tooth
<b>50.48.LF429.FG40</b>								
6.75	0.67 (10%)	2.67	13.04	8.59	0.00	0.15	0.00	bronze, grape
<b>50.48.LF429.FG50</b>								
6.7	0.65 (10%)	4.48	20.30	2.54	0.00	0.45	0.00	Sparidae tooth
<b>50.48.LF431.FG9</b>								
10.2	1.73 (17%)	4.22	27.65	16.96	0.29	0.10	0.00	2 bronze, otolith, murex, grape, grain, Sparidae jaw and teeth, rodent tooth, 3 goose eggshell
<b>50.48.LF431.FG19</b>								
13.3	1.24 (9%)	4.59	27.22	6.62	0.08	0.23	0.00	2 beads, otolith, grape, Sciaenidae otolith, 6 Sparidae teeth, goose eggshell
<b>50.48.LF431.FG20</b>								
12.4	0.95 (8%)	3.06	17.18	4.19	0.08	0.24	0.00	grape, bitumen, 5 Sparidae teeth
<b>50.48.LF431.FG29</b>								
11.5	1.2 (10%)	1.91	18.26	5.22	0.09	0.52	0.00	grape, olive, 2 bronze pellets
<b>50.48.LF431.FG30</b>								
11.7	0.87 (7%)	3.76	30.26	9.57	0.00	0.51	0.00	bronze, bitumen, grain, olive, grape, slag, murex, 5 Sparidae teeth, rodent tooth
<b>50.48.LF431.FG39</b>								
5.9	0.73 (12%)	4.41	33.90	29.83	0.17	0.17	0.00	bead, grape
<b>50.48.LF431.FG40</b>								
12.4	1.25 (10%)	2.90	25.16	7.66	0.00	0.48	0.00	otolith, murex, grape, Sparidae jaw and teeth, goose eggshell
<b>50.48.LF431.FG50</b>								
3.1	0.33 (11%)	1.94	28.06	1.94	0.00	0.32	0.00	grape
<b>50.48.L446.FG20</b>								
12.4	1.4 (11%)	5.09	46.73	6.87	0.00	0.24	1.62	grape, olive, grain, 3 otoliths, green inlay, shell-plaster, dark fired beam-impressed brick
<b>50.48.L446.FG28</b>								
9.5	2.0 (21%)	5.05	38.11	2.32	0.00	0.21	0.53	grape, grain
<b>50.48.L446.FG30</b>								
8.4	1.2 (14%)	5.83	83.69	15.12	0.12	0.12	0.36	grape, legume, grain, olive, bead, iron, Lethrinidae otolith, 2 goose eggshell
<b>50.48.L446.FG48</b>								
7.8	1.0 (13%)	4.87	41.28	6.92	0.00	0.26	0.00	grape, grain, bronze pellet, goose eggshell
<b>50.48.L446.FG50</b>								
8.2	0.9 (11%)	2.32	47.68	6.10	0.12	0.61	0.24	grape, Sciaenidae otolith, goose eggshell
<b>50.48.L449.FG28</b>								
6.6	1.7 (26%)	7.42	85.45	1.52	0.00	0.30	0.00	grape, grain
<b>50.48.L449.FG30</b>								
8.0	1.8 (23%)	7.63	52.38	2.25	0.00	0.00	0.13	grape, bead, black ash, goose eggshell
<b>50.48.L449.FG38</b>								
6.0	1.7 (28%)	7.17	76.67	0.83	0.17	0.50	0.00	grape, grain, silver figurine(?), 2 Cichlidae otoliths

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.48.L449.FG39</b>								
14.2	3.0 (21%)	5.56	61.41	0.77	0.07	0.42	0.28	grape, 2 finger- and string-impressed clay, Cichlidae otolith, Mugilidae otolith, dark fired mudbrick, goose eggshell
<b>50.48.L449.FG40</b>								
7.1	2.1 (30%)	6.20	57.46	0.70	0.00	0.70	0.00	grape, olive, finger- and string-impressed clay, 4 iron pin frags., Sciaenidae otolith
<b>50.48.L449.FG56</b>								
6.0	2.0 (33%)	6.33	66.00	1.67	0.00	0.67	0.50	grape, grain, olive, clay bulla, phytoliths, signs of intense fire
<b>50.48.L449.FG57</b>								
8.2	1.7 (21%)	4.02	29.27	0.24	0.00	0.49	0.49	grape, olive, 4 iron, finger- and string-impressed clay
<b>50.48.L449.FG58</b>								
6.9	1.7 (25%)	4.93	33.77	1.88	0.00	1.01	0.43	grape, olive, grain, legume, bronze, iron, phytoliths
<b>50.48.L449.FG68</b>								
7.52	1.7 (23%)	7.85	28.46	0.40	0.00	0.13	0.27	grape, olive, grain, bronze pellet, goose eggshell
<b>50.48.L450.FG28</b>								
8.6	2.2 (26%)	5.70	27.67	1.98	0.00	0.58	1.16	grape, 2 Mugilidae otolith, goose eggshell
<b>50.48.L452.FG1</b>								
0.5	0.3 (60%)	2.00	12.00	4.00	0.00	0.00	0.00	
<b>50.48.LF460.FG41</b>								
7.0	1.2 (17%)	1.00	25.00	4.86	0.00	0.43	0.29	grape, olive, bronze pellet, phytoliths
<b>50.48.LF460.FG42</b>								
7.95	0.9 (11%)	1.13	65.28	17.74	0.00	0.75	0.00	grape, olive, 2 otoliths
<b>50.48.LF460.FG51</b>								
8.0	1.4 (18%)	0.88	15.63	9.25	0.00	0.88	0.00	grape, olive
<b>50.48.L462</b>								
0.88	0.1 (11%)	0.00	31.82	3.41	0.00	0.00	1.14	grape
<b>50.49.L353.FG33</b>								
7.2	0.52 (7%)	2.36	14.72	2.64	0.14	2.64	0.00	grape, faience, iron pin, otolith
<b>50.49.L353.FG34</b>								
7.2	0.9 (13%)	4.31	17.22	0.42	0.00	0.69	0.00	grape, olive
<b>50.49.L353.FG43</b>								
7.6	1.2 (16%)	1.45	19.21	0.92	0.00	0.39	0.53	grape, pumice
<b>50.49.L353.FG44</b>								
6.2	0.8 (13%)	1.77	17.42	0.00	0.00	0.65	0.32	grape, Sciaenidae otolith
<b>50.49.L364.FG2</b>								
7.1	0.8 (11%)	2.39	22.82	6.48	0.00	0.99	0.00	bronze, otolith, 2 Sparidae jaws and teeth, goose eggshell
<b>50.49.L364.FG3</b>								
7.5	0.91 (12%)	2.93	21.20	1.87	0.00	4.40	0.00	pumice, bone artifact, olive, grape
<b>50.49.L364.FG12</b>								
7.2	0.77 (11%)	3.06	16.39	2.08	0.14	0.56	0.00	Sparidae tooth, rodent tooth
<b>50.49.L364.FG13</b>								
8.7	0.85 (10%)	4.02	25.63	2.07	0.00	5.75	0.00	2 otolith, grape, Sparidae tooth, bird bones
<b>50.49.L364.FG22</b>								
6.0	0.53 (9%)	2.17	31.33	13.17	0.17	0.50	0.00	murex, 2 Sparidae teeth
<b>50.49.L364.FG23</b>								
6.9	0.56 (8%)	2.75	16.67	2.17	0.14	0.29	0.00	grape, slag
<b>50.49.L364.FG32</b>								
9.7	0.61 (6%)	1.75	9.38	2.68	0.10	0.21	0.00	Mugilidae otolith, slag, grain, grape, 2 rodent teeth
<b>50.49.L364.FG33</b>								
10.1	0.71 (7%)	1.29	14.16	4.36	0.30	0.20	0.00	pumice, bronze, 2 murex, Sciaenidae otolith, Sparidae tooth, goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt.</i> <i>in kg</i>	<i>Heavy Frac.</i> <i>kg (%)</i>	<i>Sherds</i> <i>per kg</i>	<i>Bones</i> <i>per kg</i>	<i>Scales</i> <i>per kg</i>	<i>Flint</i> <i>per kg</i>	<i>Snails</i> <i>per kg</i>	<i>Shells</i> <i>per kg</i>	<i>Other finds</i>
<b>50.49.L364.FG13 (jar contents)</b>								
1.68	0.19 (11%)	0.00	4.76	0.00	0.00	18.5	0.00	Mugilidae otolith
<b>50.49.L368.FG52</b>								
6.2	0.7 (11%)	2.26	31.77	5.00	0.00	0.16	0.32	shell-plaster
<b>50.49.L368.FG53</b>								
6.8	0.7 (10%)	2.06	23.09	4.26	0.00	0.29	0.00	grape, 2 iron, shell-plaster, 2 goose eggshell
<b>50.49.L368.FG62</b>								
7.5	0.7 (9%)	2.67	34.27	6.13	0.00	0.13	0.93	grape, bronze, pumice
<b>50.49.L368.FG63</b>								
12.5	1.4 (11%)	5.20	25.52	3.04	0.00	0.16	0.32	grape, iron, Sciaenidae otolith
<b>50.49.L373.FG3</b>								
12.7	2.0 (16%)	4.96	26.85	3.31	0.08	0.00	0.16	2 beads, 3 otoliths, <i>Glycymeris violascens</i> seashells, many <i>Tellina donacina</i> clamshells
<b>50.49.L374.FG12</b>								
9.7	1.1 (11%)	1.55	19.69	1.55	0.31	0.41	0.10	grape, bead, iron, roof clay, 2 Sciaenidae otoliths, goose eggshell
<b>50.49.L374.FG23</b>								
26.5	3.5 (13%)	3.74	34.34	4.79	0.08	0.60	0.26	grape, olive, 2 beads, 2 bronze, shell-plaster, goose eggshell
<b>50.49.L375.FG13</b>								
12.6	2.26 (18%)	2.46	26.43	1.90	0.00	0.00	0.00	grape, otolith, Sparidae tooth
<b>50.49.L384.FG73</b>								
10.3	0.7 (7%)	1.36	24.08	3.88	0.19	0.29	0.00	
<b>50.49.L384.FG81</b>								
19.1	2.3(12%)	3.35	26.44	9.42	0.05	0.21	0.00	grape, olive, legume, bead, 2 goose eggshell, 2 Lethrinidae otoliths, 1 other otolith, pumice
<b>50.49.L384.FG82</b>								
17.9	1.4 (8%)	1.73	22.91	3.97	0.06	0.45	0.06	grape, 2 otoliths
<b>50.49.L384.FG83</b>								
7.95	0.9 (11%)	1.01	27.42	7.04	0.00	0.38	0.25	3 otoliths (Sciaenidae, Lethrinidae)
<b>50.49.L384.FG91</b>								
7.9	0.54 (7%)	3.54	42.78	20.38	0.25	0.00	68.73	6 Cichlidae otoliths
<b>50.49.L384.FG92</b>								
17.2	1.7 (10%)	1.40	31.22	5.47	0.35	0.35	0.12	Sciaenidae otolith
<b>50.49.L384.FG93</b>								
8.2	1.0 (12%)	1.71	27.93	3.05	0.24	0.12	0.12	Sciaenidae otolith
<b>50.49.L390.FG67</b>								
10.5	1.2 (11%)	4.00	39.24	6.29	0.19	0.67	0.10	grape, olive, legume, bronze pellet
<b>50.49.L390.FG70</b>								
7.2	1.2 (17%)	3.89	61.67	10.83	0.00	0.69	0.42	grape, olive, Sciaenidae otolith, shell-plaster
<b>50.49.L390.FG76</b>								
9.3	0.7 (8%)	1.61	82.15	12.37	0.00	0.65	0.43	grape, grain, olive, 2 bronze, iron, 2 Cichlidae otoliths, 3 Mugilidae otoliths, 5 other otoliths
<b>50.49.L390.FG77</b>								
10.7	1.03 (10%)	3.27	95.98	30.65	0.56	0.00	90.56	faience, 2 Cichlidae otoliths, 1 Lethrinidae otolith, 9 other otoliths, coral, reed-impressed clay, pumice
<b>50.49.L390.FG78</b>								
5.3	0.4 (8%)	1.13	89.43	17.36	0.19	0.19	0.57	grape, iron, otolith
<b>50.49.L390.FG80</b>								
6.1	1.8 (30%)	1.80	18.69	2.79	0.16	0.33	0.33	pumice
<b>50.49.L390.FG87</b>								
10.1	1.2 (12%)	2.97	47.03	0.99	0.30	0.10	0.10	1 Sciaenidae otolith, 4 Mugilidae otoliths, goose eggshell
<b>50.49.L390.FG89</b>								
2.3	0.21 (9%)	3.48	33.04	2.17	0.87	0.00	72.61	2 Lethrinidae otoliths, pumice

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.49.L392.FG4</b>								
10.1	1.1 (11%)	2.18	7.03	0.10	0.00	0.00	0.30	
<b>50.49.L392.FG5</b>								
9.3	1.1 (12%)	1.51	11.72	0.54	0.11	0.00	0.54	olive
<b>50.49.L392.FG6</b>								
7.3	0.9 (12%)	2.19	8.90	0.00	0.00	0.27	0.27	
<b>50.49.L392.FG14</b>								
17.3	1.9 (11%)	3.24	15.66	1.68	0.17	0.75	0.17	grape, iron, bronze pellet, goose eggshell
<b>50.49.L392.FG15</b>								
10.2	1.2 (12%)	0.78	12.55	0.39	0.10	0.10	0.29	bronze
<b>50.49.L392.FG16</b>								
9.2	1.2 (13%)	2.28	23.26	0.54	0.00	0.11	0.11	olive
<b>50.49.L392.FG17</b>								
8.7	0.9 (10%)	1.49	16.78	1.03	0.00	0.92	0.11	grape, bronze, otolith
<b>50.49.L392.FG25</b>								
9.8	1.2 (12%)	2.86	22.45	3.88	0.00	0.82	0.20	grape
<b>50.49.L392.FG35</b>								
9.3	1.1 (12%)	1.51	12.26	1.08	0.00	0.43	0.22	grape, bitumen
<b>50.49.L392.FG36</b>								
8.7	1.1 (13%)	1.72	15.40	1.84	0.34	0.69	0.11	grape, 2 otoliths
<b>50.49.L392.FG37</b>								
10.1	1.3 (13%)	2.18	10.10	0.20	0.10	0.30	0.20	shell-plaster
<b>50.49.L392.FG45</b>								
9.1	0.8 (9%)	2.86	27.58	4.18	0.11	0.33	0.88	grape, olive, bead, shell-plaster, 2 goose eggshell
<b>50.49.L392.FG46</b>								
8.9	1.0 (11%)	1.69	11.91	0.11	0.00	0.22	0.11	grape, iron, otolith, bitumen
<b>50.49.L401.FG6</b>								
4.9	0.28 (6%)	2.24	15.31	2.86	0.20	0.61	0.00	iron
<b>50.49.L401.FG25</b>								
4.5	0.24 (5%)	0.67	16.00	4.67	0.00	2.67	0.00	grape, otolith
<b>50.49.L401.FG26</b>								
4.9	0.17 (3%)	1.63	9.39	2.24	0.00	0.00	0.00	grape
<b>50.49.L401.FG36</b>								
2.7	0.12 (4%)	2.22	11.48	0.74	0.00	0.74	0.00	Sparidae jaw
<b>50.49.L401.FG37</b>								
12.4	0.91 (7%)	1.61	17.82	2.58	0.16	13.8	0.00	grape, otolith, 2 murex, possible flint tool
<b>50.49.L401.FG45</b>								
5.3	1.01 (19%)	7.74	80.00	34.72	1.13	1.70	0.00	2 bronze, grape, murex, 2 Sciaenidae otoliths, Sparidae jaw
<b>50.49.L401 B307</b>								
3.8	0.23 (6%)	2.11	6.05	1.05	0.00	0.00	0.00	
<b>50.49.LF406.FG14</b>								
2.0	0.2 (10%)	0.00	4.50	0.00	0.00	0.00	0.00	
<b>50.49.LF406.FG36</b>								
4.4	0.26 (6%)	2.27	32.95	52.73	0.23	0.00	77.95	bronze, 2 otolith, owl pellets with string
<b>50.49.L418.FG18</b>								
8.9	0.85 (10%)	3.48	36.63	2.36	0.00	0.00	0.00	grape, 3 Sparidae teeth
<b>50.49.L418.FG28</b>								
8.1	0.74 (9%)	1.60	11.23	1.73	0.12	0.12	0.00	bead, grape, murex, Sciaenidae otolith, 2 Sparidae teeth
<b>50.49.L418.FG29</b>								
9.1	1.1 (12%)	0.99	17.25	3.19	0.22	0.00	0.22	2 Sciaenidae otoliths
<b>50.49.L418.FG30</b>								
9.8	0.85 (9%)	1.94	24.39	2.24	0.10	0.41	0.00	iron pellet, 2 otolith, olive, 2 Sparidae jaws and teeth

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.49.L418.FG48</b>								
8.7	0.93 (11%)	2.87	20.00	2.87	0.11	0.69	0.00	grape, 2 otoliths
<b>50.49.L418.FG49</b>								
9.72	1.1 (11%)	1.44	15.33	1.44	0.10	0.72	0.00	grape
<b>50.49.L418.FG50</b>								
6.71	0.76 (11%)	3.58	76.45	21.01	0.15	0.45	0.00	bead, grape, olive, grain, slag, bitumen, Sparidae tooth, goose eggshell
<b>50.49.L419.FG7</b>								
6.6	0.64 (10%)	2.42	23.79	3.94	0.15	0.45	0.00	3 iron, clay seal, otolith
<b>50.49.L419.FG8</b>								
8.8	0.88 (10%)	1.82	25.00	5.68	0.00	0.34	0.00	grape, 2 Mugilidae otoliths, 2 Sparidae teeth, rodent jaw, goose eggshell
<b>50.49.L419.FG9</b>								
8.8	1.2 (14%)	2.39	28.98	3.07	0.00	0.11	0.00	grape, bead, 2 goose eggshell
<b>50.49.L420.FG22</b>								
7.5	0.7 (9%)	3.47	42.00	13.73	0.13	0.13	1.87	grape
<b>50.49.L420.FG32</b>								
10.2	1.1 (11%)	2.55	37.45	4.02	0.00	0.39	0.59	grape, bronze pellet, Sciaenidae otolith, Mugilidae otolith, 2 chicken eggshell, 3 goose eggshell
<b>50.49.L420.FG33</b>								
8.4	1.2 (14%)	3.21	45.83	7.98	0.00	0.24	1.43	grape, olive, bead, Sciaenidae otolith, chicken eggshell, goose eggshell
<b>50.49.L420.FG40</b>								
7.9	0.9 (11%)	4.05	42.66	3.16	0.13	0.13	0.89	charcoal, chicken eggshell, 2 goose eggshell
<b>50.49.L420.FG43</b>								
7.1	1.1 (15%)	4.08	46.76	8.59	0.00	0.14	2.68	grape, otolith, 2 chicken eggshell, 2 goose eggshell
<b>50.49.LF423.FG18</b>								
10.8	1.09 (10%)	4.81	17.41	3.43	0.00	0.09	0.00	Sparidae jaw and teeth
<b>50.49.LF423.FG19</b>								
11.1	1.95 (18%)	8.56	49.19	19.46	0.09	0.36	0.00	inscribed sherd, olive, grape, Sparidae jaw and teeth, rodent tooth, goose eggshell
<b>50.49.LF423.FG20</b>								
10.2	1.67 (16%)	6.18	66.08	27.84	0.29	0.59	0.00	clay seal, murex, grape, olive, 2 Sparidae teeth, goose eggshell
<b>50.49.LF423.FG28</b>								
7.7	1.5 (19%)	16.49	32.47	9.22	0.13	0.26	0.13	grape
<b>50.49.LF423.FG29</b>								
11.0	2.4 (22%)	19.73	52.91	32.91	0.00	0.36	0.27	grape, olive, bronze, slag, bone awl, black-painted left leg of figurine
<b>50.49.LF423.FG30</b>								
10.7	2.4 (22%)	16.07	44.11	14.86	0.09	0.47	0.28	grape, 2 beads, metal artifact in 56 frags.
<b>50.49.LF423.FG38</b>								
8.55	1.4 (16%)	4.21	37.43	7.13	0.23	0.12	0.00	bronze, slag, 2 murex, grape, olive, red ochre, 2 goose eggshell
<b>50.49.LF423.FG40</b>								
9.9	0.82 (8%)	4.04	44.65	21.41	0.20	0.00	0.00	olive, grape, 2 Sparidae jaws and teeth, 2 rodent jaws, chicken eggshell
<b>50.49.L425</b>								
9.2	1.0 (11%)	1.85	86.85	2.28	0.00	0.54	0.65	grape
<b>50.49.LF426.FG8</b>								
7.8	1.02 (13%)	2.95	21.03	2.95	0.00	0.38	0.00	6 iron, grain, grape, goose eggshell
<b>50.49.LF426.FG9</b>								
8.5	1.2 (14%)	2.94	18.59	1.53	0.00	0.35	0.00	grape

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.49.L436.FG17</b>								
8.83	1.0 (11%)	2.72	53.11	18.46	0.11	0.45	0.11	grape, grain, bead, bronze, Sciaenidae otolith, slag, goose eggshell
<b>50.49.L436.FG28</b>								
8.4	1.0 (12%)	5.12	40.71	5.83	0.12	0.12	0.48	grape, olive, legume, otolith, goose eggshell
<b>50.49.L436.FG29</b>								
18.8	2.0 (11%)	3.62	47.39	10.85	0.00	0.43	0.37	grape, olive, 2 beads, 2 bronze (pin), bronze pellet, iron, 1 Sciaenidae otolith, 3 Mugilidae otoliths, slag, impressed clay, 2 goose eggshell
<b>50.49.L436.FG38</b>								
20.9	1.2 (6%)	3.93	41.01	11.80	0.00	0.96	0.14	grape, grain, bead, bronze, iron, otolith, slag, bitumen, shell-plaster, goose eggshell
<b>50.49.L436.FG48</b>								
8.4	1.0 (12%)	3.10	40.24	11.07	0.00	0.36	0.24	grape, olive
<b>50.49.L437.FG16</b>								
9.6	1.45 (15%)	2.08	39.79	2.50	0.00	0.42	0.00	olive, grape, otolith, Sparidae jaw and teeth, rodent tooth, 3 goose eggshell
<b>50.49.L439.FG6</b>								
3.8	0.58 (15%)	3.42	31.32	3.16	0.00	0.79	0.00	grape, burnishing stone
<b>50.49.L439.FG15</b>								
6.6	0.94 (14%)	5.00	41.06	6.82	0.00	0.45	0.00	bead, olive, grape, Sparidae jaw and teeth, 2 goose eggshell
<b>50.49.L439.FG16</b>								
5.7	0.79 (14%)	5.79	50.00	14.56	0.35	0.00	0.00	grape, 2 Sciaenidae otoliths
<b>50.49.LF441.FG16</b>								
2.5	0.38 (15%)	14.40	44.00	22.40	0.00	0.40	0.00	grape, Sparidae jaw
<b>50.57.L196.FG35</b>								
25.2	7.0 (28%)	1.43	7.58	0.00	0.04	0.67	0.04	grape, otolith, green vitrified reed- and beam-impressed mudbrick, chicken eggshell
<b>50.57.L196.FG36</b>								
8.4	1.3 (15%)	1.55	14.40	1.19	0.12	0.95	0.00	grape, bronze pellet, 2 otoliths, plaster
<b>50.57.L196.FG44</b>								
8.1	0.93 (11%)	7.90	40.12	5.06	0.37	0.25	0.00	desiccated grape, legume, murex, bitumen, Sciaenidae otolith, Sparidae jaw and teeth
<b>50.57.L196.FG45</b>								
209.0	35.04 (17%)	0.63	2.63	0.03	0.01	0.29	0.02	olive, grape, bead, bronze, 4 iron, Sciaenidae otolith, murex, plaster, green vitrified reed- and beam-impressed brick, 2 goose eggshell
<b>50.57.L196.FG46</b>								
16.8	2.24 (13%)	2.68	14.76	0.77	0.06	1.31	0.00	olive, 2 beads, slag, grape, vitrified soil
<b>50.57.L196.FG54</b>								
7.8	1.01 (13%)	7.82	55.00	14.10	0.26	1.03	0.00	bead, 2 murex, grape, finger-impressed clay sealing, 3 Mugilidae otoliths
<b>50.57.L196.FG55</b>								
27.2	4.22 (16%)	3.01	20.22	0.74	0.26	0.88	0.04	grape, olive, otolith, 3 murex, oyster, phytoliths, orange fired reed-impressed mudbrick, 3 goose eggshell
<b>50.57.L206.FG10</b>								
7.7	1.2 (16%)	2.73	23.51	3.90	0.13	1.30	0.26	grain, bronze
<b>50.57.L206.FG18</b>								
22.1	2.2 (10%)	1.58	19.82	1.72	0.09	3.12	0.18	grape, otolith, bitumen
<b>50.57.L206.FG19</b>								
11.5	0.8 (7%)	1.13	18.70	0.96	0.43	0.35	0.00	grape, bronze pellet
<b>50.57.L206.FG20</b>								
24.5	2.6 (11%)	1.31	23.76	2.94	0.16	0.82	0.04	grape, 2 beads, 2 goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.57.L206.FG37</b>								
15.9	4.3 (27%)	2.01	15.66	0.50	0.06	0.69	0.06	grape, green vitrified reed- and beam-impressed mudbrick, chicken eggshell
<b>50.57.L206.FG38</b>								
51.7	9.9 (19%)	1.74	18.28	0.70	0.12	1.12	0.10	grape, olive, 2 beads, iron, bronze, otolith, slag pellets, orange fired reed-impressed mudbrick, phytoliths, chicken eggshell, 3 goose eggshell
<b>50.57.L206.FG39</b>								
34.6	5.1 (15%)	2.46	29.08	3.58	0.12	0.72	0.52	grape, olive, bead, 2 iron, 2 Sciaenidae otoliths, Cichlidae otolith, shell-plaster, bitumen, chicken eggshell, goose eggshell
<b>50.57.L206.FG40</b>								
95.5	10.05 (11%)	1.18	28.40	5.76	0.04	0.58	0.51	grape, grain, olive, 3 beads, iron, bitumen, clay impressed with organic material, shell-plaster, 3 Sciaenidae otoliths, 7 Cichlidae otoliths, 10 Mugilidae otoliths
<b>50.57.L206.FG47</b>								
21.0	6.9 (33%)	1.24	18.71	0.86	0.14	0.81	0.10	iron with wood, bronze pin, otolith, orange fired reed-impressed mudbrick, slag, chicken eggshell
<b>50.57.L206.FG48</b>								
171.0	25.89 (15%)	0.50	3.60	0.12	0.05	0.28	0.05	grape, 4 iron, 3 Sciaenidae otoliths, Lethrinidae otolith, orange fired reed- and beam-impressed brick, 2 chicken eggshell, goose eggshell
<b>50.57.L206.FG49</b>								
71.8	6.81 (9%)	1.11	16.14	1.02	0.10	0.91	0.07	grape, grain, Sciaenidae otolith, bitumen, clay impressed with organic material, fired mudbrick, stone flake, goose eggshell
<b>50.57.L206.FG50</b>								
139.0	22.98 (17%)	1.39	18.78	1.04	0.09	0.82	0.07	grape, grain, olive, legume, gold, bronze cuboid weight, bronze, iron, 2 Sciaenidae otoliths and 5 other otoliths, Sparidae jaw, murex, clay impressed with organic material, orange fired mudbrick, 4 goose eggshell
<b>50.57.L206.FG57</b>								
9.5	1.2 (13%)	1.58	22.74	0.00	0.11	0.32	0.21	grape, incised object
<b>50.57.L206.FG58</b>								
12.4	1.2 (10%)	0.65	20.73	0.73	0.08	0.48	0.24	goose eggshell
<b>50.57.L206.FG59</b>								
15.8	2.12 (13%)	1.27	26.46	3.86	0.06	0.38	0.00	grape, olive, iron
<b>50.57.L206.FG60</b>								
53.9	6.7 (12%)	1.15	21.15	5.32	0.06	0.35	0.35	grape, 3 iron, bronze, 3 Mugilidae otoliths, black and orange fired brick, formed clay
<b>50.57.L206.FG67</b>								
11.7	1.5 (13%)	1.37	20.43	1.20	0.00	0.94	0.00	grape, iron spike, otolith, orange fired mudbrick, goose eggshell
<b>50.57.L206.FG69</b>								
28.9	2.4 (8%)	1.04	32.11	1.70	0.14	0.45	0.07	grape, 3 iron, legume, shell bead, 3 Mugilidae otoliths, 5 Sparidae jaws and teeth, goose eggshell
<b>50.57.L206.FG70</b>								
88.7	9.8 (11%)	1.40	29.99	4.84	0.15	0.55	0.12	grape, grain, bead, lead object, 10 iron, bronze, 2 Sciaenidae otoliths, 3 Mugilidae otoliths, orange and black fired reed-impressed mudbrick

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.57.LF212.FG44</b>								
25.4	9.3 (37%)	1.50	4.92	0.00	0.00	0.24	0.16	grape, olive, dark fired brick, vitrified earth
<b>50.57.LF212.FG54</b>								
44.0	9.0 (20%)	1.32	3.32	0.00	0.00	0.07	0.11	Sciaenidae otolith
<b>50.57.L217.FG9</b>								
12.2	1.4 (11%)	1.39	13.36	1.56	0.00	0.98	0.16	
<b>50.57.L217.FG20</b>								
10.2	1.2 (12%)	1.57	44.71	21.08	0.00	0.49	0.10	grape
<b>50.57.LF221.FG48</b>								
10.2	3.2 (31%)	2.16	11.57	0.00	0.00	0.88	0.20	grape, iron object, dark fired beam-impressed mudbrick, black ash
<b>50.57.L256</b>								
0.1	0.1 (100%)	0.00	80.00	0.00	0.00	10.0	0.00	grape
<b>50.58.LF252.FG37</b>								
15.5	2.2 (14%)	3.29	57.62	17.12	0.00	1.68	1.68	grape, legume, bead, bronze, 2 Lethrinidae otoliths, twine imbedded in white plaster
<b>50.58.LF252.FG58</b>								
9.9	1.7 (17%)	4.65	40.00	10.71	0.10	0.40	0.51	grape, 2 iron pellets, Lethrinidae otolith
<b>50.58.LF260.FG66</b>								
8.7	1.42 (16%)	3.56	55.29	17.70	0.00	0.57	0.00	murex, olive, grape, 2 Sparidae jaws and teeth
<b>50.58.LF260.FG67</b>								
6.1	2.8 (46%)	2.95	23.93	2.95	0.00	0.16	0.16	grape, tabun fragments, 2 otoliths
<b>50.58.LF260.FG67 (jug contents)</b>								
0.6	0.1 (17%)	3.33	15.00	0.00	0.00	0.00	0.00	
<b>50.58.LF260.FG68</b>								
10.1	1.5 (15%)	5.25	51.98	5.84	0.00	0.40	0.50	grape, 2 bronze
<b>50.58.LF260.FG69</b>								
6.5	1.6 (25%)	8.77	67.54	4.46	0.15	0.00	2.00	grape, bronze pellet, Sciaenidae otolith, chicken eggshell, goose eggshell
<b>50.58.LF260.FG77</b>								
6.5	1.2 (18%)	4.31	35.54	4.31	0.00	0.00	1.23	grape, worked bone, iron, tabun frags., plaster, red ochre, goose eggshell
<b>50.58.LF260.FG78</b>								
7.6	2.1 (28%)	7.24	55.00	4.74	0.00	0.26	0.66	grape, 2 Sciaenidae otoliths and 1 other otolith, 2 chicken eggshell, 2 goose eggshell
<b>50.58.LF260.FG79</b>								
8.5	1.6 (19%)	8.24	36.82	4.24	0.00	0.24	1.18	grape, grain, legume, bronze, 2 Mugilidae otoliths, slag
<b>50.58.LF260.FG87</b>								
4.8	0.7 (15%)	4.17	31.88	7.92	0.21	0.21	1.46	otolith
<b>50.58.LF260.FG88</b>								
4.6	0.6 (13%)	1.52	24.57	2.39	0.00	0.00	0.22	grape
<b>50.58.LF260.FG89</b>								
7.1	1.0 (14%)	3.38	31.13	2.25	0.00	0.14	1.27	grape, Sciaenidae otolith
<b>50.58.LF260.FG97</b>								
5.5	0.6 (11%)	1.27	14.00	2.00	0.00	0.55	0.18	grape
<b>50.58.LF260.FG98</b>								
4.6	0.4 (9%)	0.87	11.52	2.83	0.00	0.00	0.43	grape
<b>50.58.LF260.FG99</b>								
5.2	1.0 (19%)	2.12	15.58	0.77	0.00	0.58	0.19	grape (desiccated), 2 iron, goose eggshell
<b>50.58.L262.FG13</b>								
3.8	0.35 (9%)	10.79	123.68	28.95	0.00	0.00	65.26	faience amulet, 3 otoliths
<b>50.58.L262.FG14</b>								
6.5	0.65 (10%)	3.85	42.46	8.15	0.00	1.23	0.00	bronze pellet, olive, Sparidae jaw and teeth, 2 goose eggshell
<b>50.58.L262.FG21</b>								
19.2	2.53 (13%)	1.82	20.68	3.23	0.05	1.25	0.00	Sciaenidae otolith, grape, grain, goose eggshell

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.58.L262.FG23</b>								
7.1	0.51 (7%)	5.21	61.69	4.08	0.14	0.00	121.4	10 otoliths (Cichlidae and Mugilidae), 2 chicken eggshell
<b>50.58.L262.FG24</b>								
49.1	4.59 (9%)	5.66	71.93	7.88	0.41	0.00	165.0	bronze weight, 2 stone weights, amber, iron, red ochre, plaster, 14 goose eggshell, 13 otoliths (Mugilidae, Sciaenidae, Cichlidae, Lethrinidae)
<b>50.58.L262.FG31</b>								
40.3	8.56 (21%)	1.74	34.04	2.58	0.07	0.52	0.40	olive, grain, bead, 4 iron, slag, murex, Sciaenidae otolith, Sparidae jaw and teeth, orange fired reed-impressed brick, much charcoal
<b>50.58.L262.FG33</b>								
21.3	1.75 (8%)	2.58	32.91	4.13	0.28	0.14	65.87	bead, 19 otoliths (5 Mugilidae, Sciaenidae, Lethrinidae), Sparidae jaw and teeth, chicken eggshell, 16 goose eggshell
<b>50.58.L262.FG34</b>								
63.7	6.43 (10%)	3.67	58.10	22.34	0.22	0.46	0.00	5 Sciaenidae otoliths, 3 Mugilidae otoliths, 2 beads, 19 bronze, 3 iron, clay sealing, grape, grain, olive, chicken eggshell, 6 goose eggshell
<b>50.58.L262.FG41</b>								
60.0	8.9 (15%)	2.42	22.53	2.97	0.08	0.52	0.12	grape, grain, bronze pellet, 3 Sciaenidae otoliths, orange fired beam-impressed mudbrick, goose eggshell
<b>50.58.L262.FG43</b>								
78.9	7.46 (9%)	3.16	41.88	3.47	0.16	0.20	0.00	69 bronze, 3 bronze pellet, 2 beads, grape, grain, olive, legume, 2 murex, bitumen, 2 Sciaenidae otoliths, 2 Mugilidae otoliths, 2 Sparidae jaws and teeth, 7 chicken eggshell, 11 goose eggshell
<b>50.58.L262.FG44</b>								
130.0	12.72 (10%)	2.22	48.19	11.18	0.08	0.30	0.00	bead, bronze ring, stone weight, 8 bronze pellets, 3 iron pellet, olive, grape, grain, legume, 16 otoliths (7 Sciaenidae, 2 Mugilidae, Cichlidae), 4 Sparidae jaws and teeth, 3 murex, 3 chicken eggshell, 14 goose eggshell
<b>50.58.L262.FG51</b>								
9.8	0.94 (10%)	3.16	15.00	0.71	0.00	0.31	0.00	murex, reed-impressed clay
<b>50.58.L262.FG53</b>								
54.3	5.26 (10%)	2.63	52.03	4.70	0.09	0.52	0.04	bronze, 4 iron, spike, 2 Mugilidae otoliths, Sciaenidae otolith, olive, grape, grain, coral (?), 2 goose eggshell
<b>50.58.L262.FG54</b>								
112.0	8.62 (8%)	3.92	35.03	10.46	0.09	0.30	0.03	2 beads, slag, clay seal, 6 murex, 11 otoliths (4 Sciaenidae, 2 Cichlidae, Mugilidae), 30 bronze, 4 iron, grape, olive, legume, grain, Sparidae jaw, 2 chicken eggshell, 21 goose eggshell
<b>50.58.LF267.FG44</b>								
996.0	72.9 (7%)	1.92	25.37	4.32	0.03	0.11	0.22	grape, olive, grain, legume, bulla, bird figurine, lead weight, grindstone fragment, 12 beads, bronze earring, bone spatula, 2 ceramic stoppers, 30 bronze pellets, 19 iron, 79 otoliths (27 Sciaenidae, 32 Mugilidae, 6 Cichlidae, 6 Lethrinidae), 2 faience sherds, 2 bichrome sherds, string-impressed clay, 3 slag, red ochre, bitumen, 2 chicken eggshell, 27 goose eggshell
<b>50.58.LF268.FG34</b>								
436.0	26.87 (6%)	1.66	28.42	7.73	0.07	0.09	0.13	grape, grain, olive, legume, bead, bronze pin, 6 bronze pellets, 2 iron, 4 slag, 23 otoliths (8 Sciaenidae, 10 Mugilidae, 3 Cichlidae, Lethrinidae), 9 Sparidae jaws and teeth, 2 murex, shell-plaster, 4 chicken eggshell, 14 goose eggshell
<b>50.58.LF273.FG35</b>								
4.4	0.11 (3%)	0.68	7.73	0.45	0.00	0.23	0.00	

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.58.LF276.FG77</b>								
10.8	0.5 (5%)	0.83	88.89	6.57	0.00	0.00	0.28	grape, 4 bronze pellets, iron, 3 Sciaenidae otoliths
<b>50.58.LF276.FG78</b>								
10.1	0.9 (9%)	2.38	59.60	3.17	0.00	0.10	0.10	grape, legume, bronze, 3 iron
<b>50.58.LF276.FG98</b>								
8.5	0.14 (2%)	0.47	105.41	11.06	0.00	0.24	0.00	8 iron, 3 Mugilidae otoliths, grape, legume, olive
<b>50.58.LF276.FG99</b>								
7.8	0.5 (6%)	4.49	152.44	55.77	0.00	0.51	0.26	grain, grape, olive, bead, 4 Mugilidae otoliths, goose eggshell
<b>50.58.L279.FG39</b>								
8.9	1.0 (11%)	4.49	90.90	23.26	0.00	0.22	0.00	grape, bronze, Sciaenidae otolith, wadi pebble
<b>50.58.L290.FG49</b>								
8.0	0.6 (8%)	3.75	56.75	12.63	0.00	0.13	0.25	grape, pumice
<b>50.58.L290.FG60</b>								
9.1	0.9 (10%)	1.54	10.33	0.77	0.00	0.11	0.11	grape, olive, pumice
<b>50.58.L290.FG69</b>								
8.2	0.7 (9%)	0.73	5.12	0.12	0.12	0.12	0.00	grape, pumice
<b>50.58.L290.FG70</b>								
8.5	0.7 (8%)	2.12	14.12	0.35	0.00	0.00	0.00	grape, Sciaenidae otolith
<b>50.58.L290.FG79</b>								
15.6	1.6 (10%)	1.54	12.69	1.35	0.06	0.13	0.06	grape, 2 Sciaenidae otoliths, bitumen
<b>50.58.L290.FG89</b>								
10.4	0.7 (7%)	0.67	8.75	1.15	0.19	0.19	0.10	grape, shell-plaster
<b>50.58.L290.FG99</b>								
8.3	0.76 (9%)	1.93	8.19	3.49	0.12	0.24	0.00	
<b>50.58.L291.FG27</b>								
7.3	0.58 (8%)	2.05	68.90	18.22	0.14	0.14	0.00	iron, 2 bronze, 2 otoliths, grape, Sparidae jaw and teeth
<b>50.58.L291.FG37</b>								
8.2	1.5 (18%)	8.29	186.95	23.41	0.00	0.37	0.24	grape, 2 Sciaenidae otoliths, chicken eggshell, goose eggshell
<b>50.58.L291.FG47</b>								
7.0	1.3 (19%)	9.14	154.57	31.57	0.29	0.14	0.43	grape, grain, iron
<b>50.58.L291.FG57</b>								
10.4	2.9 (28%)	9.42	170.96	45.38	0.19	0.00	0.48	grape, grain, bronze pellet, 3 Sciaenidae otoliths, 2 Cichlidae otoliths, 3 Mugilidae
<b>50.58.L291.FG58</b>								
9.6	0.88 (9%)	5.42	211.15	51.77	0.10	0.21	0.00	murex, olive, grape, grain, 8 Sparidae jaws and teeth, 5 otoliths (3 Sciaenidae), goose eggshell
<b>50.58.L291.FG59</b>								
9.5	0.7 (7%)	1.05	11.26	0.00	0.00	0.00	0.42	bronze
<b>50.58.L291.FG68</b>								
8.0	0.8 (10%)	1.50	20.75	0.50	0.25	0.13	0.25	otolith, goose eggshell
<b>50.58.L291.FG78</b>								
7.8	1.0 (13%)	1.15	31.41	0.51	0.13	0.26	0.64	grape, murex, iron, <i>Glycymeris violascens</i> seashells, many <i>Tellina donacina</i> clamshells
<b>50.58.L291.FG87</b>								
7.8	0.32 (4%)	4.87	68.46	18.97	0.13	0.26	0.00	bead, 2 bronze, iron, 2 Mugilidae otoliths, grape, grain
<b>50.58.LF307.FG88</b>								
7.3	1.0 (14%)	2.05	10.68	0.55	0.00	0.00	0.00	
<b>50.58.LF307.FG89</b>								
4.9	0.27 (6%)	5.10	97.96	3.88	0.20	0.00	61.63	4 otoliths (Lethrinidae, Mugilidae)

Table 26.8: Contents of Soil Samples in the Grid 38 Winery and Grid 50 Marketplace *continued*

<i>Gross Wt. in kg</i>	<i>Heavy Frac. kg (%)</i>	<i>Sherds per kg</i>	<i>Bones per kg</i>	<i>Scales per kg</i>	<i>Flint per kg</i>	<i>Snails per kg</i>	<i>Shells per kg</i>	<i>Other finds</i>
<b>50.58.LF307.FG97</b>								
11.3	0.66 (6%)	3.89	92.21	9.82	0.27	0.00	73.19	2 Mugilidae otoliths, iron, reed-impressed clay, coprolites (?)
<b>50.58.LF307.FG98</b>								
11.6	1.0 (9%)	4.57	28.28	0.52	0.17	0.17	0.00	grape, legume, goose eggshell
<b>50.58.LF307.FG99</b>								
10.7	0.77 (7%)	5.89	84.30	8.50	0.09	0.19	0.00	iron, murex, 4 otoliths (2 Mugilidae), olive, grape, legume, grain, 2 Sparidae jaws and teeth
<b>50.58.L313.FG41</b>								
11.8	1.98 (17%)	0.85	15.34	0.59	0.00	0.51	0.00	bead, grain, 2 rodent teeth
<b>50.58.L313.FG42</b>								
2.21	0.25 (11%)	0.90	16.74	0.00	0.00	0.45	0.00	bronze, grape, olive
<b>50.58.L313.FG51</b>								
10.2	1.07 (10%)	0.98	8.33	2.06	0.29	0.20	0.00	3 otoliths (Cichlidae, Mugilidae), murex, grape, rodent tooth, goose eggshell
<b>50.58.LF314.FG41</b>								
13.0	1.44 (11%)	1.39	13.72	1.70	0.00	0.69	0.00	finger-impressed clay, olive, grape, otolith, Sparidae jaw and teeth
<b>50.58.LF314.FG51</b>								
1.0	0.11 (11%)	2.00	4.00	1.00	0.00	1.00	0.00	
<b>50.59.LF393.FG71</b>								
6.7	0.4 (6%)	0.60	2.54	0.60	0.00	0.00	0.00	
<b>50.59.LF393.FG72</b>								
9.9	1.7 (17%)	6.97	31.82	5.35	0.30	0.00	0.20	grape, bead, iron, Mugilidae otolith, bitumen
<b>50.59.LF393.FG73</b>								
7.5	0.55 (7%)	4.67	36.40	19.20	0.00	0.00	103.0	iron, Lethrinidae otolith, 4 goose eggshell
<b>50.59.LF393.FG81</b>								
8.6	2.6 (30%)	11.16	47.44	6.51	0.12	0.35	6.28	grape, iron, slag, bitumen, goose eggshell
<b>50.59.LF393.FG82</b>								
9.5	1.1 (12%)	6.95	26.21	3.16	0.21	0.32	0.00	grape, goose eggshell
<b>50.59.LF393.FG83</b>								
7.9	0.75 (9%)	4.94	47.59	37.85	0.25	0.00	99.87	iron, slag, 4 otoliths
<b>50.59.LF406.FG93</b>								
6.6	0.72 (11%)	3.94	22.88	4.70	0.00	0.00	73.33	2 otoliths, bitumen, pumice
<b>50.59.LF406.FG94</b>								
7.0	0.62 (9%)	2.43	46.43	9.86	0.00	0.00	47.86	slag, chicken eggshell, goose eggshell
<b>50.59.LF406.FG95</b>								
7.0	0.8 (11%)	7.29	49.29	10.71	0.43	0.00	170.4	otolith, pumice, plaster, chicken eggshell, goose eggshell
<b>50.59.LF406.FG96</b>								
7.3	0.38 (5%)	3.01	28.63	4.38	0.68	0.00	47.67	iron, 8 Sciaenidae otoliths
<b>50.59.L414.FG91</b>								
7.2	0.5 (7%)	3.75	15.56	2.50	0.00	0.00	92.08	4 otoliths (2 Sciaenidae), pumice
<b>50.59.L414.FG92</b>								
6.1	0.31 (5%)	4.10	15.57	1.31	0.00	0.00	59.34	5 otoliths (Sciaenidae, Mugilidae)
<b>50.59.LF442.FG89</b>								
10.0	0.53 (5%)	4.40	85.30	59.40	0.40	0.00	55.50	2 beads, 8 otoliths (2 Lethrinidae), red ochre
<b>50.59.LF442.FG90</b>								
10.5	0.64 (6%)	4.86	152.19	80.57	0.00	0.00	64.76	bead, 31 otoliths (7 Mugilidae, 2 Cichlidae, 2 Lethrinidae, 3 Sciaenidae)
<b>50.59.LF447.FG89</b>								
8.2	0.45 (5%)	3.05	192.07	195.0	0.49	0.00	64.15	35 otoliths (3 Mugilidae, 4 Sciaenidae, 2 Lethrinidae), red ochre

### Appendix 1: Floor Profiles in the Grid 38 Excavation Area

**Building 776 Room 739** (63.F28, 63.LF737, 63.LF739, 64.LF784, 73.LF380, 73.LF394) ♦ Three samples were collected from occupational debris **63.F28**, weighing 47.4 kg. The heavy fraction weighed 0.45 kg (0.9% of the gross weight), averaging 0.06 kg per sample. Finds included fungus fibers in Fine-grids 30 and 40, perhaps indicating a mat that precluded activities in that area, and a bead in Fine-grid 50. ♦ One sample was collected from ash pit **63.LF737** (cut into **63.L733**), weighing 11.2 kg. The heavy fraction weighed 0.75 kg (7% of the gross weight). Finds included one Sciaenidae otolith, two rodent jaws, and teeth. ♦ Five samples were collected from beaten-earth floor **63.LF739** (equal to **64.LF784**), weighing 41 kg. The heavy fraction weighed 2.02 kg (5% of the gross weight), averaging 0.4 kg per sample. Finds included six bronze pellets, bitumen, one Sciaenidae otolith, a rodent jaw, teeth, and grape remains. ♦ Two samples were collected from beaten-earth floor **64.LF784**, weighing 17.2 kg. The heavy fraction weighed 0.73 kg (4% of the gross weight), averaging 0.37 kg per sample. Finds included two bronze pellets, four iron fragments, three Sparidae teeth, and fragments of shell and lime plaster. ♦ Eight samples were collected from **73.LF380** (occupational debris on floor **73.LF394**), weighing 68 kg. The heavy fraction weighed 5.2 kg (8% of the gross weight), averaging 0.65 kg per sample. Finds included two clay sealings, which had been folded and finger-impressed around a string but contained no seal impression, one bronze fragment, two iron pellets, two murex shells (Abbott 1985:20, 73), bitumen, three otoliths (of which two were Mugilidae, one of them damaged and worn), six Sparidae teeth and one Sparidae jawbone, a rodent tooth, and remains of grain, olives, grapes, legumes, and a botanical species that could not be identified. ♦ Eight samples were collected in seven fine-grid squares from beaten-earth floor **73.LF394**, weighing 66 kg. The heavy fraction weighed 6.2 kg (9% of the gross weight), averaging 0.78 kg per sample. Finds included one finger-impressed clay sealing without a seal impression in Fine-grid 8, one bead, four bronze pellets, one murex shell, six otoliths (of which three were Sciaenidae otoliths, one was a damaged Cichlidae otolith, and one was a damaged Mugilidae otolith), two Sparidae jaws and six Sparidae teeth, one rodent tooth, and remains of olives and desiccated grapes.

**Discussion**—The entire heavy fraction was relatively small, although the southern layers tended to be heavier. There was scant evidence in this area of a roof collapse or destruction. The number of sherds in **73.LF394** was medium, clustering in the southern three fine-grid squares, along with bones and fish scales. The number of bones was relatively small, the number of fish scales medium in **73.LF394**. Snails showed interest in the ash pit **63.LF737** and in occupational debris **73.LF380**, particularly Fine-grid 28. No snails were processed from **63.F28**.

**Building 776 Rooms 780 and 801** (64.L61, 64.L67, 64.F68, 64.F71, 64.F72, 64.LF780, 64.LF785, 64.LF801, 64.LF802, 64.LF806, 64.LF797, 64.LF799, 65.L1) ♦ Beginning with the layers north of the architecture, one sample was collected from beaten-earth floor **64.F72**, weighing 0.9 kg. The heavy fraction weighed 0.03 (3% of the gross weight). Eggshell found on this floor was not measured or counted. ♦ One sample was collected from lime floor **64.F71**, weighing 2.9 kg. The heavy fraction weighed 0.18 kg (6% of the gross weight). ♦ One sample was collected from beaten-earth floor **64.F68**, weighing 2.5 kg. The heavy fraction weighed 0.13 kg (5% of the gross weight). ♦ One sample was collected from destruction debris **64.L61**, weighing 24.9 kg. The heavy fraction weighed 2.26 kg (9% of the gross weight). Finds included bitumen and plaster; the eggshell found in this layer was not measured or counted. ♦ One sample was collected from destruction debris **64.L67**, weighing 1.35 kg. The heavy fraction weighed 0.07 kg (5% of the gross weight). ♦ One sample was collected from destruction debris (lying in an alley) **65.L1**, weighing 23 kg. The heavy fraction weighed 2.31 kg (10% of the gross weight). Finds included one bead and four metal fragments. ♦ One sample was collected from beaten-earth floor **64.LF780** (located in a middle room), weighing 10.8 kg. The heavy fraction weighed 1.72 kg (16% of the gross weight). Finds included slag, and a Sparidae jawbone. ♦ Three samples were collected from beaten-earth floor **64.LF806**, weighing 42.45 kg. The heavy fraction weighed 3.18 kg (7% of the gross weight), averaging 1.06 kg per sample. Finds included one iron and one bronze pellet, four eggshell fragments ranging in thickness from 0.52 to 0.68 mm (from geese; cf. Sidell 1993:13), one Sciaenidae otolith, many whole seashells from *Glycymeris violascens* in Fine-grid 77 (also called *insubrica* [Bar-Yosef Mayer 2006:715]), orange fired-brick fragments, and remains of grapes and legumes. ♦ Five samples were collected from beaten-earth floor **64.LF802**, weighing 45.6 kg. The heavy fraction weighed 2.07 kg (5% of the gross weight), averaging 0.4 kg per sample. Finds included three eggshell fragments ranging in thickness from 0.59 to 0.7 mm (from geese), two murex shells, one damaged Mugilidae otolith, and remains of olives, grapes, and legumes. ♦ Five samples were collected from beaten-earth floor **64.LF801**, weighing 72.35 kg. The heavy fraction weighed 5 kg (7% of the gross weight), averaging 1 kg per sample. Finds included two beads, 15 grams of twisted lead, one bronze pellet, nine eggshell fragments ranging in thickness from 0.31 to 0.72 mm (one fragment from a chicken and all others from geese), one murex shell, two otoliths (one of which was a Sciaenidae otolith), many *Glycymeris violascens* seashells in Fine-grid 87, one rodent tooth and one rodent jaw, and remains of grain, olives, grapes, and legumes. ♦ Six samples were collected from silt layer **64.LF785**, weighing 186.05 kg. The heavy fraction weighed 11.17 kg (6% of the gross weight), averaging 1.86 kg per sample. Finds included a bone palette, a basalt quern fragment, a bronze fragment, two iron fragments, 16 eggshell fragments ranging in thickness from 0.28 to 0.67 mm (of which two were from chickens and all others from geese), three murex shells, one cowrie shell (Abbott 1985:56–59), one rodent jaw and four rodent teeth, five otoliths (of which one was a damaged Sciaenidae otolith and one was a Mugilidae otolith), one Sparidae jawbone, two bird leg bones, plaster, and remains of grain, olives, grapes, and legumes. ♦ One sample was collected from beaten-earth floor **64.LF799**, weighing 6.4 kg. The heavy fraction weighed 0.42 (7% of the gross weight). Finds included one rodent jaw and grape remains. ♦ Two samples were collected from beaten-earth floor **64.LF797**, weighing 10.34 kg. The heavy fraction weighed 0.74 kg (7% of

the gross weight), averaging 0.37 kg per sample. Finds included a seal impression, two beads, five Sparidae teeth, and one Sciaenidae otolith.

**Discussion**—Most of the layers in this area contained a relatively large number of sherds, reaching a climax in destruction debris **64.L61** at 18 sherds per kg of soil, all the more impressive since this is an average in a gross weight of almost 25 kg. Most of the sherds must have been quite small, probably trampled, since they did not appreciably affect the heavy fraction. The largest accumulation of bones and fish scales came from beaten-earth floor **64.F72**. No snails were processed from any of the layers north of the architecture.

**Building 776 Rooms 420, 460, and 492** (74.L426.F420, 74.LF429, 74.LF460, 74.L482, 74.LF492, 84.LF280, 84.LF298, 84.L308) ♦ One sample was collected from wine press **74.L426.F420**, weighing 3.8 kg. The heavy fraction weighed 0.5 kg (13% of the gross weight). Finds included orange fired-brick and grape remains. ♦ Five samples were collected from shell floor **74.LF492**, weighing 40.2 kg. The heavy fraction weighed 5.52 (14% of the gross weight), averaging 1.1 kg per sample. Finds included one lead fragment, one bead, one ceramic weight, four eggshell fragments ranging in thickness from 0.30 to 0.33 mm (well within the range of chicken eggs), two Sparidae teeth and five Sparidae jawbones, one rodent tooth, and fungus fibers from Fine-grid 93. ♦ Four samples were collected from destruction debris **74.LF429**, weighing 75.6 kg. The heavy fraction weighed 5.46 kg (7% of the gross weight), averaging 1.37 kg per sample. Finds included one bead, one bronze fragment, five eggshell fragments ranging in thickness from 0.3 to 0.7 mm in thickness (of which one was from a chicken and all others were from geese), two slag fragments, one murex shell, three Sparidae teeth and two Sparidae jawbones, four rodent teeth, and remains of grain, olives, grapes, and legumes. ♦ Two samples were collected from mudbrick collapse **84.L308**, weighing 19.6 kg. The heavy fraction weighed 2.8 kg (14% of the gross weight), averaging 1.4 kg per sample. Finds included one eggshell fragment 0.72 mm thick (from a goose) and one Sciaenidae otolith. ♦ One sample was collected from beaten-earth floor **84.LF298**, weighing 8.4 kg. The heavy fraction weighed 0.66 kg (8% of the gross weight). Finds included two Sparidae teeth. ♦ Three samples were collected from destruction debris **84.LF280**, weighing 37.05 kg. The heavy fraction weighed 3.16 kg (9% of the gross weight), averaging 1.05 kg per sample. Finds included a clay sealing, a carved bone with a plugged hole, one iron fragment, one eggshell fragment 0.63 mm thick (from a goose), two Sparidae jawbones and Sparidae teeth, one rodent tooth, and remains of grain, grapes, and an uncommon amount of legumes in Fine-grids 2 and 3. ♦ Eight samples were collected from beaten-earth floor **74.LF460**, weighing 90.1 kg. The heavy fraction weighed 9.74 kg (11% of the gross weight), averaging 1.2 kg per sample. Finds included one bead, five iron fragments, one bronze fragment, 27 eggshell fragments (of which eight were within the range of chicken eggshell and the rest were from geese), one murex shell, two slag fragments, one astragalus, what might be a pig toe, two otoliths (of which one was a Cichlidae otolith), thirteen Sparidae teeth, one rodent tooth, orange fired brick, and remains of olives and grapes. ♦ One sample was collected from bricky fill **74.L482**, weighing 9.1 kg. The heavy fraction weighed 1 kg (11% of the gross weight). Finds included one eggshell fragment 0.67 mm thick (from a goose).

**Discussion**—The heaviest concentration of potsherds occurred in beaten-earth floor **74.LF460**, particularly Fine-grids 90 and 100. The largest number of bones was also clustered in the same locus, in Fine-grids 60, 70, 90, and 100, as were the flint chips. These distributions raise a suspicion that the heavy concentrations are in the alley, and should be separated from the western part of the floor. Fish scales are all but absent in this area. Snails were more numerous than average at 2.6 per kg of soil in wine press **74.L426.F420**, where they most likely found some algae to feed on. No snails were processed in Fine-grids 58, 89, 90, 99, and 100 of **74.LF460**.

**Building 776 Room 342** (83.L320, 83.LF342, 83.LF343, 83.LF345, 83.LF346) ♦ Three samples were taken from shell layer **83.LF345** (part of floor **83.LF342**), weighing 66.25 kg. The heavy fraction weighed 5.5 kg (8% of the gross weight), averaging 1.8 kg per sample. Finds included one Sciaenidae otolith and remains of grain and grapes. ♦ Two samples were taken from technical surface **83.LF343** (part of floor **83.LF342**), weighing 16.1 kg. The heavy fraction weighed 0.73 kg (5% of the gross weight), averaging 0.37 kg per sample. Finds included one Cichlidae otolith, one damaged Mugilidae otolith, and remains of grapes and olives. ♦ Five samples were taken from beaten-earth floor **83.LF342**, weighing 49.2 kg. The heavy fraction weighed 3.1 kg (6% of the gross weight), averaging 0.62 kg per sample. Finds included two beads, seven iron fragments, one bronze pellet, three eggshell fragments ranging in thickness from 0.61 to 0.67 mm (from geese), one Cichlidae otolith, two Mugilidae otoliths (one of them damaged), and remains of grapes and olives. ♦ Three samples were taken from destruction debris **83.L320**, weighing 91.7 kg. The heavy fraction weighed 20.7 kg (23% of the gross weight), averaging 6.9 kg per sample. Finds included one bead, two eggshell fragments ranging in thickness from 0.23 to 0.59 mm (of which one was well within the range of chicken eggshell thickness and one was from a goose), two otoliths (of which one was a Sciaenidae otolith and one was a Lethrinidae otolith), shell-plaster, dark fired beam- and reed-impressed brick, a scatter of charcoal with loom weights marking the location of a loom, and grape remains. ♦ Two samples were taken from robber trench **83.LF346**, weighing 23 kg. The heavy fraction weighed 4.6 kg (20% of the gross weight), averaging 2.3 kg per sample. Finds included one eggshell fragment 0.3 mm thick (well within the range of chicken eggshell thickness), dark fired-brick fragments, and remains of grain and grapes (including desiccated grapes).

**Discussion**—The greatest heavy fractions were found in destruction debris **83.L320**, particularly in Fine-grid 59 at 41% of the gross weight, and in robber trench **83.LF346**. The destruction debris contained fired-mudbrick fragments and the robber trench was weighed down by sherds. These are also the two layers with the greatest concentrations of snails.

**Building 776 Rooms 312 and 413** (84.L295, 84.L297, 84.L299, 84.LF312, 84.LF383, 84.L386, 84.LF413) ♦ Six samples were collected from beaten-earth floor **84.LF312**, weighing 65.7 kg. The heavy fraction weighed 6.04 kg (9% of the gross weight), averaging 1 kg per sample. Finds included one iron fragment, two eggshell fragments ranging in thickness from 0.55 to 0.57 (from geese), shell-plaster, one otolith, a large number of fish vertebrae in Fine-grid 55, and grape remains. ♦ Eight samples were collected from destruction debris **84.L299**, weighing 100.55 kg. The heavy fraction weighed 14.23 kg (14% of the gross weight), averaging 1.8 kg per sample. Finds included a gold fragment, a frit eye of Horus, one bronze fragment, three eggshell fragments ranging in thickness from 0.62 to 0.65 mm (from geese), four otoliths (of which one was a Mugilidae otolith), plaster with very little shell in it, beam-impressed orange and black fired bricks, black ash, phytoliths, slag, and remains of grain and grapes. ♦ One sample was collected from destruction debris **84.L386**, weighing 9.1 kg. The heavy fraction weighed 1.7 kg (19% of the gross weight). Finds included beam-impressed orange fired-brick fragments and phytoliths (during excavation several bronze situlae were found in this layer). ♦ Five samples were collected from beaten-earth floor **84.LF413** (of which one was located in Fine-grid 23, too far away from the proper location to be correct; it is included here), weighing 81.1 kg. The heavy fraction weighed 2.9 kg (4% of the gross weight), averaging 0.58 kg per sample. Finds included one iron fragment, two eggshell fragments ranging in thickness from 0.6 to 0.63 mm (from geese), one Sciaenidae otolith, and grape remains. ♦ One sample was taken from destruction debris **84.L295**, weighing 19.1 kg. The heavy fraction weighed 2 kg (10% of the gross weight). Finds included one iron fragment, orange and dark fired brick fragments, and grape remains. One sample was taken from destruction debris **84.L297**, weighing 11.2 kg. The heavy fraction weighed 0.89 kg (8% of the gross weight). Finds included one murex shell, one Sciaenidae otolith, and olive remains. ♦ One sample was taken from destruction debris **84.LF383**, weighing 1.1 kg. The heavy fraction weighed 0.5 kg (45% of the gross weight; note the very small sample). Finds included remains of grain.

**Discussion**—The more substantial heavy fractions in **84.L295**, **84.L299**, and **84.L386** were all from destruction debris, in which fired brick fragments weigh down the heavy fraction. The highest concentration of bone was in beaten-earth floor **84.LF312**, in Fine-grid 55, at 156.3 bones per kg of soil, impressive with a gross weight of 12 kg. All of the other categories, fish scales, sherds, flint chips, and snails were also relatively abundant in this fine-grid square. This may have resulted from sweeping into a pile against the wall.

**Building 776 Rooms 210 and 299** (93.LF159, 94.L206, 94.L207, 94.LF209, 94.LF210, 94.L231, 94.L243, 94.L252, 94.L255, 94.L272, 94.L296) ♦ Two samples were collected from destruction debris **94.L243**, weighing 13.8 kg. The heavy fraction weighed 3.6 kg (26% of the gross weight), averaging 1.8 kg per sample. Finds included two Cichlidae otoliths and grape remains. ♦ One sample was collected from destruction debris **94.L255**, weighing 0.7 kg. The heavy fraction weighed 0.2 kg (29% of the gross weight). Finds included one otolith, burned bone, and grape remains. Four samples were collected from brick detritus **94.L231**, weighing 39.1 kg. The heavy fraction weighed 5.4 kg (14% of the gross weight), averaging 1.35 kg per sample. Finds included three eggshell fragments ranging in thickness from 0.33 to 0.73 mm (of which one was well within the range of chicken eggshell thickness and the others were from geese), bitumen, orange fired reed-impressed brick, and grape remains. ♦ One sample was collected from beaten-earth floor **94.LF272**, weighing 4.42 kg. The heavy fraction weighed 0.5 kg (11% of the gross weight). Finds included one eggshell fragment, which was 0.6 mm thick (from a goose), one Sciaenidae otolith, and grape remains. ♦ Three samples were collected from beaten-earth floor **93.LF159**, weighing 19.75 kg. The heavy fraction weighed 2.6 kg (13% of the gross weight), averaging 0.87 kg per sample. Finds included one eggshell fragment 0.61 mm thick (from a goose), one iron fragment, bronze slag, one otolith, black ash, and remains of grain, olives, grapes, and legumes. ♦ Six samples were collected from beaten-earth floor **94.LF210**, weighing 169.7 kg. The heavy fraction weighed 21.7 kg (13% of the gross weight), averaging 3.6 kg per sample. Finds included a figurine leg, a bone object, one bead, two iron fragments, one lead fragment, eight eggshell fragments ranging in thickness from 0.31 to 0.69 mm (of which one was from a chicken and the rest were from geese), eight otoliths (of which one was a Sciaenidae otolith, two were Cichlidae otoliths, and five were Mugilidae otoliths of which one was damaged), orange fired reed-impressed bricks, phytoliths, dark ash, and remains of grain, olives, grapes (including desiccated grapes), and legumes. ♦ Three samples were collected from destruction debris **94.L207**, weighing 61.63 kg. The heavy fraction weighed 11 kg (18% of the gross weight), averaging 3.67 kg per sample. Finds included two eggshell fragments ranging in size from 0.59 to 0.74 mm (from geese), one Sciaenidae otolith, orange fired reed- and beam-impressed brick, shell-plaster, and desiccated grape remains. ♦ One sample was taken from destruction debris **94.L252**, weighing 7.5 kg. The heavy fraction weighed 0.42 kg (5.6% of the gross weight). Finds included three iron fragments, two *Glycymeris violascens* seashells, and grape remains. ♦ Seven samples were collected from destruction debris **94.L296**, weighing 45.04 kg. The heavy fraction weighed 5.1 kg (11% of the gross weight), averaging 0.73 kg per sample. Finds included a lead fragment (probably from a net weight), orange fired brick, and remains of grain, grapes, and legumes. ♦ Six samples were collected from beaten-earth floor **94.LF209**, weighing 108.5 kg. The heavy fraction weighed 9.7 kg (9% of the gross weight), averaging 1.6 kg per sample. Finds included two iron fragments, 19 eggshell fragments ranging in thickness from 0.22 to 0.77 mm (of which one was in the lower range of chicken eggshell and the rest were from geese), bitumen, four otoliths (of which one was a damaged Sciaenidae otolith and two were Cichlidae, one damaged), and grape remains. ♦ Eight samples were collected from destruction debris **94.L206**, weighing 66.8 kg. The heavy fraction weighed 11.3 kg (17% of the gross weight), averaging 1.4 kg per sample. Finds included one scarab, one blue bead, 15 iron slag fragments, seven eggshell fragments ranging in thickness from 0.34 to 0.78 mm (of which one was from a chicken and the rest were from geese), a substantial amount of red ochre, bitumen, dark ash, six otoliths (of which two were Sciaenidae and three Mugilidae), plaster with a potsherd temper (no shell), and remains of grain, olives, grapes, and legumes.

**Discussion**—Most of the layers in the southern section of **Building 776** had substantial heavy fractions, especially **94.L243** and **94.L255**. The destruction debris in this area seems to have been quite heavy. The number of potsherds in **94.L206** was unusually large: in Fine-grid 4 there were 13.3 potsherds per kg of soil, in Fine-grid 13 there were 33.5 per kg, in Fine-grid 14 there were 22.4 per kg, in Fine-grid 15 were 19.1 per kg, and in Fine-grid 24 were 43.5 potsherds per kg of soil. In **94.LF210** in Fine-grid 22 were 13 potsherds per kg of soil. Bones were similarly clustered in **94.L206**, in Fine-grid 3 at 296.77, in Fine-grid 4 at 108.25, and in Fine-grid 13 at 88.58 bones per kg of soil. In **94.L255** bones registered at 467.14 per kg of soil (since the gross weight was less than a kg at 0.7, the actual number of bones collected was 327). Fish scales tended to cluster in the same place as bones, and were barely noticeable elsewhere. In **94.L206** in Fine-grid 3 snails registered at 1.29 per kg of soil, and in **94.L255** at 2.86 per kg of soil.

**Alley east of Building 776** (74.LF493, 74.LF509, 84.L371, 84.LF412, 94.LF298) ♦ Six samples were collected from beaten-earth alley surface **74.LF493**, weighing 87.55 kg. The heavy fraction weighed 9.9 kg (11% of the gross weight), averaging 1.65 kg per sample. Finds included eight iron fragments, 23 eggshell fragments ranging in thickness from 0.26 to 0.73 mm (of which eight were from chicken eggs and the rest were from geese), fungus fibers in Fine-grids 80 and 90 (possibly indicating a mat or rug abandoned a short distance from its original place in the doorway into **Building 776**), bitumen, shell-plaster, one Sciaenidae otolith, and remains of olives, grapes (including desiccated grapes), and legumes. ♦ Three samples were collected from beaten-earth alley surface **74.LF509**, weighing 33.05 kg. The heavy fraction weighed 4.7 kg (14% of the gross weight), averaging 1.57 kg per sample. ♦ Six additional samples were taken from jars that were standing in the alley. Finds included one eggshell fragment 0.57 mm thick (from a goose), five otoliths (of which two were Mugilidae otoliths [one damaged], one was Sciaenidae, and one was Lethrinidae), a green stone of possible geological interest, and remains of grapes (including desiccated grapes) and legumes. ♦ Two samples were collected from beaten-earth alley surface **84.LF412**, weighing 49.87 kg. The heavy fraction weighed 7.1 kg (14% of the gross weight), averaging 3.55 kg per sample. ♦ One additional sample was taken from a vessel. Finds included one bead, one iron fragment, 13 eggshell fragments ranging in thickness from 0.26 to 0.71 mm (of which five were from chicken eggs and the rest were from geese), one shark's tooth, orange fired beam-impressed bricks, phytoliths, and remains of grain, olives, and grapes. ♦ Two samples were collected from destruction debris **84.L371**, weighing 20 kg. The heavy fraction weighed 2.1 kg (10.5% of the gross weight), averaging 1.05 kg per sample. Finds included fired brick fragments and remains of grain and grapes. ♦ One sample was taken from **94.LF298**, a row of stones and jars, weighing 6.18 kg. The heavy fraction weighed 0.7 kg (11% of the gross weight). ♦ Two additional samples were taken from vessels. Finds included nine eggshell fragments ranging in thickness from 0.62 to 0.74 mm (from geese) and remains of olives and grapes.

**Discussion**—Most of the layers in the alley contained substantial heavy fractions, especially **84.LF412**. The same was true of potsherds, which tended to be more substantial south of the doorway into **Building 776**, especially in **84.L371**. Bones registered at 119.92 in the sample taken from the general layer of **84.LF412**, consisting of large animal bones, were probably from an animal carcass that was lying in the alley.

## Appendix 2: Floor Profiles in the Grid 50 Excavation Area

**Terrace Rooms 57 and 78** (46.L54, 46.LF55, 46.L56, 46.LF57, 46.L61, 46.LF78, 46.L100) ♦ One sample was taken from beaten-earth floor with kurkar bedding **46.LF55**, weighing 9.3 kg. The heavy fraction weighed 2.6 kg (28% of the gross weight). Finds included remains of grain. ♦ One sample was taken from brick, ashy occupational debris **46.L54**, weighing 9.2 kg. The heavy fraction weighed 1.4 kg (15% of the gross weight). Finds included one eggshell fragment 0.66 mm thick (from a goose). ♦ One sample was taken from beaten-earth floor **46.LF78**, weighing 8 kg. The heavy fraction weighed 1.1 kg (14% of the gross weight). Finds included string-impressed clay and grain. ♦ One sample was taken from brick collapse **46.L61**, weighing 9.6 kg. The heavy fraction weighed 1 kg (10% of the gross weight). ♦ One sample was taken from sandy gravelly fill **46.L100**, weighing 21 kg. The heavy fraction weighed 2.5 kg (12% of the gross weight). Finds included an eggshell fragment 0.24 mm thick (within the range of chicken eggshell thickness), one Sciaenidae otolith, and grape remains. ♦ Six samples were taken from beaten-earth floor **46.LF57**, weighing 50.7 kg. The heavy fraction weighed 8.3 kg (16% of the gross weight), averaging 1.38 kg per sample. Finds included one bead, two eggshell fragments ranging in thickness from 0.28 to 0.58 (of which one was from a chicken egg and the other was from a goose), shell-plaster, one Sciaenidae otolith, and grape remains. ♦ Nine samples were taken from brick collapse **46.L56**, weighing 93.3 kg. The heavy fraction weighed 13 kg (14% of the gross weight), averaging 1.4 kg per sample. Finds included one iron fragment, one bronze fragment, bitumen, phytoliths, and remains of grain, olives, and grapes.

**Discussion**—All of the heavy fractions in the **Terrace** west of **Building 276** were substantial, especially in **46.LF55**. The rest of the categories were undistinguished. There appear to have been no domestic activities in this area. The centrally located beaten-earth floor **46.LF78** contained a string-impressed clay sealing fragment, which may be an indication that this was a record-keeping “office.”

**Building 276 Room 421 and Plaza—earlier layers** (48.L405, 48.L408, 48.L412, 48.L452, 48.LF460, 48.L462) ♦ One sample was collected from silt and sand striations **48.L452**, weighing 0.5 kg. The heavy fraction weighed 0.3 (60% of the gross weight; note the very small sample weight). ♦ Three samples were collected from beaten-earth surface **48.LF460**, weighing 22.95 kg. The heavy fraction weighed 3.5 kg (15% of the gross weight), averaging 1.17 kg per sample. Finds included one bronze pellet, two otoliths, and remains of olives and grapes (including desiccated grapes). Much of the sample consisted of phytoliths. ♦ Nineteen samples were collected from sand, silt, and ash accumulation **48.L405**, weighing 172.79 kg. The heavy fraction weighed 21.29 kg (13% of the gross weight), averaging 0.93 kg per sample. Finds included five beads, a bronze pin, a bronze object, possibly a hook, 21 bronze pellets (including a large one), nine iron pellets and fragments, 23 eggshell fragments ranging in thickness from 0.29 to 0.75 mm (of which seven were from chickens and the rest were from geese), 22 murex shells, nine otoliths (of which one was a Mugilidae otolith), nine Sparidae jawbones and numerous Sparidae teeth, two rodent jawbones and teeth, one bird leg bone, one astragalus, bitumen, slag, lime plaster, red ochre, numerous clamshells (*Tellina donacina* Linnaeus, the “hatchet tellin,” a common Mediterranean sand-dwelling clam; Abbott 1985:149), and remains of grain, olives, and grapes. It should be noted that in Fine-grid 47 a bowl was found, the contents of which consisted of 728 tiny fish vertebrae, 69 fish scales, and one small chicken eggshell fragment. The entire contents of the bowl weighed 0.05 kg. ♦ One sample was collected from sandy accumulation **48.L408**, weighing 4 kg. The heavy fraction weighed 0.7 kg (18% of the gross weight). Finds included one otolith and olive remains. ♦ One sample was collected from sand, silt, and kurkar accumulation **48.L462**, weighing 0.88 kg. The heavy fraction weighed 0.1 kg (11% of the gross weight). Finds included grape remains. ♦ One sample was collected from ash and silt plaza build up **48.L412**, weighing 4.7 kg. The heavy fraction weighed 0.5 kg (11% of the gross weight). Finds included one bronze fragment, four otoliths (two Sciaenidae and two Mugilidae), and grape remains.

**Discussion**—Sherds, bones, and fish scales appeared to be grouped along the western side of the plaza in **48.L405**, and fish scales and snails were also grouped in the northeast corner. Fine-grids 6, 16, 26, and 36 appeared to be a corridor in which lesser amounts of material culture were deposited. The corners of buildings were apparently a favorite spot for offering food. In Fine-grid 95, bones were substantial at 128.5 per kg of soil. In Fine-grid 92, bones were 63 per kg of soil. Except for some ash lenses, the only orange fired-brick fragments that may have come from a destruction were found in Fine-grids 15 and 25.

**Building 276 Room 421 and Plaza—later layers** (48.LF383, 48.L392) ♦ Six samples were collected from occupational debris **48.L392**, weighing 78.2 kg. The heavy fraction weighed 12.87 kg (16% of the gross weight), averaging 2.1 kg per sample. Finds included one bead, 11 bronze pellets, 13 iron fragments, six eggshell fragments ranging in thickness from 0.3 to 0.69 mm (of which one was from a chicken egg and the rest were from geese), bitumen, six otoliths (of which one was a Mugilidae otolith), a piece of amber, and remains of grain, olives, and grapes. ♦ Twenty-six samples were collected from sandy silt accumulation **48.LF383**, weighing 233.4 kg. The heavy fraction weighed 37.32 kg (16% of the gross weight), averaging 1.4 kg per sample. Finds included six beads, three worked bone artifacts (including a spatula and an irregular bone blank), 12 bronze pellets, 12 iron fragments, slag, a semiprecious stone (probably carnelian), a painted sherd, 20 eggshell fragments ranging in thickness from 0.29 to 0.73 mm (of which six were from chicken eggs and the rest were from geese), bitumen, shell-plaster, orange fired reed-impressed clay, 16 otoliths (including seven Sciaenidae otoliths—three damaged, three Cichlidae, and four Mugilidae—two damaged), tabun fragments, pumice, coral, and remains of olives, grapes (including desiccated grapes), and legumes.

**Discussion**—Substantial numbers of sherds were found in both **48.LF383** and **48.L392**. The clustering of flint chips in the northern half of the plaza cannot be accidental. Since fish scales are very moderately clustered around the same fine-grid squares, there may have been a brief episode of fish scraping with a flint knife. Nor can the clustering of snails in the southern half of the plaza be accidental, where in Fine-grid 46 there were 1.4 per kg of soil and in Fine-grid 56 there were 2.5 per kg of soil.

**Building 406 Room 431** (48.L428, 48.LF429, 48.LF431, 48.L446, 48.L449, 48.L450) ♦ One sample was collected from silt and sand accumulation **48.L450** (which predates the building), weighing 8.6 kg. The heavy fraction weighed 2.2 kg (26% of the gross weight). Finds included one eggshell fragment 0.63 mm thick (from a goose), two Mugilidae otoliths (of which one was damaged), and grape remains. ♦ Nine samples were collected from ash layer **48.L449** (which predates the building), weighing 70.52 kg. The heavy fraction weighed 17.4 kg (25% of the gross weight), averaging 1.9 kg per sample. Finds included one bulla, four finger- and string-impressed clay fragments, one possible silver figurine, one bead, two bronze pellets, nine iron fragments (four of them from a pin), three eggshell fragments ranging in thickness from 0.63 to 0.68 mm (from geese), dark fired brick and ash, phytoliths, signs of intense fire, one damaged Sciaenidae otolith, three Cichlidae otoliths, one Mugilidae otolith, and remains of grain, olives, grapes (including desiccated grapes), and legumes. ♦ Five samples were collected from sandy accumulation **48.L446** (which predates the building), weighing 46.27 kg. The heavy fraction weighed 6.5 kg (14% of the gross weight), averaging 1.3 kg per sample. Finds included one bead, one green inlay fragment, one bronze pellet, one iron fragment, four eggshell fragments ranging in thickness from 0.57 to 0.68 mm (from geese), shell-plaster, dark fired beam-impressed brick fragments, five otoliths (including one Sciaenidae otolith and one Lethrinidae otolith), and remains of grain, olives, grapes, and legumes. ♦ Eight samples were collected from beaten-earth floor **48.LF431** (the original floor of this room), weighing 80.5 kg. The heavy fraction weighed 8.3 kg (10% of the gross weight), averaging 1 kg per sample. Finds included three beads (of which one was in the shape of a scarab), five bronze pellets, five eggshell fragments ranging in thickness from 0.62 to 0.97 mm (from geese), bitumen, three murex shells, numerous clamshells (*Tellina donacina* Linnaeus, the “hatchet tellin”) in Fine-grid 9, slag, two rodent teeth, 16 Sparidae teeth and two Sparidae jawbones, four otoliths (including one Sciaenidae otolith), and remains of grain, olives, and grapes. ♦ Nine samples were collected from beaten-earth floor **48.LF429**, weighing 79.05 kg. The heavy fraction weighed 6.96 kg (9% of the gross weight), averaging 0.77 kg per sample. Finds included three bronze pellets, three iron fragments, four eggshell fragments ranging in thickness from 0.29 to 0.63 mm (of which three were from chicken eggs and the fourth was from a goose), one murex shell, two rodent teeth, two Sparidae jawbones and nine Sparidae teeth, five otoliths (including one Sciaenidae otolith), a possible pig’s toe, and remains of olives, grapes, and legumes. ♦ Eight samples were collected from occupational debris **48.L428**, weighing 52.25 kg. The heavy fraction weighed 3.79 kg (7% of the gross weight), averaging 0.47 kg per sample. Finds included one iron fragment, one eggshell fragment 0.59 mm thick (from a goose), one murex shell, red ochre, four Sparidae teeth, one Sciaenidae otolith, one Mugilidae otolith, one rodent jawbone, and remains of olives and grapes.

**Discussion**—There is a diachronic progression from large to small in the heavy fraction, sherds, bones, and snails. The heavy fraction is substantial in **48.L450** and **48.L449** (which predate the building and are therefore outdoor surfaces), especially in Fine-grid 56 at 33% of the gross weight; in **48.L446** and **48.LF431** it is of a lesser size; and in **48.LF429** and **48.L428** it is small. For potsherds **48.L450**, **48.L449**, and **48.L446** are substantial, **48.LF431** and **48.LF429** are of a lesser size, and **48.L428** is small. Judging by the fish scale distribution, Fine-grid 39 may have been a favored location for fish preparation in both floors **48.LF431** and **48.LF429**. In **48.L428** flint chips were most numerous at 1.04 per kg of soil.

**Building 406 Room 375** (49.L353, 49.L364, 49.L373, 49.L374, 49.L375, 49.L420) ♦ Five samples were collected from bricky fill **49.L420** (which predates the building), weighing 41.1 kg. The heavy fraction weighed 5 kg (12% of the gross weight), averaging 1 kg per sample. Finds included one bead, one bronze pellet, 14 eggshell fragments ranging in thickness from 0.27 to 0.71 mm (of which six were from chicken eggs and the rest were from geese), charcoal, four otoliths (of which two were Sciaenidae otoliths and one was Mugilidae), and remains of olives and grapes. ♦ One sample was collected from sandy pit **49.L373**, weighing 12.7 kg. The heavy fraction weighed 2 kg (16% of the gross weight). Finds included two beads, three otoliths, one *Glycymeris violascens* seashell, and many clamshells (*Tellina donacina* Linnaeus, the “hatchet tellin”). ♦ Two samples were collected from leveling fill **49.L374**, weighing 36.2 kg. The heavy fraction weighed 4.6 kg (13% of the gross weight), averaging 2.3 kg per sample. Finds included three beads, two bronze pellets, two eggshell fragments ranging in thickness from 0.63 to 0.68 mm (from geese), shell-plaster, reed-impressed clay, two Sciaenidae otoliths, and remains of grapes and olives. ♦ One sample was collected from ash layer (probably the original floor of the room) **49.L375**, weighing 12.6 kg. The heavy fraction weighed 2.26 kg (18% of the gross weight). Finds included one otolith, one Sparidae tooth, and grape remains. ♦ Eight samples were collected from occupational debris **49.L364**, weighing 63.2 kg. The heavy fraction weighed 5.74 kg (9% of the gross weight), averaging 0.7 kg per sample. Finds included a bone artifact, two bronze fragments, two eggshell fragments ranging in thickness from 0.55 to 0.75 mm (from geese); three murex shells, pumice, slag, three rodent teeth, two Sparidae jawbones and seven Sparidae teeth, five otoliths (including one Sciaenidae otolith and one damaged Mugilidae otolith), bird bones, four possible arthropods in Fine-grid 13, and remains of grain, olives, and grapes (including desiccated grapes). ♦ Four samples were collected from occupational debris **49.L353**, weighing 28.2 kg. The heavy fraction weighed 3.42 kg (12% of the gross weight) averaging 0.86 kg per sample. Finds included one faience object, one iron pin, two otoliths (of which one was a Sciaenidae otolith), pumice, and remains of olives and grapes.

**Discussion**—In **49.L420** Fine-grid 22 seems to have been a favorite spot for scraping fish. The number of snails increases from the earlier layers to the later layers, especially in **49.L364** at 4.4 per kg of soil in Fine-grid 3 and 5.7 per kg of soil in Fine-grid 13; and in **49.L353** at 2.6 per kg of soil in Fine-grid 33.

**Building 406 Room 406** (49.L392, 49.L401, 49.LF406, 49.L425, 49.L437, 49.L439, 49.LF441) ♦ One sample was collected from the original beaten-earth floor of the shop, **49.LF441**, weighing 2.5 kg. The heavy fraction weighed 0.38 kg (15% of the gross weight). Finds included a Sparidae jawbone and grape remains. ♦ Three samples were collected from occupational debris **49.L439**, weighing 16.1 kg. The heavy fraction weighed 2.31 kg (14% of the gross weight), averaging 0.77 kg per sample. Finds included one bead, one burnishing stone, two eggshell fragments ranging in thickness from 0.54 to 0.65 mm (from geese), one Sparidae jawbone, two otoliths (including one Sciaenidae otolith), and remains of olives and grapes. ♦ One sample was collected from occupational debris **49.L437**, weighing 9.6 kg. The heavy fraction weighed 1.45 kg (15% of the gross weight). Finds included three eggshell fragments ranging in thickness from 0.52 to 0.61 mm (from geese), one Sparidae jawbone and teeth, one otolith, one rodent tooth, and remains of olives and grapes. ♦ One sample was collected from leveling fill **49.L425**, weighing 9.2 kg. The heavy fraction weighed 1 kg (11% of the gross weight). Finds included grape remains. ♦ Two samples were collected from beaten-earth floor LF406, weighing 6.4 kg. The heavy fraction weighed 0.46 kg (7% of the gross weight), averaging 0.23 kg per sample. Finds included a bronze fragment, one otolith, and owl pellets with string. ♦ Six samples were collected from destruction debris **49.L401** (an additional sample was collected from a jar), weighing 34.7 kg. The heavy fraction weighed 2.73 kg (8% of the gross weight), averaging 0.46 kg per sample. Finds included two bronze fragments, one iron fragment, three murex shells, two Sparidae jawbones, four otoliths (including a damaged Sciaenidae otolith), and grape remains. An unusually large number of snails, 167, were gathered in Fine-grid 37. ♦ Thirteen samples were collected from destruction debris **49.L392**, weighing 128 kg. The heavy fraction weighed 14.8 kg (12% of the gross weight) averaging 1.14 kg per sample. Finds included one bead, three bronze fragments, two iron fragments, three eggshell fragments ranging in thickness from 0.63 to 0.7 mm (from geese), bitumen, shell-plaster, four otoliths, and remains of olives and grapes (including desiccated grapes).

**Discussion**—Fine-grid 45 in destruction debris **49.L401** produced a large quantity of finds. This fine-grid square is precisely in the southwest corner of the shop, but the accumulation can have nothing to do with human activity, since it is not on a floor, unless the building stood as a ruin for a time and was used as a dumping ground. The number of sherds was substantial in the early layers, especially in Fine-grid 16 of **49.LF441**, at 14.4 potsherds per kg of soil. The number diminished in the later layers. This is true of bones and fish scales also. Flint chips are relatively numerous in **49.L401**, Fine-grid 45 at 1.13 per kg of soil, and so are snails in the same locus, especially in Fine-grid 25 at 2.67, in Fine-grid 37 at 13.8, and in Fine-grid 45 at 1.7 snails per kg of soil. This unusually large number of snails may be due to their inclusion in a brick, which was subsequently part of a collapse and merged into the destruction debris.

**Building 406 Rooms 423 and 426** (49.L418, 49.L419, 49.LF423, 49.LF426, 49.L436) ♦ Five samples were collected from sandy fill **49.L436**, weighing 65.28 kg. The heavy fraction weighed 6.2 kg (9% of the gross weight), averaging 1.24 kg per sample. Finds included four beads, impressed clay, five bronze fragments, two iron fragments, five eggshell fragments ranging in thickness from 0.57 to 0.71 mm (from geese), bitumen, shell-plaster, slag, seven otoliths (including two Sciaenidae otoliths and three Mugilidae otoliths), and remains of grain, olives, grapes, and legumes. ♦ Eight samples were collected from the original beaten-earth floor of the shop, **49.LF423**, weighing 79.95 kg. The heavy fraction weighed 13.23 kg (17% of the gross weight) averaging 1.65 kg per sample. Finds included one clay sealing, one inscribed sherd, one black-painted left leg of a figurine, two beads, a bone awl, two bronze fragments, one iron fragment, one iron/bronze artifact in 56 fragments, five eggshell fragments ranging in thickness from 0.34 to 0.72 mm (of which one was from a chicken egg and the rest were from geese), three murex shells, slag, red ochre, four Sparidae jawbones and two Sparidae teeth, two rodent jawbones and one rodent tooth, and remains of olives and grapes. ♦ Seven samples were collected from destruction debris **49.L418**, weighing 61.03 kg. The heavy fraction weighed 6.33 kg (10% of the gross weight), averaging 0.9 kg per sample. Finds included two beads, one iron pellet, one eggshell fragment 0.56 mm thick (from a goose), bitumen, one murex shell, slag, two Sparidae jawbones and six Sparidae teeth, seven otoliths (of which two were Sciaenidae otoliths, one damaged), and remains of grain, olives, and grapes. ♦ Two samples were taken from beaten-earth floor **49.LF426**, weighing 16.3 kg. The heavy fraction weighed 2.22 kg (14% of the gross weight), averaging 1.11 kg per sample. Finds included six iron fragments, one eggshell fragment 0.67 mm thick (from a goose), and remains of grain and grapes (including desiccated grapes). ♦ Three samples were taken from mudbrick collapse **49.L419**, weighing 24.2 kg. The heavy fraction weighed 2.72 kg (11% of the gross weight), averaging 0.9 kg per sample. Finds included one clay sealing, two beads, three eggshell fragments ranging in thickness from 0.61 to 0.7 mm (from geese), bitumen, slag, three Sparidae teeth, one rodent jawbone, three otoliths (of which one was a damaged Mugilidae otolith), and remains of grain, olives, and grapes.

**Discussion**—Sherds were most abundant in beaten-earth floor **49.LF423**, at 16.5 per kg of soil in Fine-grid 28, 19.7 per kg of soil in Fine-grid 29, and 16.1 per kg of soil in Fine-grid 30. The heavy fraction is large in those fine-grid squares as well. Bones and fish scales in **49.L436** and **49.LF423** were substantial in number, and both were especially abundant on the eastern side of the room.

**East Street** (49.L368, 49.L384, 49.L390) ♦ Eight samples were collected from brick collapse **49.L390**, weighing 61.5 kg. The heavy fraction weighed 7.74 kg (13% of the gross weight), averaging 0.97 kg per sample. Finds included one faience fragment, three bronze fragments, two iron fragments, one eggshell fragment 0.68 mm thick (from a goose), one coral

fragment, reed-impressed clay, shell-plaster, pumice, twenty-six otoliths (of which two were Sciaenidae otoliths—one damaged, four were Cichlidae otoliths, seven were Mugilidae otoliths—three damaged, and two were Lethrinidae otoliths), and remains of grain, olives, grapes (including desiccated grapes), and legumes. ♦ Four samples were collected from mudbrick detritus **49.L368**, weighing 33 kg. The heavy fraction weighed 3.5 kg (11% of the gross weight), averaging 0.88 kg per sample. Finds included one bronze fragment, two iron fragments, two eggshell fragments ranging in thickness from 0.55 to 0.65 mm (from geese); shell-plaster, pumice, one Sciaenidae otolith, and grape remains. ♦ Seven samples were collected from silt and sand street build-up **49.L384**, weighing 88.55 kg. The heavy fraction weighed 8.54 kg (10% of the gross weight), averaging 1.22 kg per sample. Finds included one bead, two eggshell fragments ranging in thickness from 0.59 to 0.75 mm (from geese); pumice, seventeen otoliths (of which three were Sciaenidae otoliths, one was a Cichlidae otolith, and three were Lethrinidae otoliths), and remains of olives, grapes, and legumes.

**Discussion**—Bones and fish scales were prominent in **49.L390**, particularly in Fine-grids 76, 77, and 78. Flint chips were also more abundant than usual in the same layer, at 0.6 per kg of soil in Fine-grid 77, and at 0.9 per kg of soil in Fine-grid 89; coming from a brick collapse, they may have been included in the brick clay.

**Building 234 and South Street** (47.L269, 57.L196, 57.L206, 57.LF212, 57.L217, 57.LF221, 58.L262, 58.L313, 58.LF314) ♦ One sample was collected from west street build-up **47.L269**, weighing 6.2 kg. The heavy fraction weighed 1 kg (16% of the gross weight). Finds included one bronze pellet and one Lethrinidae otolith. ♦ Two samples were collected from plaster floor **57.LF212**, weighing 69.4 kg. The heavy fraction weighed 18.3 kg (26% of the gross weight), averaging 9.15 kg per sample. Finds included one Sciaenidae otolith, dark fired brick, vitrified earth, and remains of olives and grapes. ♦ Seven samples were collected from destruction debris **57.L196**, weighing 302.4 kg. The heavy fraction weighed 51.74 kg (17% of the gross weight), averaging 7.4 kg per sample. Finds included one finger-impressed clay sealing, four beads, two bronze fragments, four iron fragments, six eggshell fragments ranging in thickness from 0.25 to 0.65 mm (of which one was from a chicken egg and the rest were from geese), bitumen, seven murex shells, one oyster shell, plaster, orange fired reed- and beam-impressed brick, phytoliths, slag, one Sparidae jawbone with teeth, nine otoliths (of which two were Sciaenidae otoliths—one damaged—and one was a damaged Mugilidae otolith), and remains of olives, grapes (including desiccated grapes), and legumes. ♦ Two samples were collected from destruction debris **57.L217**, weighing 22.4 kg. The heavy fraction weighed 2.6 kg (12% of the gross weight), averaging 1.3 kg per sample. Finds included grape remains. ♦ One sample was collected from plaster floor **57.LF221**, weighing 10.2 kg. The heavy fraction weighed 3.2 kg (31% of the gross weight). Finds included one iron object in four fragments, dark fired beam-impressed brick, black ash, and grape remains. ♦ Nineteen samples were collected from destruction debris **57.L206**, weighing 886.89 kg. The heavy fraction weighed 123.65 kg (14% of the heavy fraction), averaging 6.5 kg per sample. Finds included a gold fragment, a bronze cube weight, a lead object, one formed clay fragment (a possible sealing), one incised object, three clay fragments that were impressed with organic material, one stone tool and flake, ten beads, eight bronze fragments (including a pin), 27 iron fragments (including a spike and a fragment that had wood adhering to it), 22 eggshell fragments ranging in thickness from 0.16 to 0.72 mm (of which one was close to the upper range of pigeon eggshells, five were from chicken eggshells, and the rest were from geese), bitumen, one murex shell, shell-plaster, green-vitrified orange fired reed- and beam-impressed brick, phytoliths, slag, six Sparidae jawbones, 50 otoliths (of which 12 were Sciaenidae otoliths—three damaged, eight were Cichlidae otoliths, 15 were Mugilidae otoliths—four damaged, and one was a Lethrinidae otolith), and remains of grain, olives, grapes (including desiccated grapes), and legumes. ♦ Two samples were collected from kurkar bedding **58.LF314**, weighing 13.97 kg. The heavy fraction weighed 1.55 kg (11% of the gross weight) averaging 0.78 kg per sample. Finds included one finger-impressed clay fragment, one Sparidae jawbone with teeth, one otolith, and remains of olives and grapes. ♦ Three samples were collected from kurkar bedding **58.L313**, weighing 24.21 kg. The heavy fraction weighed 3.3 kg (14% of the gross weight), averaging 1.1 kg per sample. Finds included one bead, one bronze fragment, one eggshell fragment 0.65 mm thick (from a goose), one murex shell, three otoliths (of which one was a Cichlidae otolith and one was a Mugilidae otolith), three rodent teeth, and remains of grain, olives, and grapes. ♦ Fourteen samples were collected from destruction debris **58.L262**, weighing 656.19 kg. The heavy fraction weighed 69.27 kg (11% of the gross weight), averaging 4.9 kg per sample. Finds included two blank clay bullae (one rounded and one flat), one faience amulet, one bronze weight, three stone weights, one grinding stone, one bronze ring, 10 beads, 63 bronze fragments, 69 additional bronze fragments that may have been a measuring scale, 19 iron fragments, one amber pebble, 104 eggshell fragments ranging in thickness from 0.23 to 0.77 mm (of which 20 were from chicken eggshell ranging up to 0.45 mm in thickness and the rest were assumed to be from geese), bitumen, 13 murex shells, plaster, orange fired reed- and beam-impressed brick, coral, slag, red ochre, charcoal, 25 Sparidae jawbones and more than 150 Sparidae teeth, 92 otoliths (of which 24 were Sciaenidae otoliths—two damaged, five were Cichlidae otoliths, fourteen were Mugilidae otoliths—seven damaged, and two were Lethrinidae otoliths), and remains of grain, olives, grapes (including desiccated grapes), and legumes.

**Discussion**—Logically, the heavy fraction fell into the high range in plaster floors **57.LF212** and **57.LF221**, in Fine-grid 44 at 37% of the gross weight. Along the western edge of destruction debris **58.L206** it was also high in Fine-grid 47, at 33% of the gross weight. Sherds, bones, fish scales, and flint chips were all accentuated at the west edge of the room in which **57.L196** was located, in Fine-grids 44 and 54. In contrast the previous locus, consisting of the same fine-grid squares, contained no flint chips, no fish scales, and very few bones and sherds. The same categories, sherds, bones, fish scales, and flint chips were always greater in the eastern section of **58.L262**, where it was located in the street market. Fine grid 13 was particularly accentuated for sherds at 10.8 per kg of soil, and for bones at 123.7 per kg of soil. As stated in the discussion of the early layers of the plaza, the corners of buildings (such as Fine-grid 13) were apparently a favorite spot for offering

food, or at least to prepare the food that was being offered. In the same fine-grid square there were no flint chips and no snails, though in the adjoining Fine-grid 14, snails registered at 1.2 per kg of soil. This conforms to the observation that snails sometimes cluster at the periphery of activities, not at the center. Snails were fairly numerous in the area, in **57.L196**, Fine-grid 46, at 1.3 per kg of soil; in **57.L206**, Fine-grid 10, at 1.3 per kg of soil, Fine-grid 18, at 3.1 per kg of soil, Fine-grid 38, at 1.1 per kg of soil; and in **58.L262**, Fine-grid 21, at 1.3 per kg of soil.

**Building 260 Rooms 252 and 260—earlier layers** (58.LF267, 58.LF268, 58.LF273, 58.L290, 58.L291, 58.LF307) ♦ One sample was collected from pit **58.LF267**, weighing 996.08 kg. The heavy fraction weighed 72.9 kg (7% of the gross weight). Finds included one bulla, one string-impressed clay fragment, one bird figurine, one lead weight, one bronze earring, one bone spatula, one grinding stone fragment, twelve beads, two ceramic stoppers, two faience sherds, two bi-chrome sherds, 30 bronze pellets, 19 iron fragments, 29 eggshell fragments ranging in thickness from 0.32 to 0.73 mm (of which two were from chicken eggs and the rest were from geese), bitumen, slag, red ochre, 79 otoliths (of which 27 were Sciaenidae otoliths—five damaged, six were Cichlidae otoliths—one damaged, 32 were Mugilidae otoliths—six damaged, and six were Lethrinidae otoliths), and remains of grain, olives, grapes (including desiccated grapes), and legumes. ♦ One sample was collected from pit **58.LF268**, weighing 435.67 kg. The heavy fraction weighed 26.87 kg (6% of the gross weight). Finds included one bead, one bronze pin, six bronze pellets, two iron fragments, 18 eggshell fragments ranging in thickness from 0.27 to 0.72 mm (of which four were from chicken eggs and the rest were from geese); slag, two murex shells, shell-plaster, nine Sparidae jawbones and teeth, 23 otoliths (of which eight were Sciaenidae otoliths—two damaged, three were Cichlidae otoliths, ten were Mugilidae otoliths—three damaged, and one was a Lethrinidae otolith), and remains of grain, olives, grapes, and legumes. ♦ One sample was collected from pit **58.LF273**, weighing 4.4 kg. The heavy fraction weighed 0.11 kg (3% of the gross weight). There were no special finds. ♦ Five samples were collected from beaten-earth floor **58.LF307**, weighing 45.8 kg. The heavy fraction weighed 3.7 kg (8% of the gross weight), averaging 0.74 kg per sample. Finds included one bronze fragment, one iron fragment, one eggshell fragment 0.64 mm thick (from a goose), reed-impressed clay, coprolites (?), one murex shell, one Sparidae jawbone with teeth, ten otoliths (of which four were damaged Mugilidae otoliths and one was a Lethrinidae otolith), and remains of grain, olives, grapes, and legumes. ♦ Nine samples were collected from destruction debris **58.L291**, weighing 75.6 kg. The heavy fraction weighed 9.98 kg (13% of the gross weight), averaging 1.1 kg per sample. Finds included one bead, six bronze fragments, four iron fragments, four eggshell fragments ranging in thickness from 0.34 to 0.66 mm (of which one was from a chicken egg and the rest were from geese), two murex shells, one *Glycymeris violascens* seashell, numerous clamshells (*Tellina donacina* Linnaeus, the “hatchet tellin”), nine Sparidae jawbones and teeth, 20 otoliths (of which eight were Sciaenidae otoliths—one damaged, two were Cichlidae otoliths, and four were Mugilidae otoliths), and remains of grain, olives, and grapes. ♦ Seven samples were collected from brick detritus **58.L290**, weighing 68.1 kg. The heavy fraction weighed 5.96 kg (9% of the gross weight), averaging 0.85 kg per sample. Finds included a substantial amount of pumice, three Sciaenidae otoliths (one damaged), bitumen, shell-plaster, and remains of olives and grapes.

**Discussion**—The sherd, bone, and fish-scale distributions in **58.L291** are all substantial; but the greatest concentration in all of these categories is always in the northern part of **58.L291**, where they are confined by the northwestern room of the building. The bone distribution is particularly pronounced in this room, at 186.95 per kg of soil in Fine-grid 37; at 154.57 per kg of soil in Fine-grid 47; at 170.96 per kg of soil in Fine-grid 57; and at 211.15 per kg of soil in Fine-grid 58. These large concentrations are always on the western side of the room, as though swept under a table. Perhaps foods were prepared in this room, which were then displayed for sale on the bench outside, just opposite the inside activity. In the southern room the evidence for such activities are not seen as much in the destruction debris on the floor, as they are seen within the floor itself (**58.LF307**), although judging by the number of fish scales, fewer fish were prepared in this room.

**Building 260 Rooms 252 and 260—later layers** (58.LF252, 58.LF260, 58.LF276, 58.L279) ♦ Four samples were collected from beaten-earth floor **58.LF276**, weighing 37.2 kg. The heavy fraction weighed 2.04 kg (5% of the gross weight), averaging 0.51 kg per sample. Finds included one bead, five bronze pellets, twelve iron fragments, one eggshell fragment 0.75 mm thick (from a goose), ten otoliths (of which one was a Sciaenidae otolith and four were Mugilidae, all damaged), and remains of grain, olives, grapes, and legumes. ♦ Thirteen samples were collected from destruction debris **58.LF260**, weighing 85.8 kg. The heavy fraction weighed 16.52 kg (19% of the gross weight), averaging 1.27 kg per sample. Finds included one worked bone, four bronze fragments, three iron fragments, eight eggshell fragments ranging in thickness from 0.28 to 0.67 mm (of which three were from chicken eggshells and the rest were from geese), one murex shell, plaster, tabun fragments (in Fine-grids 67 and 77 in the northwest corner of the room), two Sparidae jawbones and teeth, ten otoliths (of which four were Sciaenidae otoliths and two Mugilidae, with one damaged), and remains of grain, olives, grapes (including desiccated grapes), and legumes. ♦ Two samples were collected from a gully system, **58.LF252**, weighing 25.38 kg. The heavy fraction weighed 3.9 kg (15% of the gross weight), averaging 1.95 kg per sample. Finds included one bead, one bronze fragment, two iron pellets, twine imbedded in white plaster, three Lethrinidae otoliths, and remains of grapes and legumes. ♦ One sample was collected from destruction debris **58.L279**, weighing 8.9 kg. The heavy fraction weighed 1 kg (11% of the gross weight). Finds included one bronze fragment, one Sciaenidae otolith, one rounded pebble, and grape remains.

**Discussion**—Most of the heavier concentrations of the heavy fraction have more to do with wall and roof collapse than any finds contained in the samples. Bone distributions in **58.LF276** and **58.L279** are substantial, in Fine-grid 99 at 152.44 bones per kg of soil; for fish scales in the same fine-grid square, at 55.77 fish scales per kg of soil. Snails in **58.LF252** are

more numerous than usual in Fine-grid 37 at 1.68 snails per kg of soil. Diachronically, the southern room begins with beaten-earth floor **58.LF30**, followed by destruction debris **58.L290/L291**, followed by beaten-earth floor **58.LF276**, all of them containing small heavy fractions, followed by destruction debris **58.LF260**, with a more substantial heavy fraction. In the same layers, the number of sherds is larger, then smaller, then smaller, then larger. Flint chips and snails are smaller throughout. The actual numbers in this sequence show that the deposition of bones and fish scales began modestly in the first floor and increased dramatically in the second.

**Building 260 Rooms 393, 406, 414, and 418** (59.LF393, 59.LF406, 59.L414, 59.LF442, 59.LF447) ♦ Six samples were collected from beaten-earth floor **59.LF393**, weighing 50.1 kg. The heavy fraction weighed 7.1 kg (14% of the gross weight), averaging 1.18 kg per sample. Finds included one bead, six eggshell fragments ranging in thickness from 0.61 to 0.68 mm (from geese), four iron fragments, bitumen, slag, two otoliths (including one Mugilidae otolith and one Lethrinidae otolith), and grape remains. ♦ Two samples were collected from occupational debris **59.L414**, weighing 13.3 kg. The heavy fraction weighed 0.81 kg (6% of the gross weight), averaging 0.4 kg per sample. Finds included pumice and five otoliths. ♦ Four samples were collected from beaten-earth floor **59.LF406**, weighing 27.9 kg. The heavy fraction weighed 2.52 kg (9% of the gross weight), averaging 0.63 kg per sample. Finds included one iron fragment, four eggshell fragments ranging in thickness from 0.14 to 0.65 (of which one fell into the range of pigeon eggshells, one was from a chicken egg and two were from geese), bitumen, plaster, pumice, slag, and eleven otoliths (including one Sciaenidae otolith). ♦ One sample was collected from beaten-earth floor **59.LF447**, weighing 8.2 kg. The heavy fraction weighed 0.45 kg (5% of the gross weight). Finds included 35 otoliths (including four Sciaenidae otoliths, three Mugilidae otoliths, and two Lethrinidae otoliths) and red ochre. ♦ Two samples were collected from beaten-earth floor **59.LF442**, weighing 20.5 kg. The heavy fraction weighed 1.2 kg (6% of the gross weight) averaging 0.6 kg per sample. Finds included three beads, 33 otoliths (including three Sciaenidae otoliths, seven Mugilidae otoliths, two Cichlidae otoliths, and four Lethrinidae otoliths), and red ochre.

**Discussion**—Potsherds in **59.LF393** were substantial in Fine-grid 81 at 11.2 per kg of soil, weighing down the heavy fraction in that fine-grid square as well. Bones were substantial in both **59.LF442** and **LF447**, in Fine-grid 90 at 152.2 per kg of soil, and in Fine-grid 89 at 192.1 per kg of soil. In the same layers, fish scales in **59.LF447** registered at 195 per kg of soil, and in **59.LF442** in Fine-grid 89 at 59.4 per kg of soil, and in Fine-grid 90 at 80.6 per kg of soil. These are very high numbers and attest to an intense locus of seafood preparation, in which only boneless fish wound up on the plate. In **59.LF447** flint chips were more numerous at 0.5 per kg of soil, suggesting occasional use of a flint scraper. The same may hold for **59.LF406**, in which flint chips in Fine-grid 95 registered at 0.4 per kg of soil, and in Fine-grid 96 at 0.7 per kg of soil.

## PART FIVE

### SYNTHESIS AND CONCLUSION



## 27. QUANTITATIVE AND SPATIAL ANALYSIS OF POTTERY AND OTHER ARTIFACTS

IN THE excavations of the Leon Levy Expedition to Ashkelon, each surface on which people lived and walked was divided into a “fine grid” consisting of  $1 \times 1$ -m squares in order to ensure tight spatial control of the finds.<sup>1</sup> In addition, the precise findspot of each important artifact was recorded. However, reconstructing the spatial distribution of artifacts at the time of their deposition was complicated by the stratigraphic characteristics of the Ashkelon tell, which experienced a remarkable continuity and density of occupation over the millennia, from the Early Bronze Age to the medieval period. This gave rise to systematic robbing of stone foundations from earlier phases by later builders and the frequent destruction of earlier surfaces by later buildings. The intensity of the stone-robbing at Ashkelon was no doubt due to the scarcity of stones suitable for constructional purposes in the vicinity of the site.

In the architectural phases dated to the seventh century B.C., in particular, this characteristic of the site is reflected in walls whose stone foundations were robbed out and occupational surfaces that were destroyed during the subsequent Persian period, when Ashkelon was rebuilt and once again became a populous city. The excavators discovered that robber’s trenches were as common as intact foundations. Many rooms did not have intact floors and many of the floors that were preserved had been disturbed in some way, often by raking over and leveling the debris left by the Babylonian destruction.

Nevertheless, painstaking methods of stratigraphic excavation have allowed the reconstruction of building plans from the evidence that remained and have allowed many artifacts to be securely located within particular rooms or outdoor spaces. Analysis of the spatial distribution of pottery and other artifacts has revealed interesting patterns by which we can reconstruct the activities of the inhabitants of the city during the late seventh century B.C.<sup>2</sup>

### *Spatial Analysis of the Seventh-Century B.C. Pottery*

A spatially oriented quantification of the seventh-century B.C. pottery from Ashkelon was undertaken in order to glean information about activities in the

city on the eve of its destruction. A large sample of pottery from the Grid 38 and Grid 50 excavation areas (the winery and the marketplace) was studied. A total of 189,199 sherds were sorted and recorded, creating a sizable quantitative and locational data set.<sup>3</sup> All sherds, including body sherds, were sorted by functional class or type and counted. Many sherds were also weighed. The rim fraction (the percentage of the rim that was preserved) was measured for each rim fragment. The fine-grid location of every sherd found in occupational debris or in destruction debris on top of a floor, street, or other living surface was recorded. The pottery from such surfaces can therefore be localized to the nearest square meter.

It should be noted, however, that the postdepositional disturbances mentioned above caused the discovery of whole vessels to be relatively infrequent. This hampered the reconstruction of functional differences between various rooms and outdoor spaces. Even if small fragments were not residual in the diachronic sense, pottery of the late seventh century B.C. was often scattered across the excavated areas in ways that obscured the statistical differences between architectural spaces.

To compensate for the lack of whole vessels, the frequency of each vessel category was estimated in three different ways: by adding up rim fractions, by counting sherds, and by estimating the minimum number of vessels in an ad hoc fashion. Rim fraction measurements have the advantage of being relatively objective and they entail the least difficulty in assigning vessel type or functional class. Vessel estimates based on counting sherds are complicated by the fact that the typological classification of body sherds is not usually as fine as the classification of rim sherds, nor is it possible to determine the average number of sherds produced by the shattering of a single vessel in a way that can be generalized across the assemblage. Sherd counts were therefore employed only as an indication of the relative rarity of vessel types identified only by body sherds.

Estimates of the minimum number of vessels of a given class or type were based on an ad hoc combination of sherd count and rim fractions, depending on the nature of the material. The aim was to determine the minimum number of vessels necessary to produce

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<sup>1</sup> The excavation method and recording system are described in detail in *Ashkelon 1*, pp. 185–93 (use of the one-meter fine grid is discussed on p. 191).

<sup>2</sup> The spatial analysis presented here, and the composition of this chapter, were done by Daniel Master.

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<sup>3</sup> Sorting, counting, and measuring of the pottery was done by David Schloen and his students from 1994 to 1999. Additional sorting and data collection was done from 2001 to 2008 under the direction of Daniel Master.

the fragments found in a particular room. A single diagnostic sherd (a rim, handle, base, or body fragment) was enough to show that at least one example of a given vessel class or type was present in the room. When multiple sherds of a given type were available, rim sherds whose projected diameters deviated by more than 3 cm from one another (a range that allowed for measurement error) were judged to be from different vessels. Those with similar diameters were combined to calculate the minimum number of vessels, even if the sherds themselves did not join.

It was found that estimates of relative proportions of vessel classes based on adding up rim fractions were often similar to estimates based on the ad hoc determination of the minimum number of vessels, as described above. However, the latter method of estimation resulted in higher figures for vessel classes that were rare or had more nuanced typological subdivisions.

Both methods of estimation were sensitive to sample size. In the largest single context, the filled-in quarry beneath the marketplace in the Grid 50 excavation area, where a large quantity of pottery was recovered, estimates based on rim fractions tended to converge with those based on minimum numbers of vessels (table 27.1). The difference between small and large samples can be seen by comparing the total numbers of vessels estimated by the two methods. In the small sample (Grid 50 Room 421) the rim-fraction method yielded a total of 39 vessels and the minimum number method yielded 89 vessels. In the large sample (the Grid 50 quarry fill) the rim-fraction method yielded 625 vessels and the minimum number method yielded 728 vessels, a much smaller difference.

The convergence of the two methods of estimation with increasing sample size is due to the fact that, in smaller samples, adding up rim fractions tends to undercount rare forms whereas the minimum-number-of-vessels calculation tends to overcount rare forms (and thus undercount common forms). This can be seen in the case of storage jars, which are quite frequent in the Ashkelon assemblage. In small samples, the most common type of storage jar (Storage Jar 1, described above in chapter 5) appears to be less frequent when estimated by the minimum-number-of-vessels method, whereas vessel classes with greater typological diversity (bowls) or with rare types (fine ware) appear to be more frequent than the rim-fraction method would suggest. This is because vessel classes such as bowls and fine ware can often be identified by body fragments alone, supplementing the evidence from rim sherds. For small samples, therefore, the correct quantitative estimate would lie somewhere in the middle of the range established by the two methods of estimation.

Nothing could be done to increase the sample sizes, which were determined by what was found within particular rooms or other architectural spaces. It is true that, in the case of rim fractions, samples can be combined in a meaningful fashion; but minimum numbers of vessels are, by definition, calculated with respect to particular rooms, which means that samples cannot be combined using this measure—it is not scalable across rooms in the same way as the rim-fraction measure. Nonetheless, the convergence of these two methods of quantification for our largest sample indicates that, taken together, they provide a valid range for the relative frequency of a given vessel type or functional class within each room.

Table 27.1: Relative Percentages of Pottery Classes Estimated Using Rim Fractions and Minimum Numbers of Vessels in a Small Sample (Grid 50 Room 421) and a Large Sample (Grid 50 Quarry Fill)

<i>Vessel Class</i>	<i>Grid 50 Room 421</i>		<i>Grid 50 Quarry Fill</i>	
	Rim	Min. No.	Rim	Min. No.
Storage Jar	32.6	13.7	42.0	38.3
Bowl	22.4	30.5	28.2	24.5
Jug	16.6	15.8	10.4	12.0
Krater	4.9	9.5	2.6	4.3
Lamp	7.8	4.2	5.0	4.1
Fine Ware	1.9	9.5	3.8	5.2
Cooking Pot	3.4	4.2	3.1	3.8
Residual	5.9	5.3	1.0	2.1
Juglet	2.5	3.2	2.5	3.3
Unrecognized	1.3	3.2	0.2	0.8
Mortarium	0.7	1.1	1.2	1.6

In this table and subsequent tables in this chapter, the “Storage Jar” class includes amphoras, the “Jug” class includes decanters and amphoriskoi, the “Krater” class includes large bowls, and the “Fine Ware” class includes platters (see chapter 5).

*General Pottery Distribution*

For the purpose of site-wide statistics, the primary deposits from the floors of the winery and primary deposits from the floors of the marketplace were combined and compared using only the rim-fraction

method. Table 27.2 reveals little difference between the marketplace in Grid 50, the winery in Grid 38, and the refuse dumped into the Grid 50 quarry sometime in the last quarter of the seventh century. This suggests that these proportions are applicable to the site as a whole during this period.

Table 27.2: Relative Percentages of Pottery Classes in the Quarry Fill, Winery, and Marketplace

<i>Vessel Class</i>	<i>Quarry Fill</i>	<i>Winery</i>	<i>Marketplace</i>
Storage Jar	42	39	37
Bowl	28	29	30
Jug	10	10	8
Lamp	5	3	7
Fine Ware	4	3	4
Juglet	3	5	6
Cooking Pot	3	3	3
Krater	3	4	2
Mortarium	1	1	1

Relative percentages were estimated by adding up all the rim fractions of the pottery found in each area/context. The large sample sizes ensure the validity of the estimates.

Table 27.3: Relative Percentages of Imported Pottery By Place of Origin

<i>Vessel Origin</i>	<i>Quarry Fill</i>		<i>Winery</i>	<i>Marketplace</i>
	Rim	Min. No.		
Phoenicia	5.8	6.7	3.2	3.7
N. Syria/Cyprus	1.9	3.3	1.1	0.7
Greece	1.7	2.9	0.7	1.0
Egypt	0.4	1.0	0.5	0.2
Southeast	0.4	1.5	0.7	0.9

Relative percentages were estimated for the quarry fill using both the rim-fraction method and the minimum-number-of-vessels method. For the winery and marketplace, only the rim-fraction method was used.

Another important question has to do with the proportion of imported pottery in the assemblage. The place of origin of imported pottery was identified using a combination of petrographic and stylistic evidence (Master 2001; 2003).<sup>4</sup> The percentages shown in table 27.3 indicate that the vast majority of the Ashkelon pottery (more than 90 percent) was locally produced. The largest group of imports was from Phoenicia, which produced somewhere between 3 and 7 percent of all the pottery found in late seventh-century contexts in Ashkelon. The Phoenician connection was even more pronounced if we assume

that imports from Cyprus and North Syria were mediated by Phoenician traders.

The proportion of imported pottery at Ashkelon is markedly different from the proportion reported from the contemporary coastal site of Meşad Ḥashavyahu, in which imported Greek pottery made up 46 percent of the assemblage, according to Fantalkin (2001:fig. 35). There were no doubt some differences in the methods used to collect and quantify the pottery at the two sites, but this cannot account for the stark difference between them with respect to the quantity of imported pottery. More likely, this difference has to do with the difference in size (and possibly in function) between the two sites. A single shipload of goods from Greece would have inundated the small site of Meşad Ḥashavyahu, whereas it would have had little effect in a large city such as Ashkelon.

<sup>4</sup> The petrographic data and the method of pottery classification are described above in chapter 4. The various kinds of imported pottery are treated in detail in chapters 6–10.

*Pottery Distribution by Room*

Within each of the two main excavation areas, the pottery was divided into collections that took into account the architectural layout of the area. Each room was treated individually and the outdoor spaces were demarcated in relation to the buildings beside them. Initially, an attempt was made to treat each fine-grid square individually, but this proved to be

unhelpful because the sample sizes were too small to yield reliable results. In order to avoid misleading results due to excessively small sample sizes, only rooms with combined rim percentages greater than 1,000 (10 vessels) were compared with one another. The room-by-room distributions of the pottery and other artifacts in the Grid 38 winery and the Grid 50 marketplace are shown in a series of detailed plans below in figures 27.5–26.

Table 27.4: Relative Percentages of Pottery Classes by Room or Street Location in the Ashkelon Marketplace

<i>Vessel Class</i>	<i>Rooms</i>						<i>Streets</i>			
	227	252	260	373	421	423	Plaza	East	South	West
Storage Jar	40	47	36	47	35	48	26	30	41	34
Bowl	24	20	25	23	24	28	47	40	31	34
Juglet	13	11	9	5	3	7	2	6	7	6
Jug	8	4	11	7	18	6	5	9	4	15
Lamp	8	4	14	7	8	4	4	7	5	3
Krater	4	1	0	4	5	1	2	3	3	1
Fine Ware	2	5	1	1	2	5	9	2	6	2
Mortarium	2	1	0	3	1	0	0	1	0	1
Unrecognized	0	0	0	1	1	0	0	0	0	1
Cooking Pot	0	7	3	2	4	1	5	2	2	2

Table 27.5: Relative Percentages of Pottery Classes in the Ashkelon Winery Compared to Other Sites

<i>Room Location</i>	<i>Bowl</i>	<i>Storage Jar</i>	<i>Cooking Pot</i>	<i>Jug/Juglet/Bottle/Lamp</i>
Tell Qasile X Building 225	9	67	1	16
Kuntillet cAjrud	24	51	7	18
<b>Ashkelon Winery Room 210</b>	17	60	3	20
<b>Ashkelon Winery Room 57b</b>	26	52	4	17
Ekron Room 14	31	23	2	30
Ekron Room 15	70	21	0	7
Ekron Room 27	53	34	1	11
Ekron Room 26	56	21	3	15
<b>Ashkelon Winery Alley</b>	49	29	3	16
<b>Ashkelon Winery Room 22</b>	48	24	1	22
Beersheba	30	24	15	31
Beth Shean P-7 Building 28636	41	24	10	24
Tel Batash 743	47	14	12	23
Tel Batash 950	34	29	9	24
Tel Batash F608	51	24	6	16
Tel Batash F607	45	5	10	35
<b>Ashkelon Winery Room 312</b>	40	21	9	29

*Sources:* The percentages for Kuntillet cAjrud, Tell Qasile (Stratum X Building 225), and Beth Shean (Stratum P-7 Building 28636) are taken from Mazar and Panitz-Cohen 2001:table 32. The percentages for Ekron are taken from Gitin 1989b:tables 1–4. The percentages for Tel Batash F607 and F608 are taken from Mazar and Panitz-Cohen 2001:table 29.

Table 27.6: Relative Percentages of Pottery Classes for All Recovered Rim Sherds and for “Whole” Vessels Only (Rim Fraction &gt; 35%)

<i>Vessel Class</i>	<i>Winery</i>		<i>Marketplace</i>	
	All	>35%	All	>35%
Storage Jar	39	68	37	51
Bowl	29	9	30	6
Jug	10	11	8	13
Lamp	3	0	7	5
Juglet	5	9	6	19
Fine Ware	3	0	4	0
Cooking Pot	3	0	3	5
Krater	4	2	2	2
Mortarium	1	0	1	0

Table 27.4 illustrates the broad similarity in the room-by-room pottery distributions across the various architectural spaces in the Grid 50 marketplace, although there was a markedly different distribution in **East Street** and the **Plaza**, the widest outdoor spaces, which have many more bowls than storage vessels, pointing to consumption rather than storage activities in these spaces. The largest collection of fine ware and platters (for serving food) was also clustered in the **Plaza**. Lawrence Stager (1996) has previously discussed the various lines of evidence that point to commercial activity in these spaces. The preponderance of bowls might suggest that these were retail spaces in which commercial acquisition and consumption took place simultaneously.

The winery in Grid 38 contained relatively few floors with large collections of pottery. In places where there was pottery, the frequency distribution of vessel classes varied greatly from room to room. Table 27.5 presents rim-fraction percentages from the winery against the backdrop of similar statistics compiled by Mazar and Panitz-Cohen (2001:tables 29 and 32) for several Iron Age sites.<sup>5</sup> The distributions in Room 210 and Room 57 in the Ashkelon winery are most similar to the storehouse at Tell Qasile and the caravanserai at Kuntillet cAjrud, which were dominated by storage vessels. Room 22 of the winery was similar to rooms in the oil-processing facilities at Ekron—in both cases, there was a striking absence of cooking vessels and a large number of bowls and kraters. Room 312, the best-preserved room in the Ashkelon winery, has a pottery distribution similar to

that of Buildings F607 and F608 at Tel Batash and Building 28636 at Beth Shean, which were domestic contexts with some household industry, including weaving. This similarity takes on added significance in light of the evidence for weaving in Room 312 (see chapter 18 in the present volume on the loom weights found in this room).

#### Whole Vessels

At many sites, whole vessels are given pride of place based on the understanding that intact or restorable vessels are less likely to be residual and are more likely to be found in the spaces in which they were originally deposited. At Ashkelon, “whole vessels” are defined as those with a restored rim fraction greater than 35 percent. This criterion may seem unduly permissive; however, only 162 vessels from primary contexts in both excavation areas met this condition. A higher cut-off would have underrepresented the number of whole vessels originally deposited by causing us to ignore large fragments of indubitably late seventh-century date that could not have been residual and whose joining sherds were presumably lost due to postdepositional erosion of the site and later building activities.

When “whole” vessels are considered alone, bowls are much less frequent and juglets and storage jars are much more frequent (table 27.6). It is possible that the bias of the “whole” vessels towards storage uses reflects the situation in the period immediately before the 604 B.C. destruction when the city’s inhabitants hoarded foodstuffs in advance of the expected siege. However, this pattern may be an illusion because the rims most likely to be “whole,” and even fully preserved (100 percent), are from vessels with the smallest rim diameters, namely, storage jars and juglets.

<sup>5</sup> It should be noted that the pottery from these sites was quantified using different methods. In most cases, as at Tel Batash and Ekron, the statistics pertain to whole restorable vessels. At Ashkelon, this was not possible.

Table 27.7: Quantities of Artifacts in Each Cluster Compared to Total Quantity of That Type of Artifact in All Primary Contexts in the Grid 38 Winery

Type & Location	Qty. in Cluster	Total Qty.
Loom Weights		
Room 312/413	38	58
Room 342	10	58
Room 796	2	58
Room 801	1+frags.	58
Amulets		
Room 312	9	11
Jewelry		
Room 312	8	28
Room 22	7	28
Groundstone		
Room 312	5	15
Scarabs		
Room 312	5	10

Table 27.8: Quantities of Artifacts in Each Cluster Compared to Total Quantity of That Type of Artifact in All Primary Contexts in the Grid 50 Marketplace

Type & Location	Qty. in Cluster	Total Qty.
Loomweights		
Room 221	7	14
Room 375	5	14
Iron Tools		
Building 234	10	28
Building 58	8	28
Room 375	3	28
Amulets		
South Street	10	13
Jewelry		
South Street	15	31
Figurines		
South Street	7	15
Weights		
South Street	11	18

### *Spatial Analysis of Artifacts Other than Pottery*

There were clear patterns in the spatial distribution of artifacts other than pottery. For the most part, these patterns were discerned at the time of excavation because they consisted of obvious clusters of objects; they were not subtle patterns revealed by elaborate statistical analysis (see figures 21.3 and 21.4 and tables 27.7 and 27.8). Note, however, that caution is required in interpreting the clustering of these artifacts because they, like the pottery, were subject to postdepositional disturbances.

#### The Winery: Loom Weights

The discovery of clusters of loom weights is not surprising. If we accept that the clay spheres in question were indeed loom weights (see chapter 18), then they provide an indication of the multiple functions of **Building 776** in the Grid 38 excavation area, where weaving appears to have been an activity complementary to the wine-pressing that is demonstrated by other evidence. However, wine-pressing and weaving did not occur in the same spaces; the loom weights were always in a room adjacent to the room with a press.

#### The Winery: Collapsed Roofing Material

**Building 776** was a single, roofed structure, so it is to be expected that collapsed roofing material was

found here and there across its entire extent. Rooms without evidence of roof collapse were the most poorly preserved rooms in the building, in which the absence of expected finds can be explained by post-depositional disturbance. One exception to this is **Room 739**, which had an intact floor with *in situ* destruction debris but no evidence of roof collapse.

**Building 776** was probably a multistory structure. In the intersection between **Room 408** and **Room 492**, **Robber's Trench 508** had removed a stone feature that seems to have served no structural function; however, it was in an ideal location for a stone staircase that provided access to the upper story.

#### The Winery: A Cache of Egyptian Objects

**Room 312** and **Room 413** in the winery were the richest rooms in almost every respect. In them were found seven Egyptian bronze situlae, a bronze model offering tray, and a bronze figurine of Osiris, as well as scarabs, amulets, jewelry, loom weights, and grinding stones.<sup>6</sup> Lawrence Stager (1996) has previously argued that this cluster of objects shows the presence in Ashkelon of people who had a deep familiarity with Egyptian religious practices and may

<sup>6</sup> The situlae and Osiris figurine are described in detail in chapter 13 of the present volume, the scarabs in chapter 11, and the amulets in chapter 12.

well have been native Egyptians. The cluster of Egyptian objects in the winery and the cluster in the marketplace (discussed below) give new significance to the large Egyptian hoard discovered decades earlier at Ashkelon by J. H. Iliffe (1936). Iliffe's hoard contained a similar Osiris figurine, which Stager has linked to the Egyptian objects found in the winery, and also contained rare bronze Phoenician-style cuboid weights similar to those found together with Egyptian artifacts in **South Street** of the marketplace.<sup>7</sup> The co-occurrence of these distinctive items at particular locations raises the possibility that Egyptians, or Egyptian agents, physically occupied key places throughout Ashkelon, supervising production and commercial activity in the city at the end of the seventh century B.C.

#### The Marketplace: Iron Tools

In the marketplace in Grid 50, iron tools were clustered indoors, indicating a systematic difference in the activities carried on inside and outside the buildings. The distribution of the iron tools correlates reasonably well with the clusters of botanical remains.<sup>8</sup> The connection is particularly strong in **Building 58**, which contains iron tools, carbonized grain and grass-pea seeds (*Lathyrus sativus*), grinding stones, and even a funnel for pouring grain or flour (figure 27.1). In **Building 234**, the iron tools and grain were accompanied by a receipt for the sale of grain (*Ashkelon I*, pp. 336–39, inscription no. 1.2). In the winery in Grid 38 this suite of activity-markers was nowhere to be found. This may point to initial processing of grain in a centralized market context rather than direct movement of the grain from local fields to the households where it was consumed.

#### The Marketplace: Reed-impressed Clay

Another noteworthy pattern in the marketplace was the presence of reed-impressed clay among the destruction debris in **Building 234** and its complete absence everywhere else. This disparity is unlikely to have been caused by postdepositional processes because **Building 58** and **Building 406** both contained well-preserved destruction debris in which one might have expected to find reed-impressed clay if this were a feature of all of the buildings. It is possible that the reed impressions are indicative, not of the

<sup>7</sup> These cuboid weights are described in chapter 17 of the present volume.

<sup>8</sup> The iron tools are described in chapter 19 and the plant remains in chapter 23.

roof itself, but of a first-floor ceiling in a multistory building, in which case **Building 234** was probably the only two-story structure in the marketplace. The other buildings were of course roofed but lacked reed-impressed clay.

This casts additional light on the incense altar which had fallen from its original rooftop location to rest on top of the layer of collapsed roofing material in **Building 234** (see chapter 22, altar no. 1). If this building indeed consisted of two or more stories, unlike the other buildings nearby, then the incense altar sat on the roof of the tallest and most prominent building in the marketplace.



Figure 27.1: Room 52 in Building 58 (view to south)



Figure 27.2: Reed-impressed clay from Building 234

#### The Marketplace: A Commercial Street-corner

One corner in **South Street** contained a cluster of artifacts of an ornamental and commercial nature. The layout of the buildings in the marketplace was such that this corner was the first street-corner encountered by pedestrians coming up from the beach to the west as they entered the city. The manner in which the artifacts were spread around the east side of **Building 234** may indicate an accommodation to the strong wind from the sea that would have blown daily down **West Street**.

The cluster of artifacts included scale weights (see chapter 17) and the remnants of a bronze balance scale of the kind used for performing transactions by weighing out cut silver (*Hacksilber*). It also included Egyptian amulets (see chapter 12). As noted above, a similar cache of Egyptian ritual objects together with scale weights was discovered at Ashkelon in 1936, including bronze cuboid weights identical to those discovered in the Grid 50 marketplace. The linkage between Egyptian artifacts and commercial activity suggests direct Egyptian oversight of the Ashkelon marketplace for purposes of regulation and taxation. This idea is supported by the appearance of an Egyptian name on a pre-604 B.C. ostrakon found in second-

dary context in a Persian-period fill layer immediately above the marketplace (*Ashkelon I*, pp. 348–49, inscription 1.14). The inscription, written in the Neo-Philistine script, reads “Belonging to Kanūpī, the man-at-arms.” The Egyptian name Kanūpī is found several times in the Elephantine papyri. The presence at Ashkelon of Egyptian military personnel makes plausible the conclusion that Egyptian overseers kept a watchful eye on transactions that occurred in places such as the **South Street** corner in front of **Building 234**. Here we have a glimpse of how the Egyptians, like the Assyrians before them, controlled this important trading entrepot, which in the years leading up to 604 B.C. lay firmly within their imperial domain.

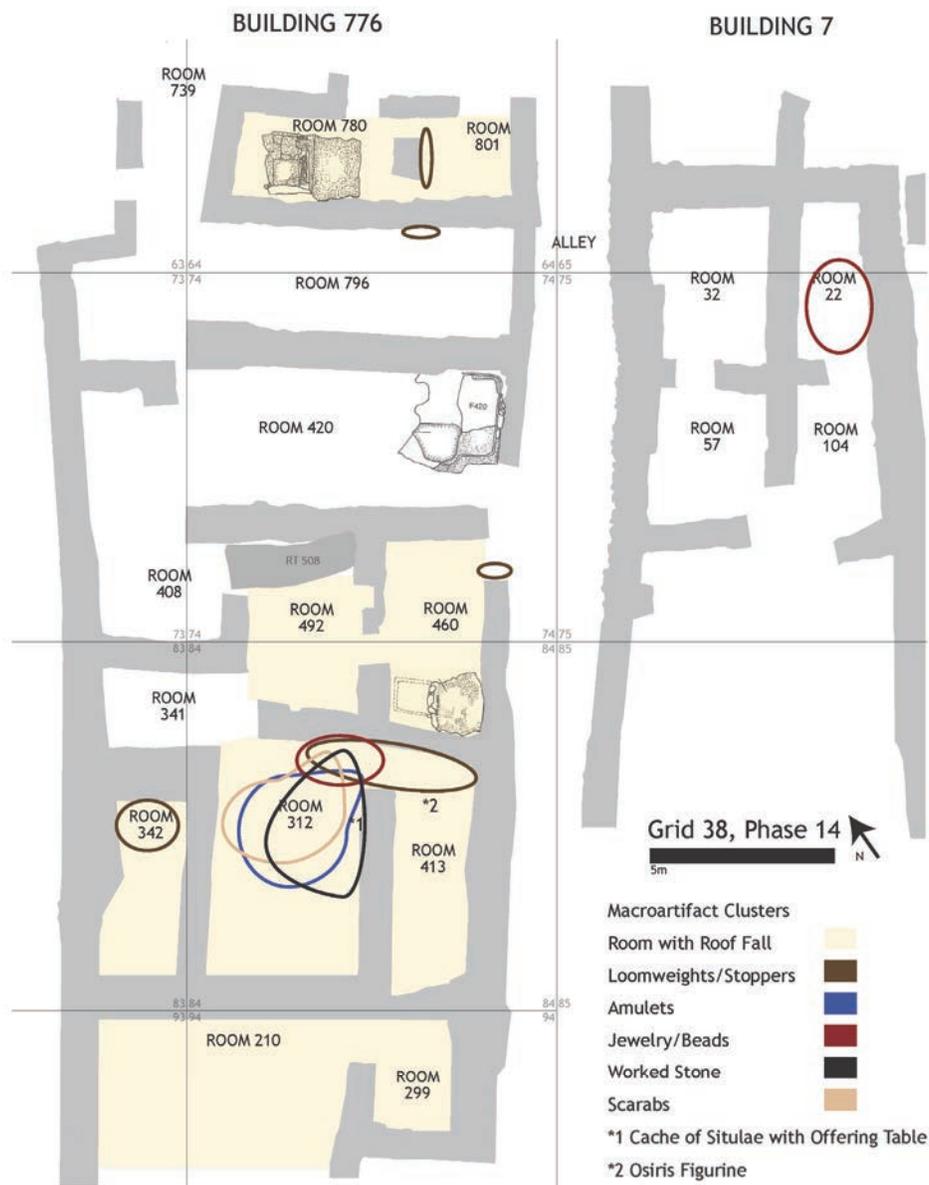


Figure 27.3: Artifact clusters in the Grid 38 winery

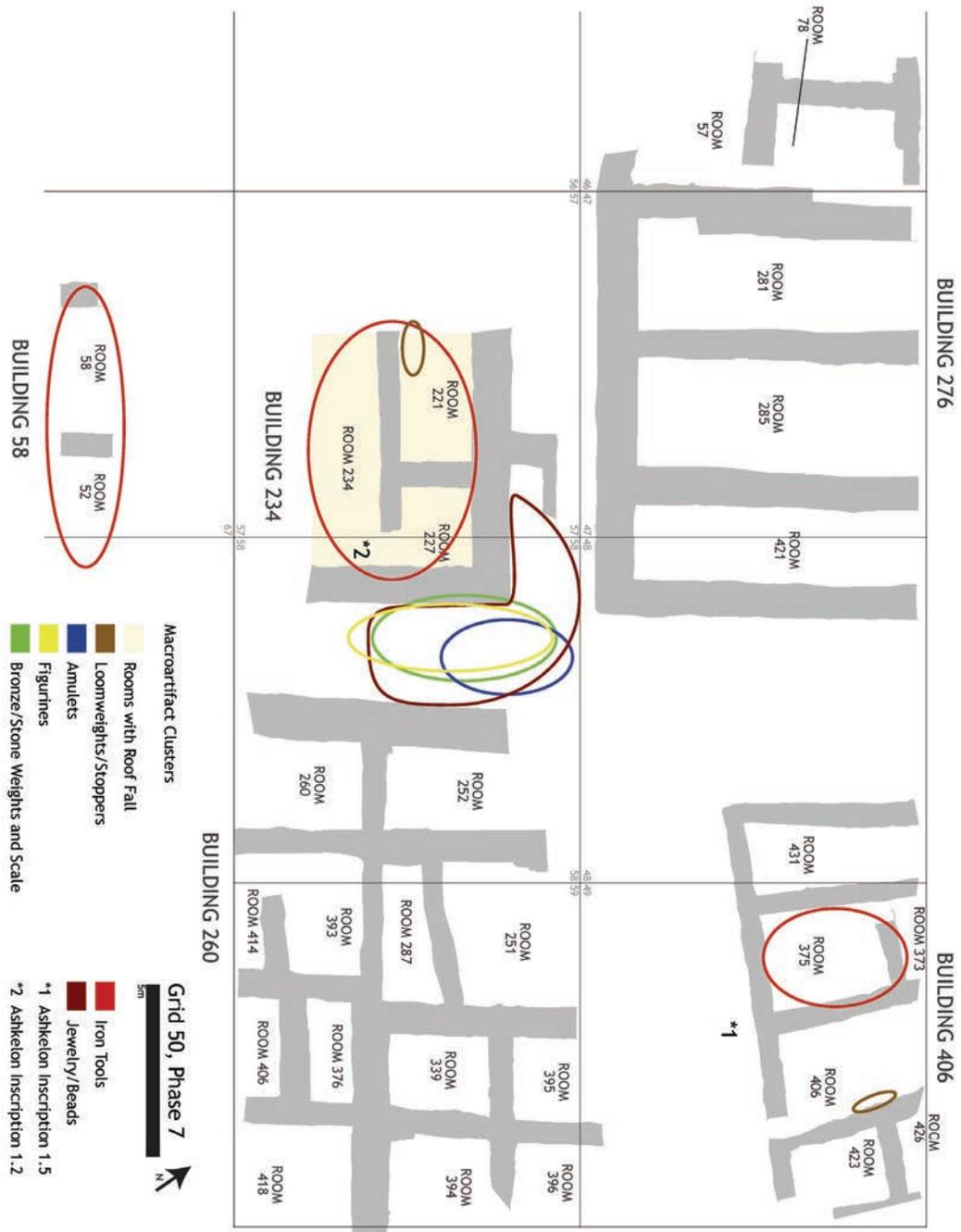


Figure 27.4: Artifact clusters in the Grid 50 marketplace

*Room-by-room Analysis of the Winery*

The maps and stratigraphic diagrams in figures 27.5–13 show the spatial distribution of pottery and other artifacts in each architectural space in the Grid 38 winery in which such material was adequately preserved. In what follows here, the finds in each room and in the alley east of the main winery building are summarized. Quantitative estimates of the various types of pottery found in each architectural space are provided for the better-preserved rooms.

## Room 780 and Room 801 (figure 27.6)

**Room 780** is dominated by a well-preserved wine-pressing platform and vat (**Press 777**). This wine press is intact because it was intentionally covered sometime before the destruction of the area in 604 B.C. Three Ionian cup fragments found in the fill of the press basin (**Layer 764** in Square 64) provide a *terminus post quem* of ca. 625 for the remodeling of the room.<sup>9</sup> No East Greek pottery dating to the last quarter of the seventh century was found in the original construction phase of the winery; however, by the end of the seventh century, such pottery was in every excavated room at Ashkelon, including a cache of objects just north of the wall of **Room 780**.

The covering of the Ashkelon press recalls the similar phenomenon in the olive-oil production facilities at Ekron (summarized in Gitin 2003), where the olive presses of Stratum IC were put out of use in Stratum IB. But at Ashkelon, at least, this transformation is linked by direct ceramic evidence to the rise of trade with Greece in the last quarter of the seventh century. The decline in production in both Ashkelon and Ekron may well have been the result of broader economic trends in the Mediterranean region, in which trade with Greece began to flourish and Greek oil and wine supplanted what had been produced in the southern Levant in certain markets. In other words, the decline in production was not a direct consequence of the Assyrian withdrawal from the Levant in this period—although it may have been indirectly affected by this withdrawal, to the extent that it created the conditions in which trade with Greece began to take off.<sup>10</sup>

**Room 801**, to the east of **Room 780**, shows few signs of architectural alteration. Its function may have remained unchanged throughout the lifespan of the building. The loom weights found along the west-

ern wall of this room are either an indication that weaving took place as a complementary activity to wine-making during the period when the press was in use, or an indication of domestic production in the period after the press had gone out of use.

Table 27.9: Quantity of Pottery of Each Type in Room 801 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV
Bowl (undifferentiated)	0.03	
Bowl 1	1.32	2
Bowl 2	0.23	1
Bowl 3	1.25	3
Bowl 5	1.17	2
Bowl 6	0.10	1
Bowl 9	0.29	2
Southeastern Bowl 4	0.07	1
Phoenician Fine Ware bowl		2
East Greek bowl	0.12	2
Cooking Pot 1	0.84	1
Storage Jar 1	0.70	1
Storage Jar 2	1.05	2
Phoenician Amphora 2	0.15	1
East Greek amphora/jar		2
Amphora 1		1
Jug 1	0.14	1
East Greek jug		1
Lamp	0.40	1
Residual	0.03	1

## Room 796 (figure 27.7)

**Room 796** was preserved only in small patches and its function is unclear. It was accessed from a doorway to the northwest; it was part of a larger unit that included **Rooms 780** and **801**. It is unclear whether there was any passage from this room to the south or east.

## Room 492 (figure 27.8)

**Room 492** was a small transitional room in a portion of the winery centered around **Press 282**. To the north, **Robber's Trench 508** might mark the location of stairs to the second story or the roof. The storage vessels (all Storage Jar 1) come from a layer of destruction debris (**Layer 429** in Square 74) that covered the mudbrick stumps of all of the surrounding walls, likely indicating that the jars were on the second story when the building collapsed.

<sup>9</sup> Ionian cups are discussed in detail above in chapter 10.

<sup>10</sup> This is the conclusion reached by Daniel Master, in particular.

Table 27.10: Quantity of Pottery of Each Type in Room 492 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>	<i>“Whole”</i>
Amphora 1		1	
Bowl 1	0.17	1	
Bowl 2	0.05	1	
Bowl 3	0.07	1	
Bowl 3	0.11	1	
Bowl 4	0.64	2	
Bowl 5	0.20	2	
Bowl 6	0.12	2	
Bowl 7	0.13	1	
Bowl 10		1	
Bowl 12	0.03	1	
Phoenician Fine Ware bowl	0.06	1	
Cypriot/N. Syrian mortarium		1	
East Greek bowl		1	
Storage Jar 1	3.85	4	3
Storage Jar 2	0.45	2	
Phoenician Amphora 1	0.10	1	
Cypro-Archaic jar		1	
Jug 1	0.20	2	
East Greek jug		1	
Juglet	1.37	4	
Lamp	0.10	1	
Unrecognized	0.05	1	

Table 27.11: Quantity of Pottery of Each Type in Room 342 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>
Bowl (undifferentiated)	0.08	
Bowl 1	0.17	2
Bowl 2	0.47	1
Bowl 4	0.07	1
Bowl 6	0.45	2
Bowl 7	0.01	1
Bowl 9	0.13	1
Southeastern Bowl 2	0.11	1
East Greek bowl		1
Krater 1	0.05	1
Storage Jar 1	1.75	2
Storage Jar 2	0.35	2
Cypro-Archaic jar		1
Amphora 1	0.15	1
Jug 1	0.25	1
Juglet		1
Assyrian “bottle”	0.14	1
Lamp	0.06	1
Residual		1

#### Room 342 (figure 27.9)

**Room 342** contained well-preserved floors with loom weights grouped together against the walls. It is likely that this space was connected to the east in some way, though the systematic robbing of all of the walls in this portion of the winery makes the details uncertain.

#### Room 312 and Room 413 (figure 27.10)

These two rooms had the best-preserved interior floors in the seventh-century structures excavated at Ashkelon. The loom weights and groundstone artifacts are the primary indicators of the productive activities that took place in these rooms. However, a cache of amulets and scarabs, and especially the seven bronze situlae and model offering tray found in this part of the winery building (chapter 13), point to the presence of Egyptian personnel who participated in or oversaw the activities, as discussed above.

#### Room 210 (figure 27.11)

**Room 210**'s complex stratigraphy made it difficult to discern its function. It had a wine press, though this was poorly preserved and may have been modified over time. The original press included a pressing platform which encompassed **Feature 283**, **Feature 273**, and **Feature 267** and drained into partially excavated **Pit 266**. At some point, much of this was covered over, and **Press 218** became the dominant feature in the area. We have interpreted this as a pressing platform (see chapter 2), but the use of ashlar blocks in its construction is quite unlike the method of construction used for the wine presses farther north in **Building 776**.

#### Room 22 (figure 27.12)

**Room 22** was in **Building 7**, west of the alley. Like the other spaces in this area, it had no clear floor, just destruction debris which had been raked across the room (this was excavated as **Layer 22** in Square 65 and **Layer 4** in Square 75). Although **Room 22** contained many fragments of large vessels and abundant small finds, none of these could be precisely located within the room in a way that would aid our understanding of the function of the space. In light of the extensive leveling and raking of seventh-century debris that took place in this area during the Persian period, in order to prepare the ground for new buildings, it is not even certain that the objects found in **Room 22** were originally used there.

Table 27.12: Quantity of Pottery of Each Type in Room 312 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>	<i>“Whole”</i>
Bowl (undifferentiated)	2.29		
Bowl 1	0.53	2	
Bowl 2	0.48	4	
Bowl 3	0.91	5	
Bowl 4	0.29	3	
Bowl 5	0.14	2	
Bowl 6	0.09	1	
Bowl 7	0.04	1	
Bowl 9	0.24	1	
Bowl 12	0.05	1	
Southeastern bowl (undiff.)		1	
Southeastern Bowl 1	0.04	1	
Southeastern Bowl 2	0.07	1	
Phoenician Fine Ware bowl	0.01	1	
Phoenician Fine Ware Bowl 4	0.05	1	
East Greek bowl	0.32	3	
Krater 1	0.30	1	
Cooking Pot 1	1.42	3	
East Greek cooking pot		1	
Jar/Krater 1	0.20	1	
Storage Jar 1	2.44	3	2
Storage Jar 2	0.45	1	
Phoenician Amphora 3	0.30	1	
Amphora 1		1	
Jug (undifferentiated)	0.12		
Jug 1	1.38	4	1
Phoenician Fine Ware jug		1	
Phoenician decanter	1.00	1	1
Juglet	1.36	2	2
Lamp	0.63	1	
Residual	0.16	1	
Unrecognized		1	

Table 27.13: Quantity of Pottery of Each Type in Room 413 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>	<i>“Whole”</i>
Bowl 1	0.11	1	
Bowl 2	0.18	2	
Bowl 3	0.20	1	
Bowl 3	0.06	1	
Bowl 4	0.08	1	
Bowl 6	0.16	1	
Bowl 9	0.08	1	
Southeastern Bowl 1	0.05	1	
Storage Jar 1	0.95	1	1
Jug 1	0.12	1	
Residual		1	

Table 27.14: Quantity of Pottery of Each Type in Room 210 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>	<i>“Whole”</i>
Red-slipped bowl (undiff.)	0.08	1	
Bowl 1	0.38	1	
Bowl 2	0.11	1	
Bowl 3	0.07	1	
Bowl 3	0.11	1	
Bowl 4	0.09	1	
Bowl 5	0.10	1	
Bowl 6	0.64	1	
Bowl 7	0.27	1	
Bowl 9	0.19	1	
Southeastern Bowl 1	0.12	1	
Phoenician Fine Ware bowl	0.07	1	
Cypriot/N. Syrian mortarium		1	
East Greek bowl		1	
Cooking Pot 1	0.37	1	
Storage Jar 1	7.83	9	3
Storage Jar 2	0.43	1	1
Storage Jar 3		1	
Phoenician Amphora 3	0.13	1	
Basket-handled amphora		1	
Amphora 1		1	
Cypro-Archaic jar		1	
Jug (undifferentiated)	0.15		
Jug 1	0.15	2	
Jug 2	0.10	1	
Phoenician Fine Ware jug		1	
Juglet	2.31	4	2
Assyrian “bottle”	0.10	1	
Lamp	0.12	1	

## The Alley (figure 27.13)

The alley that ran between **Building 776** and **Building 7** is notable for the presence of 59 bases of imported jars (Phoenician Amphora 3). These were reused as part of a drain construction in the center of the alley (see figure 2.24). Some of the jars, in Square 74, may have been used to collect the overflow from **Press 420**, but in Square 84 to the south, they were stacked two deep in such a way that they could not have collected anything (figure 2.25). These jars belong to the first phase of the winery before the arrival of late seventh-century East Greek imports. By the time of the 604 B.C. destruction, all of these jars had been covered by rising street accumulation. Although the secondary use of these jars is odd, their existence at the site points to Ashkelon’s close relationship with Phoenicia before the arrival of Greek imports in the last quarter of the seventh century.

Table 27.15: Quantity of Pottery of Each Type in Room 22 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>	<i>“Whole”</i>
Bowl (undifferentiated )	4.53	9	
Bowl 1	0.36	3	
Bowl 2	1.20	5	
Bowl 3	1.95	7	
Bowl 4	0.65	2	
Bowl 5	0.88	3	
Bowl 6	0.47	2	
Bowl 7	0.35	1	
Bowl 9	0.03	1	
Bowl 13	0.10	1	
Phoenician Fine Ware platter	0.05	1	
Phoenician Fine Ware bowl	0.33	2	
Cypriot/N. Syrian mortarium	0.57	2	
Krater 1	0.76	1	1
Cooking Pot 1	0.23	2	
Jar/Krater 1	1.39	3	
Storage Jar 1	5.78	7	6
Storage Jar 2	0.59	2	
Egyptian jar	0.30	1	
Phoenician Amphora 1	0.28	1	
Phoenician Amphora 3	0.37	1	
Cypro-Archaic jar		1	
Amphora 1	0.15	1	
Jug (undifferentiated)	0.50	1	
Jug 1	3.57	10	1
Jug 2	0.56	2	
Decanter 1	0.73	2	
Juglet	0.22	2	
Lamp	0.55	1	
Residual	0.78	8	
Unrecognized	0.51	3	

Table 27.16: Quantity of Pottery of Each Type in the Alley Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

<i>Type/Class</i>	<i>RF</i>	<i>MNV</i>	<i>“Whole”</i>
Bowl (undifferentiated)	0.29		
Bowl 1	0.94	3	
Bowl 2	0.81	3	
Bowl 3	1.32	4	
Bowl 4	2.91	5	
Bowl 5	1.37	3	
Bowl 6	0.53	2	
Bowl 7	0.80	3	
Bowl 9	0.07	1	
Bowl 12	0.18	1	
Bowl 13	0.08	1	
Southeastern Bowl 1	0.06	1	
Phoenician Fine Ware bowl	0.29	2	
Phoenician Fine Ware Bowl 4	0.04	1	
Cypriot/N. Syrian mortarium	0.06	1	
East Greek bowl		1	
Krater 1	0.12	1	
Cooking Pot 1	0.55	1	
Jar/Krater 1	0.15	1	
Storage jar (undifferentiated)	0.28		
Storage Jar 1	5.09	6	4
Storage Jar 2	0.74	2	
Storage Jar 3		1	
Phoenician Amphora 1		1	
Phoenician Amphora 2	0.12	1	
Phoenician Amphora 3		59	1
Cypro-Archaic jar		1	
East Greek amphora/jar		1	
Amphora 1	0.68	5	
Jug 1	0.64	2	
Jug 2	0.10	1	
Phoenician Fine Ware jug		1	
Juglet	0.95	3	
Assyrian “bottle”	0.05	1	
Lamp	1.34	2	
Residual	0.25	2	
Unrecognized	0.37	1	



Figure 27.5: Overview of the spatial distribution of pottery and other artifacts in the Grid 38 winery; enlargements of the eight regions marked on this plan are presented in figures 27.6–13 below

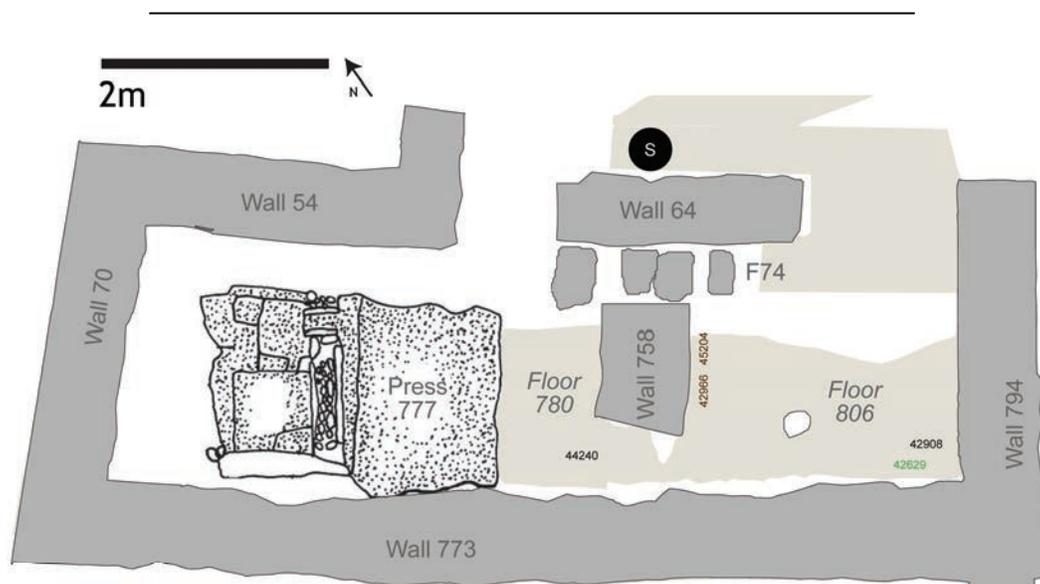
Legend for Maps of the Spatial Distribution of Pottery and Other Artifacts in the Grid 38 Winery

Pottery (>35% rim fraction)

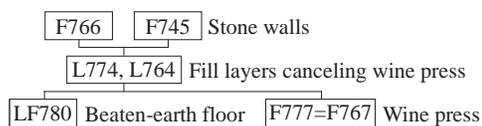
- j juglet
- d decanter
- J jug
- B bowl
- K krater
- C cooking pot
- S storage jar
- S Local Storage Jar 2 with rilled rim
- Phoenician Amphora 3 cut off at shoulder
- Phoenician Amphora 3

Other Artifacts

- 39011 blue registration no.—scarab, amulet, faience/alabaster artifact
- 20408 green registration no.—bronze artifact
- 20409 red registration no.—iron artifact
- 39069 brown registration no.—loom weight or jar stopper
- 4 clay sealing* italics indicate observation from soil flotation fragments



Room 780



Room 801

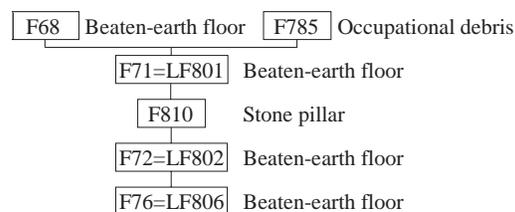


Figure 27.6: Winery Map 1—Spatial distribution of pottery and other artifacts in Rooms 780 and 801 with diagrams of stratigraphic relationships within Room 780 (lower left) and Room 801 (lower right)

Artifacts in Room 780: groundstone 44240

Artifacts in Room 801: groundstone 42908; loom weight frags. 42966, 45204; bronze hasp 42629

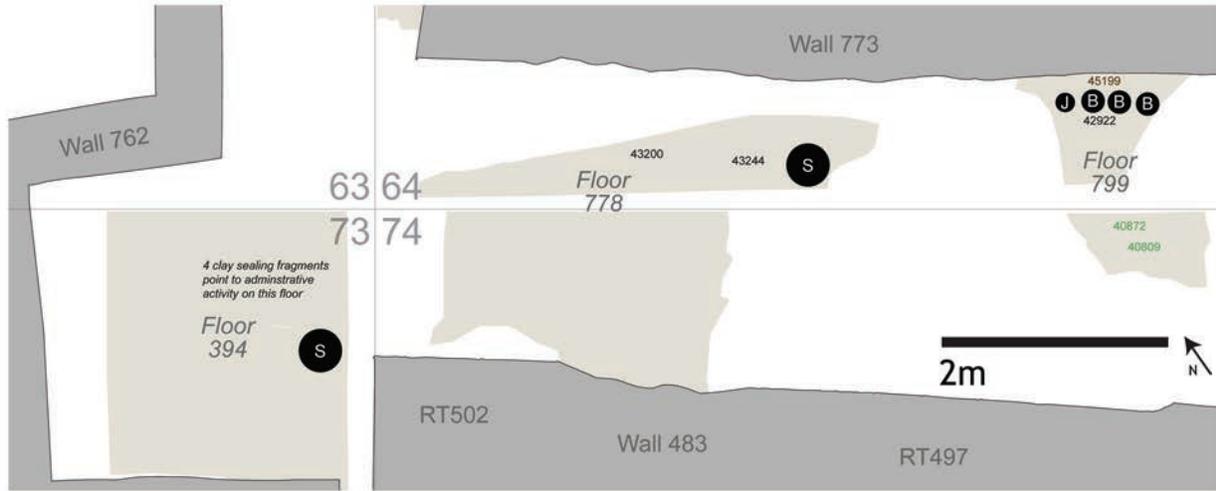
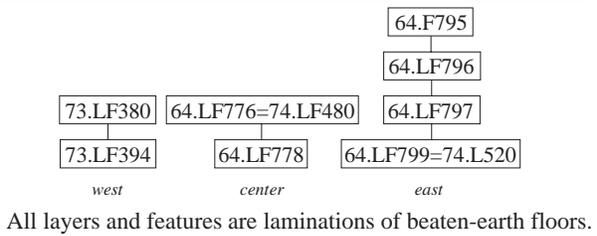


Figure 27.7: Winery Map 2—Spatial distribution of pottery and other artifacts in Room 796 with a diagram (right) of stratigraphic relationships within this room

Artifacts: bronze arrowhead **40809**; scale weight **40872**; groundstone **42922**; stone tools **43200**, **43422**; loom weight frags. **45199**



All layers and features are laminations of beaten-earth floors.

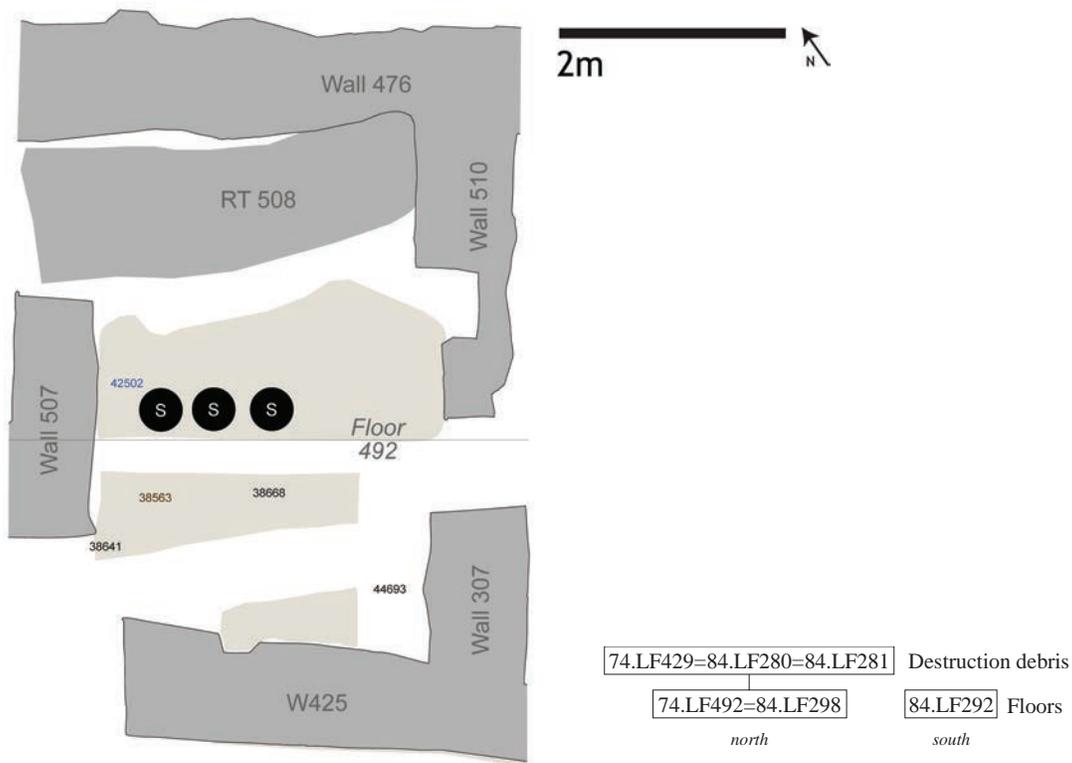


Figure 27.8: Winery Map 3—Spatial distribution of pottery and other artifacts in Room 492 with a diagram of the stratigraphic relationships within this room

Artifacts: stone tools **38641**, **38668**; loom weight **38563**; scarab **42502**; jewelry **44693**

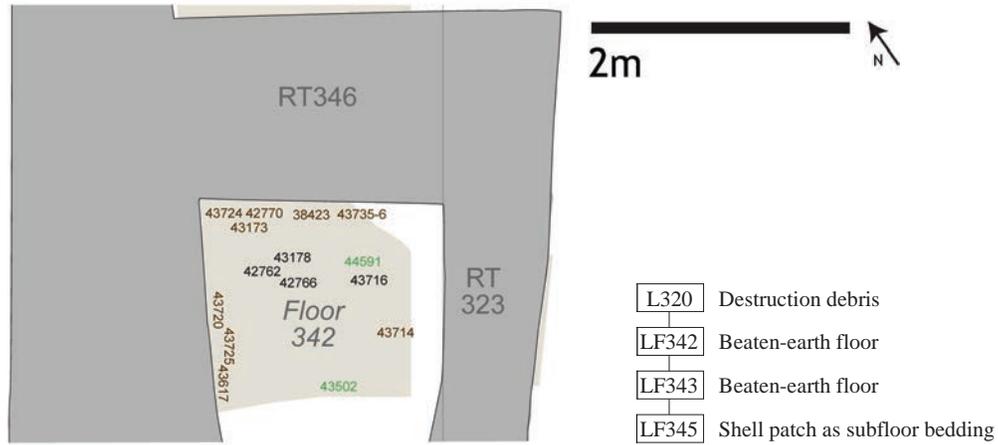


Figure 27.9: Winery Map 4—Spatial distribution of pottery and other artifacts in Room 342 with a diagram of the stratigraphic relationships within this room

Artifacts: loom weights 38423, 42770, 43173, 43617, 43714, 43715, 43720, 43724, 43725, 43735, 43736; jewelry 42762, 42766, 43502; groundstone 43178, 43716; scale weight 44591

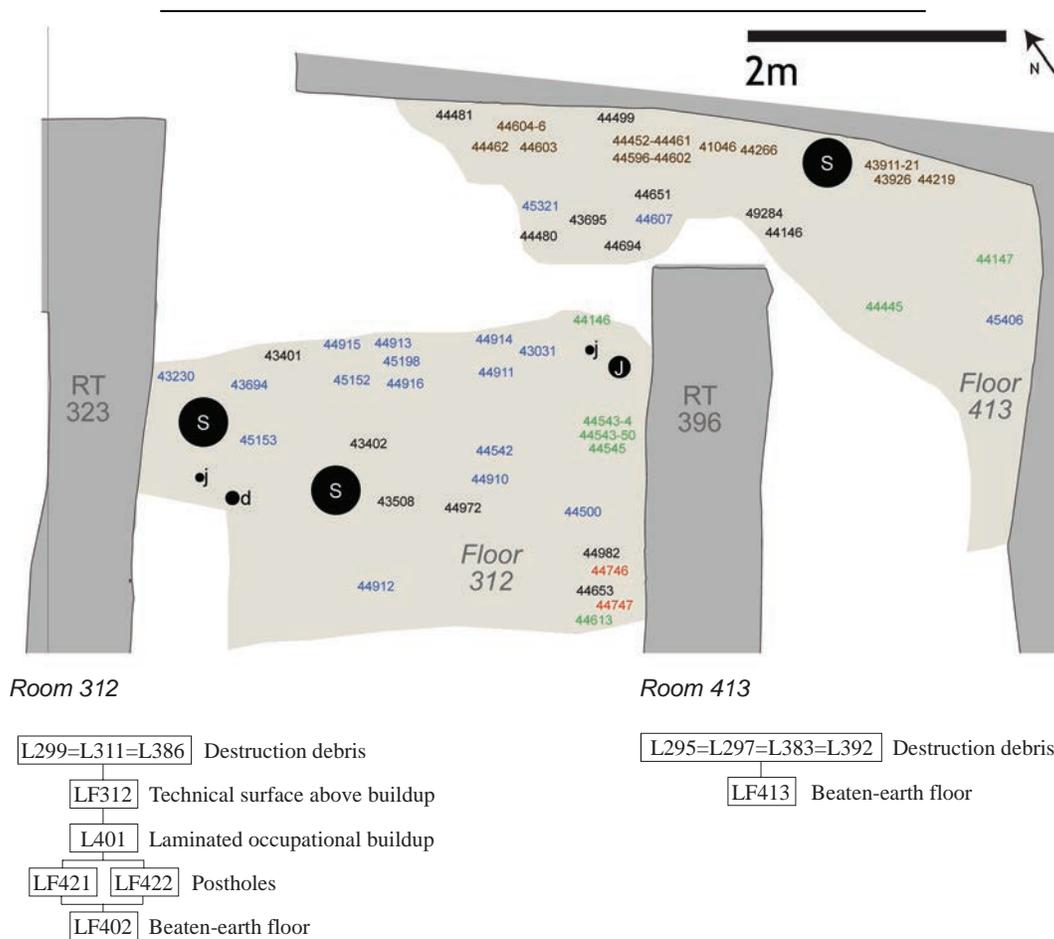


Figure 27.10: Winery Map 5—Spatial distribution of pottery and other artifacts in Rooms 312 and 413 with diagrams of the stratigraphic relationships within Room 312 (lower left) and Room 413 (lower right)

Artifacts found in Rooms 312 and 413 are listed on the following page.

Room 312: loom weights 41046, 42266, 44452–44461, 44462, 44569–44606; groundstone 43402, 43508, 44651, 44653, 44694; jewelry 43401, 43695, 44146, 44480, 44481, 44499, 44982; scarabs 43031, 43230, 44910, 44911, 45198, 45321; amulets 43694, 44542, 44607, 44912–44916, 45152, 45153; bronze situlae 44543, 44544, 44546–44550; bronze model offering tray 44545; terracotta figurine 44972; alabastron 44500; scale weight 44613; iron blade 44746; iron spear point 44747

Room 413: loom weights 43911–43921, 43926, 44219; jewelry 44146; bronze fragment 44147; bronze Osiris figurine 44445; faience fish fragment 45406; stone tool 49284

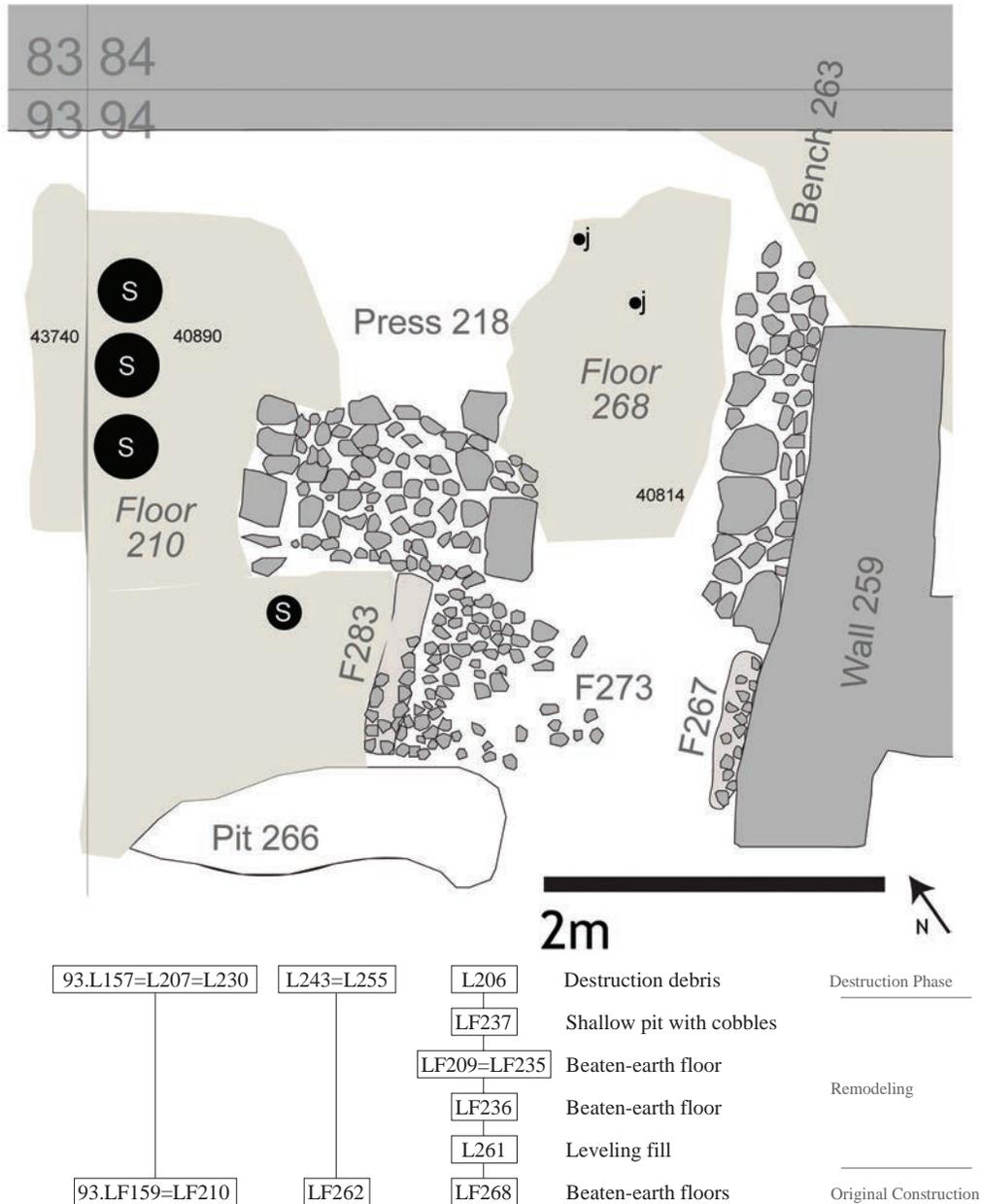


Figure 27.11: Winery Map 6—Spatial distribution of pottery and other artifacts in Room 210 with a diagram of the stratigraphic relationships within this room

Artifacts: scarabs 40814, 43740; groundstone 40890

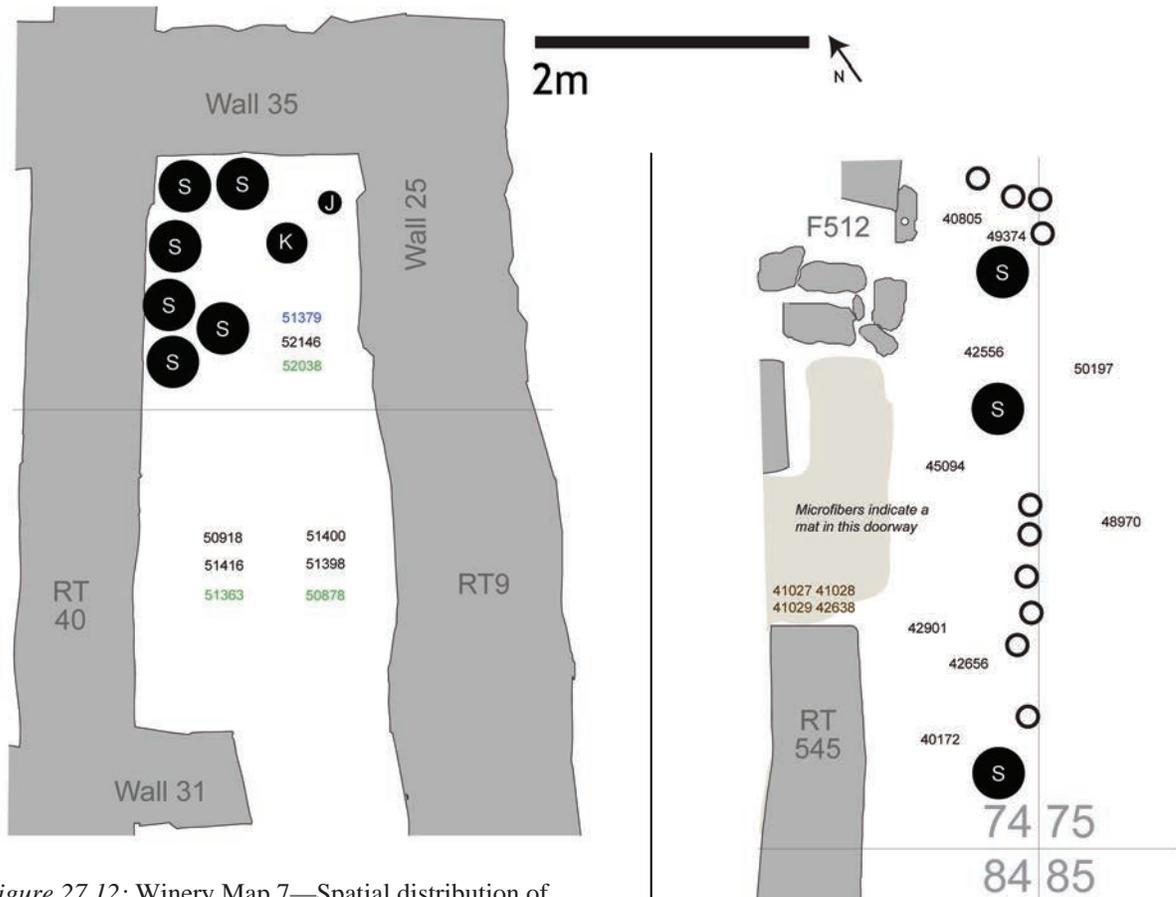
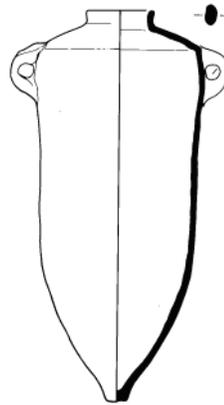


Figure 27.12: Winery Map 7—Spatial distribution of pottery and other artifacts in Room 22 of Building 7  
 Artifacts (locations approx.): scarab 51379; stone tools 51416, 52146; jewelry 50878, 50918, 51363, 52038, 51398, 51400



Scale 1:10

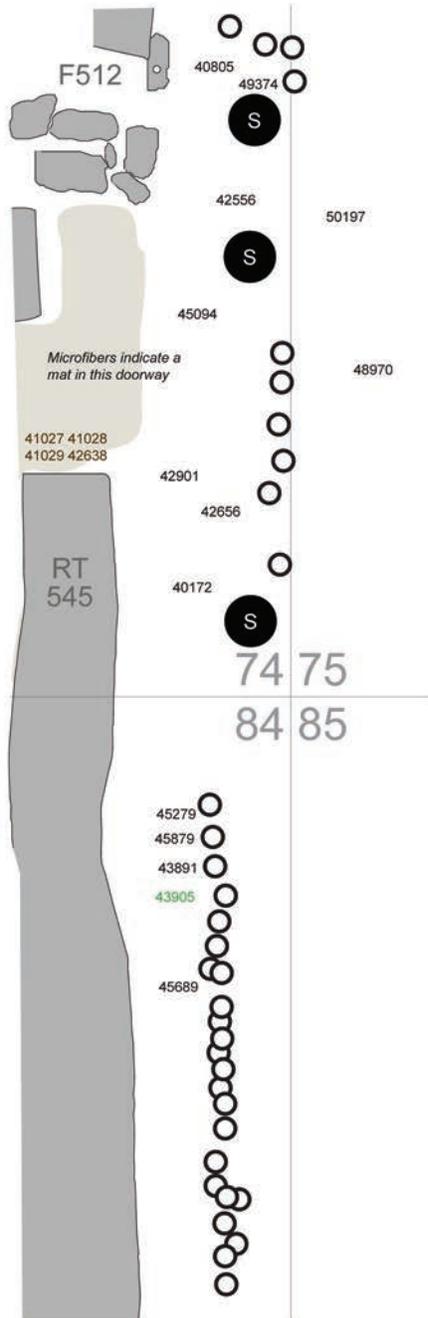


Figure 27.13: Winery Map 8—Spatial distribution of pottery and other artifacts in the alley between Building 776 and Building 7. In the alley were dozens of examples of Phoenician Amphora 3 that had been cut off at the shoulder. The intact example illustrated above has field reg. no. A80/97.38.94.LF298.B57.(3).

Artifacts (locations approx.): jewelry 40805, 42556, 43905; amulet 45689; terracotta figurine 42901; iron nails 45879, 48970; groundstone 40172, 42656, 43891; stone tools 45094, 50197 (not shown—stone tools 11602, 11687, 11738, 12872, 48949); loom weights (in entrance to Room 460) 41027, 41028, 41029, 42638

*Room-by-room Analysis of the Marketplace*

The maps and stratigraphic diagrams in figures 27.14–26 show the spatial distribution of pottery and other artifacts in each architectural space in the Grid 50 marketplace in which such material was adequately preserved. In what follows here, the finds in each room and street are summarized. Quantitative estimates of the various types of pottery found in each architectural space are provided for the better-preserved rooms.

## Room 423 and Room 426 (figure 27.15)

A broken ostrakon (reg. no. 43619) found in **Room 423** lists “8” of something, probably a commodity for storage or sale (see *Ashkelon 1*, p. 347, inscription no. 1.12). Unfortunately, the preserved fragment does not indicate the commodity in question. However, a scale weight found in the same room reinforces the notion that this space had a commercial function. **Room 423** contained several whole storage vessels and juglets, as well as a cooking pot. Although most of the storage jars are of locally made ovoid form (Storage Jar 1), the room also contained one example of a jar imported from the Shephelah (Storage Jar 3). In addition, the cooking pot in the room arrived from the northeastern Mediterranean region (Cyprus or North Syria). It is possible that cooking and other domestic activities took place in this room, but if so, they had a distinctly international flair. This room only had one clear entrance, an interior connection to **Room 406** to the west.

## Room 406 and East Street (figure 27.16)

The core of **Room 406**, including the southern wall and the various installations that mark the western wall, rests on a deeper foundation than the rest of the building (see figures 3.2 and 3.3). This may indicate that it was the first attempt in this part of the marketplace to build over the rapidly subsiding quarry fill below. In any case, **Room 406** should be considered the architectural heart of the building. Within this room was found the skeleton of a woman, 35 or 40 years of age, sprawled in the debris of the 604 B.C. destruction (see *Ashkelon 1*, pp. 533–35). Perhaps she worked there at tasks involving the installations on the west side of the room, where there were flat stones for cutting and circles of stones to separate activity areas. On the east side of the room, a row of jar stoppers sat ready to seal vessels—perhaps they were to be used with the storage vessels in the adjoining room to the east.

Two distinctive artifacts found in the northwestern corner of **Room 406**, an Egyptian kohl pot (reg. no. 40964) and a Cypriot juglet, may be evidence of the woman’s social status. In this room and in **Room 413**, the adjoining room to the east, were found imported items from every major trading partner of seventh-century Ashkelon.

In **East Street** south of **Room 406** there were several objects clustered around the eastern extent of the long drainage ditch or sump that ran through the middle of the street. However, caution is called for in interpreting this cluster of artifacts because these objects may have ended up in the ditch not because of any functional or spatial association with it, but because it was a convenient dumping ground for discarded items.

Table 27.17: Quantity of Pottery of Each Type in Room 423 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	0.69	2	
Bowl 2	0.50	2	
Bowl 3	0.54	3	
Bowl 4	0.56	2	
Bowl 5	0.64	1	
Bowl 6	0.32	1	
Bowl 7	0.19	2	
Bowl 9	0.11	1	
Southeastern Bowl 1	0.04	1	
Egyptian platter	0.08	1	
Phoenician Fine Ware bowl	0.17	1	
East Greek bowl	0.21	1	
Cooking Pot 1	0.17	1	
Cyp./N. Syr. Cooking Pot 2	1.00	1	1
Storage Jar 1	2.05	3	3
Storage Jar 2	1.70	3	
Storage Jar 3	1.00	1	1
Phoenician Amphora 1	1.00	1	1
Cypro-Archaic jar		1	
Amphora 1		1	
Jug (undifferentiated)	0.20		
Jug 1	0.40	2	
Jug 2	0.09	1	
East Greek jug		1	
Juglet	3.98	7	4
Lamp	0.48	1	
Residual	0.15	1	

Table 27.18: Quantity of Pottery of Each Type in Room 406 Based on the Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	0.39	3	
Bowl 2	0.14	1	
Bowl 3	0.13	2	
Bowl 4	1.38	3	1
Bowl 5	0.34	1	
Bowl 7	0.08	1	
Cypro-Archaic bowl		1	
Cypriot/N. Syrian mortarium		1	
East Greek bowl		1	
Krater 1	0.15	1	
Cooking Pot 1	0.06	1	
East Greek cooking pot		1	
Storage Jar 1	1.75	3	3
Storage Jar 2	0.10	1	
Storage Jar 3		1	
Jug (undifferentiated)	0.10		
Jug 1	0.73	3	
Juglet		2	1
Cypro-Archaic juglet	1.00	1	1
Lamp	0.46	1	
Residual	0.09	1	

Rooms 373 and 375 and East Street (figure 27.17)

The floors of **Room 373** and **Room 375** were not clearly defined. Most of the finds came from the destruction debris that filled the entire area. Although the majority of the storage vessels were locally made (Storage Jar 1), they were stacked alongside a complete Greek amphora from the Aegean island of Samos, in the southeastern corner of the room. **Room 375**'s southern wall had a large vertical stone marking the western jamb of a doorway to **East Street**.

Just past the doorway into **Room 375** a series of storage jars sat next to a lamp, juglet, decanter, and jug. Beside them was an ostrakon (reg. no. 42721) that mentions wine and brandy (see *Ashkelon I*, pp. 341–42, inscr. no. 1.5) together with several bits of jewelry: a stone bead, a ring, a scrap of a bronze vessel, and a gold bead lying a few meters to the east.

Room 431 and the Plaza (figure 27.18)

**Room 431** has the clearest function of any of the rooms in **Building 406** because of the ways in which animal consumption leaves telltale signs at each stage of processing. Inside the building were complete

forelimbs of cattle. These are the hallmarks of butchering. There was also evidence of fish processing, both inside **Room 431** and just outside it, in the **Plaza** to the west. In the **Plaza**, not only were fish processed along the walls of the butcher's shop, but a small bowl filled with eggs and small fish bones may indicate a space used for immediate consumption of prepared foods. The **Plaza** was also the location with the largest concentration of East Greek pottery to be found anywhere in the marketplace, including Ionian cups and a collection of 27 Greek cooking-pot fragments in the drainage channel (not shown in figure 27.18).

Table 27.19: Quantity of Pottery of Each Type in Rooms 373 and 375 Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl (undifferentiated)	1.63		
Bowl 1	0.75	1	
Bowl 2	1.42	2	1
Bowl 3	0.40	3	
Bowl 4	0.36	2	
Bowl 5	0.28	1	
Bowl 7	0.18	2	
Bowl 9	0.29	2	
Bowl 10	0.05	1	
Southeastern Bowl 1	0.08	1	
Egyptian platter	0.09	1	
Phoenician Fine Ware bowl	0.02	1	
Phoenician Fine Ware Bowl 4	0.11	1	
Cypro-Archaic bowl		1	
Cypriot/N. Syrian mortarium	0.52	2	
East Greek bowl	0.06	2	
Cooking pot (undiff.)	0.10		
Cooking Pot 1	0.33	2	
Jar/Krater 1	0.45	1	
Storage Jar 1	10.86	12	9
Storage Jar 2	0.70	1	
Phoenician Amphora 2	0.25	1	
Cypro-Archaic jar		1	
Amphora 1	0.18	1	
Jug 1	0.81	2	
Jug 2	0.33	1	
East Greek jug	0.10	1	
Juglet	2.00	2	2
Assyrian “bottle”	0.01	1	
Cypro-Archaic juglet		1	
Corinthian aryballos/olpe		1	
Lamp	1.47	2	1
Residual	0.20	2	
Unrecognized	0.12	2	

Table 27.20: Quantity of Pottery of Each Type in the Plaza Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	2.76	5	1
Bowl 2	4.20	7	
Bowl 3	2.80	6	
Bowl 4	2.51	5	
Bowl 5	2.72	4	
Bowl 6	1.08	3	
Bowl 7	1.70	2	
Bowl 9	0.19	2	
Bowl 10	0.18	2	
Southeastern Bowl 1	0.39	2	
Southeastern Bowl 3	0.17	1	
Phoenician Fine Ware bowl	0.54	2	
Phoenician Fine Ware Bowl 4	0.04	1	
Cypriot/N. Syrian mortarium		1	
East Greek bowl	0.75	6	
Krater 1	1.01	2	
Cooking Pot 1	1.60	4	1
East Greek cooking pot	0.38	2	
Storage Jar 1	7.35	8	
Storage Jar 2	2.30	3	
Storage Jar 3		1	
Phoenician Amphora 1	0.15	1	
Cypro-Archaic jar		1	
East Greek amphora/jar		1	
Jug 1	0.94	5	
Jug 2	0.10	1	
Phoenician Fine Ware jug		2	
East Greek jug		2	
Amphora 1	0.14	3	
Juglet	0.99	5	1
Assyrian “bottle”		1	
Corinthian aryballos/olpe	0.65	1	
Lamp	1.42	2	
Intrusive		1	
Residual		1	

## Room 421 (figure 27.19)

The building west of the **Plaza** has been interpreted as a warehouse (Stager 1996). Unfortunately, it is poorly preserved. Only a small area in **Room 421** had an identifiable floor. None of the objects found on this floor was plotted precisely, so their spatial distribution is uncertain. The pottery was more heavily weighted toward smaller storage vessels, such as jugs, decanters, and smaller storage jars (Storage Jar 2). This suggests that **Room 421** was not used for bulk storage of commodities but rather for small-scale storage and distribution of grain (Storage Jar 2) and of wine (in decanters) or other liquids (in jugs).

Table 27.21: Quantity of Pottery of Each Type in Room 421 Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	2.77	7	
Bowl 2	2.49	9	
Bowl 3	0.76	5	
Bowl 4	0.67	2	
Bowl 5	1.50	4	
Bowl 6	0.22	1	
Bowl 7	0.16	2	
Bowl 9	1.53	4	
Bowl 10	0.39	4	
Bowl 13	0.03	1	
Southeastern Bowl 1	0.15	1	
Phoenician Fine Ware bowl	0.03	1	
Cypriot/N. Syrian mortarium	0.26	1	
East Greek bowl	0.16	2	
Krater 1	0.31	1	
Krater 2	0.18	2	
Egyptian krater	0.03	1	
Cooking Pot 1	1.24	3	
East Greek cooking pot	0.08	1	
Storage Jar 1	5.51	6	1
Storage Jar 2	5.71	6	
Egyptian jar	0.06	1	
Phoenician Amphora 1	0.19	1	
Phoenician Amphora 2	0.61	2	
Phoenician Amphora 3	0.24	1	
Cypro-Archaic jar		1	
Amphora 1		1	
Jug (undifferentiated)	0.13		
Jug 1	3.90	8	1
Jug 2	0.36	2	
Phoenician Fine Ware jug	0.08	1	
East Greek jug		2	
Decanter 1	2.00	2	2
Juglet	0.87	2	
Assyrian “bottle”	0.10	1	
Lamp	3.02	4	
Residual	2.31	5	
Unrecognized	0.83	3	

## Room 252 (figure 27.20)

**Building 260**, a large one-story structure, was interpreted as an “administrative center” (Stager 1996). It was built above the foundations of the earlier Phase 8 structures, but in the rebuilding process the structure was expanded to the north in order to use some of the new spaces created by the filling of the quarry. In **Room 252** the sole occupational layer was **Floor 252**. The artifacts found in this space do not indicate any special function.

Table 27.22: Quantity of Pottery of Each Type in Room 252 Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	0.60	1	
Bowl 2	0.53	2	
Bowl 3	1.14	4	
Bowl 4	0.46	2	
Bowl 5	1.13	2	
Bowl 6	1.69	1	
Bowl 7	0.47	2	
Bowl 9	0.13	1	
Bowl 10		1	
Bowl 13	0.15	1	
Phoenician Fine Ware bowl	0.85	1	
Cypriot/N. Syrian mortarium	0.23	1	
Cypro-Archaic bowl		1	
East Greek bowl		1	
Cooking Pot 1	1.78	3	
Cooking Pot 2	0.26	1	
Storage jar (undifferentiated)	0.30		
Storage Jar 1	10.35	11	1
Storage Jar 2	2.35	4	
Storage Jar 3		1	
Phoenician Amphora 1	0.15	1	
Phoenician Amphora 2	0.40	1	
Cypro-Archaic jar		1	
Amphora 1	0.40	4	
Jug 1	0.24	1	1
Southeastern jug	0.45	1	1
Phoenician Fine Ware jug		2	
East Greek jug		1	
Juglet	3.27	5	3
Lamp	1.23	2	
Residual		1	

## Room 260 (figure 27.21)

**Room 260** had a somewhat richer assemblage of finds. Storage vessels were lined up against its western wall. The combination of cooking pots, grinding implements, and imported grain may indicate a more domestic assemblage than in any of the other well-preserved rooms in the Grid 50 marketplace.

## Room 221 (figure 27.22)

**Room 221** was a partly preserved room in **Building 234**. The center of the room was destroyed by later foundations, which makes it difficult to discern its function; moreover, **Building 234** had an upper floor, so some second-story artifacts may have become mixed with first-floor artifacts. In this room was a set of cylindrical weights for a vertical loom.

Table 27.23: Quantity of Pottery of Each Type in Room 260 Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	0.30	1	
Bowl 2	0.94	3	
Bowl 3	1.92	3	
Bowl 4	0.39	2	1
Bowl 5	1.96	3	
Bowl 6	0.65	2	
Bowl 7	0.12		
Bowl 9	0.08	1	
Bowl 12	0.08	1	
Egyptian platter		1	
Phoenician Fine Ware bowl	0.21	1	
Phoenician Fine Ware Bowl 4	0.07	1	
Cypriot/N. Syrian mortarium		1	
Krater 1	0.16	1	
Cooking Pot 1	0.47	1	
Cooking Pot 2	0.40	1	1
Storage Jar 1	8.69	9	5
Storage Jar 2	0.50	2	
Phoenician Amphora 1	0.15	1	
Cypro-Archaic jar		2	
Jug 1	2.83	5	
Phoenician Fine Ware jug		2	1
East Greek jug		1	
Juglet	2.22	4	1
Assyrian “bottle”		1	
Lamp	3.48	4	1
Residual	0.25	3	

## Room 227 and Room 234 (figure 27.23)

It is likely that both **Room 227**, the northeasternmost room of **Building 234**, and **Room 234** to its south were connected to the activities that took place in **South Street** immediately outside the building to the east. Jewelry was more abundant inside these rooms than in other interior rooms of the marketplace, and was similarly abundant in the street. A pile of grain which had spread out from **Room 227** into the street probably marks the location of a doorway.

Most tellingly, a receipt for the sale of grain, in the form of an ostrakon (reg. no. 39594) inscribed in “Neo-Philistine” script (*Ashkelon 1*, pp. 336–39), was found in the doorway between **Room 227** and **Room 234**. This inscription most likely refers to commercial activity that took place in the adjacent **South Street**. Above a layer of collapsed roof material on top of **Rooms 227** and **234** was an incense altar (p. 707), which marks the only place in seventh-century Ashkelon in which evidence of cultic activity was found.

Table 27.24: Quantity of Pottery of Each Type in Rooms 227 and 234 Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	0.75	4	
Bowl 2	0.33	2	
Bowl 3	0.40	4	
Bowl 4	0.96	2	
Bowl 5	0.36	2	
Bowl 6	0.31	2	
Bowl 7	0.24	2	
Bowl 10	0.06	1	
Southeastern Bowl 1	0.06	1	
Southeastern Bowl 5	0.07	1	
Phoenician Fine Ware bowl	0.25	1	
Cypriot/N. Syrian mortarium	0.29	2	
East Greek bowl	0.02	2	
Cooking Pot 1	0.39	1	1
East Greek cooking pot	0.08	1	
Storage jar (undifferentiated)	0.75		
Storage Jar 1	4.40	5	5
Phoenician Amphora 2	0.40	1	
Cypro-Archaic jar		1	
East Greek amphora/jar		1	
Amphora 1	1.00	1	
Jug 1	0.05	1	
Jug 2	0.12	1	
Phoenician Fine Ware jug		1	
Juglet	1.82	5	1
Lamp	1.11	2	
Residual	0.23	2	

West Street and South Street (figure 27.24–25)

**West Street** and **South Street** yielded more artifacts than any other contexts excavated in the winery and marketplace of seventh-century B.C. Ashkelon. Most striking of all were a bronze balance scale and a set of scale weights found on the western side of **South Street**. It is likely that commercial transactions were conducted at or near the mudbrick bench on the east side of the street. Clay sealings had fallen just in front of this bench and the contents of some nearby trash pits give evidence of the consumption of a wide range of foodstuffs, including grapes and figs. In the middle of the street, a pile of grain imported from Judah, which perhaps had fallen from **Building 234** to the west, had apparently been delivered to the city but had not been distributed or consumed at the time of the final destruction in 604 B.C.

Table 27.25: Quantity of Pottery of Each Type in the West Street Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl (undifferentiated)	0.07		
Bowl 1	1.99	8	
Bowl 2	0.76	4	
Bowl 3	0.45	6	
Bowl 4	0.76	4	
Bowl 5	0.83	3	
Bowl 6	0.06	1	
Bowl 7	0.11	2	
Bowl 9	0.19	1	
Bowl 10	0.12	2	
Southeastern Bowl 2	0.17	1	
Phoenician Fine Ware bowl	0.02	1	
Cypro-Archaic bowl		1	
Cypriot/N. Syrian mortarium	0.22	1	
East Greek bowl	0.04	2	
Krater 1	0.13	1	
Cooking Pot 1	0.25	1	
Cooking Pot 2	0.03	1	
Storage jar (undifferentiated)	0.11		
Storage Jar 1	4.98	6	3
Phoenician Amphora 3	0.10	1	
Cypro-Archaic jar		1	
East Greek amphora/jar		1	
Amphora 1	0.11	1	
Jug 1	2.26	9	
Jug 2	0.09	1	
Phoenician Fine Ware jug		1	
Juglet	1.03	3	1
Cypro-Archaic juglet		1	
Lamp	0.46	1	
Residual	2.45	4	
Unrecognized	0.09	2	

The east–west streets of the seaside marketplace no doubt also provided a prime route of entry into the city for imported goods that were unloaded on the beach. No harbor has been found, so in Iron Age Ashkelon, as in later times, it is likely that seaborne goods were off-loaded via lighters or partially beached ships (Sperber 1986:78–79). The Egyptian amulets found in **South Street**, on the north side of the mudbrick bench at the intersection with **West Street**, may indicate the presence along this access route of Egyptian personnel. They could thus have monitored both the commercial transactions that took place in the street and the traffic from the seashore through the marketplace into the city along **West Street** and its continuation in **East Street**.

Table 27.26: Quantity of Pottery of Each Type in the South Street Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	3.94	6	1
Bowl 2	2.28	4	
Bowl 3	3.10	8	
Bowl 4	2.79	5	
Bowl 5	1.29	2	
Bowl 6	0.50	2	
Bowl 7	0.45	3	
Bowl 9	0.20	1	
Bowl 10	0.55	1	
Bowl 12	0.08	1	
Southeastern Bowl 1	1.29	2	1
Southeastern Bowl 2	0.23	1	
Egyptian platter	0.07	1	
Phoenician Fine Ware bowl	2.27	4	
Cypriot/N. Syrian mortarium	0.12	1	
East Greek bowl		8	
East Greek platter	0.12	1	
Krater 1	0.91	2	
Cooking Pot 1	1.10	3	2
East Greek cooking pot		1	
Storage Jar 1	21.06	22	10
Storage Jar 2	0.15	1	
Phoenician Amphora 1	1.00	1	1
Phoenician Amphora 2	1.30	2	1
Cypro-Archaic jar	0.12	1	
East Greek amphora/jar		1	
East Greek cooking pot	0.02	1	
Amphora 1	0.45	1	
Jug 1	1.34	4	3
Jug 2	0.17	1	
Phoenician Fine Ware jug		1	
East Greek jug		8	
Decanter 2	0.40	1	1
Juglet	3.59	6	3
Assyrian “bottle”	0.20	1	
Cypro-Archaic juglet		1	1
Lamp	2.75	3	1
Residual	0.12	2	
Unrecognized		1	
Intrusive		1	

Table 27.27: Quantity of Pottery of Each Type in the East Street Based on Sum of Rim Fractions (RF) and on Minimum Number of Vessels (MNV)

Type/Class	RF	MNV	“Whole”
Bowl 1	1.25	3	
Bowl 2	1.73	3	
Bowl 3	1.17	3	
Bowl 4	1.61	3	
Bowl 5	1.67	2	
Bowl 6	0.84	2	
Bowl 7	0.12	2	
Bowl 9	0.41	1	
Bowl 10	0.13	2	
Bowl 12	0.09	1	
Southeastern Bowl 1	0.24	1	
Egyptian platter	0.09	1	
Phoenician Fine Ware bowl	0.11	1	
Cypriot/N. Syrian mortarium	0.33	1	
East Greek bowl		1	
Krater 1	0.79	1	
Cooking Pot 1	0.50	1	
East Greek cooking pot		1	
Storage Jar 1	6.50	9	9
Storage Jar 2	0.20	1	
Phoenician Amphora 2	0.20	1	
Cypro-Archaic jar		1	
East Greek amphora/jar	0.09	1	
Amphora 1		2	
Jug 1	0.88	4	1
Jug 2	0.16	1	
Phoenician Fine Ware jug		1	
East Greek jug		1	
Decanter 1	1.00	1	1
Juglet	1.40	3	2
Assyrian “bottle”	0.10	1	
Cypro-Archaic juglet		1	
Corinthian aryballos/olpe		1	
Lamp	1.62	2	
Unrecognized	0.05	1	
Residual	0.07	2	

Room 52 and Room 58 (figure 27.26)

**Building 58** was not preserved sufficiently to allow anything to be said about its architectural organization. However, the preserved floors in the two rooms that could be identified, **Room 52** and **Room 58**, had a rich deposit of destruction debris that yielded artifactual and botanical evidence of food processing on the eve of the destruction.

The building may have undergone substantial changes just before the destruction of 604 B.C. Into an earlier plastered installation (in Phase 8 of the Grid 50 excavation area) were placed two complete vessels: an amphora from Chios and a basket-handled amphora from Cyprus or North Syria. These vessels are dated to the very end of the seventh century B.C. The Chian amphora was part of the sudden influx of East Greek goods into Ashkelon at that time.

Although the earlier phase of **Building 58** is attributed to Phase 8, before the construction of the marketplace, it is possible that the reuse of the plastered installation occurred later. In other words, the unusual placement of these dissimilar imported amphoras inside the installation may have occurred in Phase 7, not long before the Babylonian destruction of the marketplace in 604 B.C.

A large quantity of grass pea (*Lathyrus sativus*) seeds was found in the destruction debris in **Room 52** and **Room 58**. The grass pea is known to have been part of the Near Eastern diet since the Neolithic period (Kislev 1989; Mahler-Slasky and Kislev 2010). But it is also known to cause neurolathyrism, a neurological disease manifested in muscle spasms that can cause a gradual degeneration in the normal musculature of the leg, “which forces individuals to walk on the balls of their feet with a lurching cross-legged gait” (Spenser, Ludolph, and Kisby 1993:107). For this reason, it has historically been eaten only in times of stress or famine when safer food sources were unavailable (see examples in Barrow, Simpson, and Miller 1974:102–5). However, the archaeobotanical specialists who studied the plant remains of Ashkelon (see chapter 23) have concluded that the grass pea was part of the normal diet of the city’s inhabitants:

The range of archaeobotanical remains from Ashkelon shows a variety of food plants used by the descendants of the original Philistines, including a large number of cereals, legumes and fruits. . . . Thus, *L. sativus* was not used by them as a famine food in times of shortage but rather as a nutritional, palatable, legume supplement to their diet.

That suggests the Late Iron Age population of Ashkelon was not likely to have suffered from neurolathyrism, which primarily affects people who consume *Lathyrus* as their main nutritional component (Hugon et al., 2000). This seems especially true as these coastal inhabitants could have grown it in the nearby, saline soils, which may reduce the seed’s toxin levels, as shown by Haque et al. (1992) and Abd el Moneim et al. 2001. Nevertheless, it is possible that impoverished individuals at the edges of society or those that had a particular preference for the tasty *L. sativus/cicera*, ate large amounts and developed that condition.

[Mahler-Slasky and Kislev 2010:2482–83]

**Rooms 52** and **58** also had a high concentration of iron cutting tools, as well as a funnel for pouring dry goods (a funnel for liquids would be much narrower in order to control the flow of the liquid). All of these items suggest that food processing or distribution took place in these rooms.



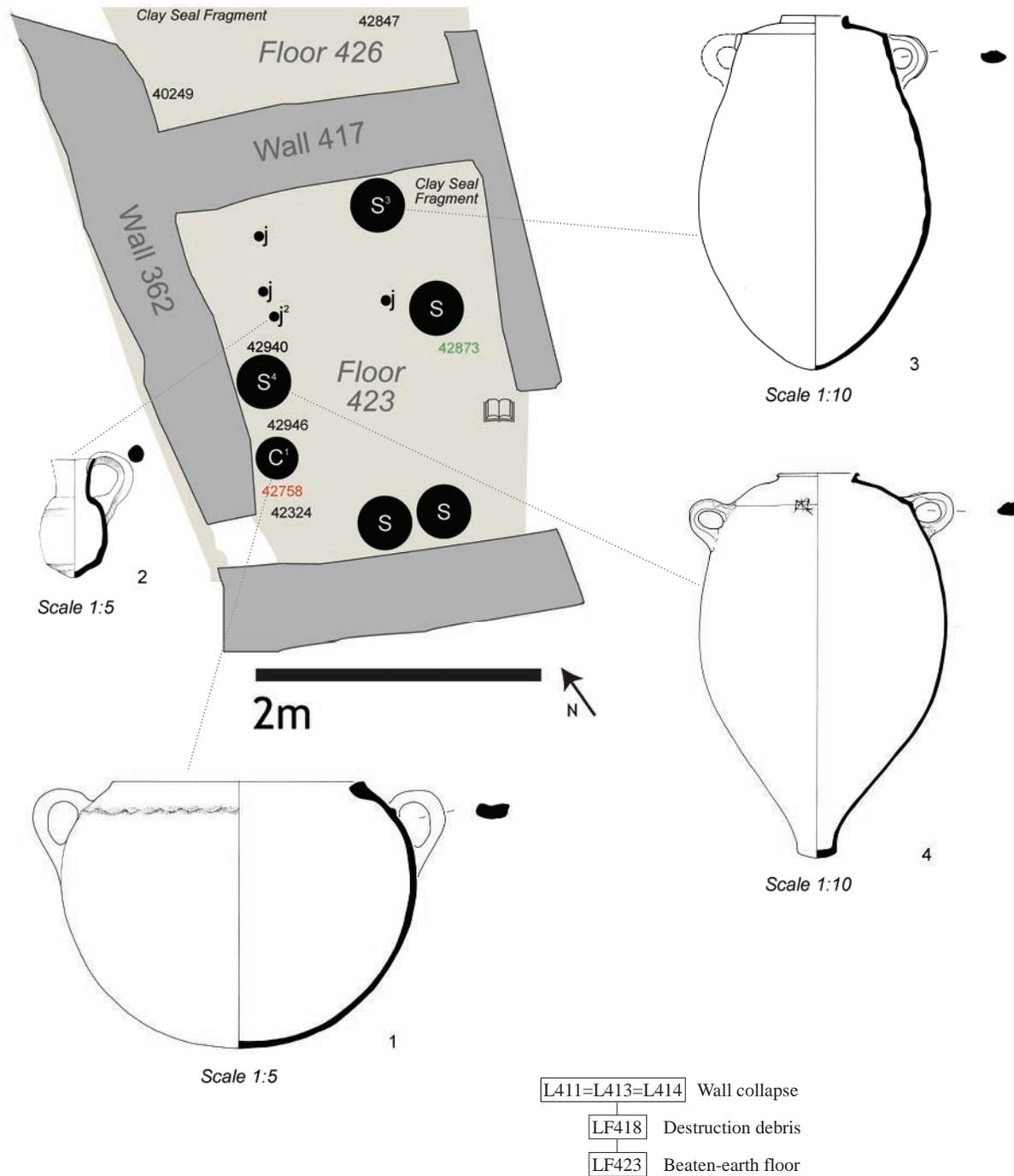


Figure 27.15: Marketplace Map 1—Spatial distribution of pottery and other artifacts in Rooms 423 and 426 with a diagram of the stratigraphic relationships within Room 423 and drawings of four of the pottery vessels indicated on the map (the drawing number appears as a superscript on the vessel's emblem on the map)

1 Cypriot/N. Syrian Cooking Pot 2, reg. no. A73/93.50.49.FG38.L418.(8); 2 Juglet 1, reg. no. A73/93.50.49.FG28.L418.(1); 3 Storage Jar 1, reg. no. A73/93.50.49.FG28.L418.(7); 4 Storage Jar 3, reg. no. A73/93.50.49.FG18.L418.B71+74.(6)

Artifacts in Room 423: stone tool 42324; ostracon 43619 (*Ashkelon 1*, p. 347, inscr. no. 1.12); iron blade 42758; scale weight 42873; lead net sinker 42940; terracotta figurine 42946

Artifacts in Room 426: terracotta figurines 40249, 42847

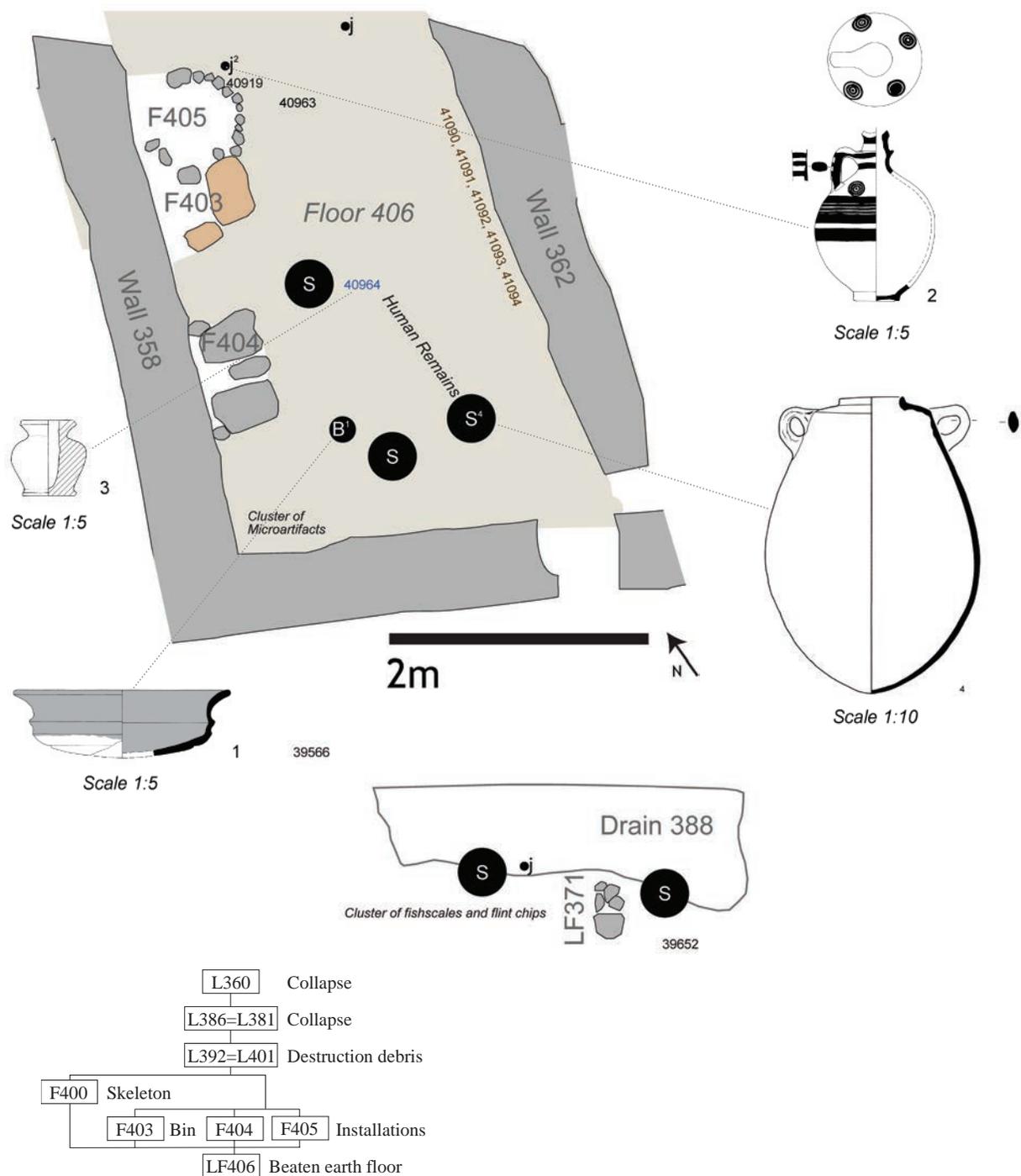


Figure 27.16: Marketplace Map 2—Spatial distribution of pottery and other artifacts in Room 406 and in the eastern part of East Street with a diagram of stratigraphic relationships in Room 406 and drawings of four of the vessels indicated on the map

1 Bowl 4, reg.no. A72/92.50.49.FG6.L401.B327; 2 Cypriot White Painted IV juglet, reg. no. A72/92.50.49.FG5.L392.B281.(2); 3 Egyptian kohl pot, reg. no. 40964, A72/92.50.49.FG26.L401.B305; 4 Storage Jar 1, reg. no. A72/92.50.49.FG37.L401.B307.(1)

Artifacts in Room 406: groundstone 40919; scale weight 40963; alabaster kohl pot 40964; clay jar stoppers 41090–41094 (not shown—stone tool 40329; iron tang 40593)

Artifacts in East Street: bronze needle 39556; jewelry 39652; gold jewelry 39566 (approx. location)

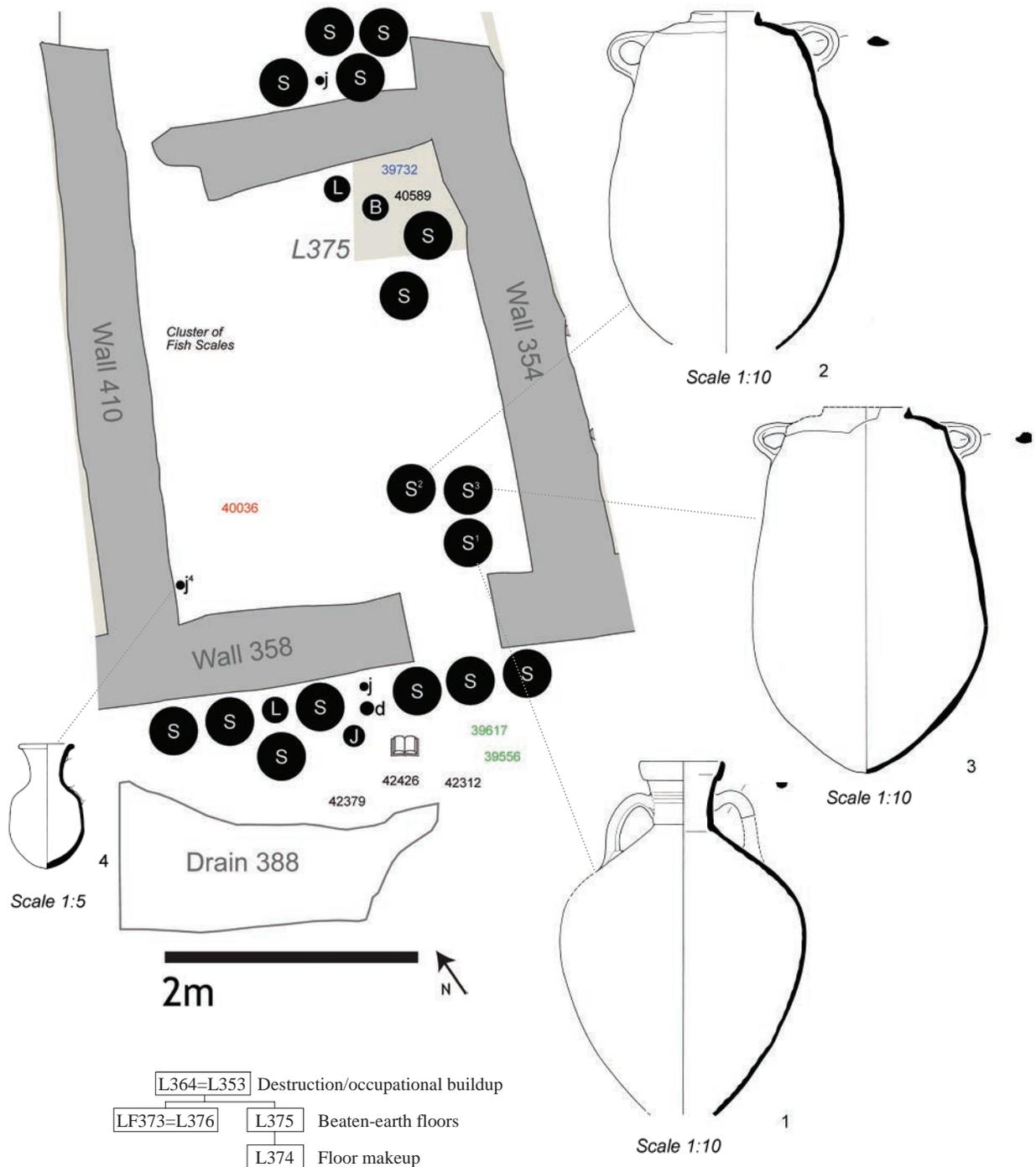


Figure 27.17: Marketplace Map 3—Spatial distribution of pottery and other artifacts in Rooms 373 and 375 and in the western part of East Street with a diagram of stratigraphic relationships in Room 375 and drawings of four of the pottery vessels indicated on the map

1 Samian amphora, reg. no. A72/92.50.49.FG44.L383.B87.(2); 2 Storage Jar 1, reg. no. A72/92.50.49.FG33.L383.B83+84+89; 3 Storage Jar 1, reg. no. A72/92.50.49.FG34.L353.B62+85+88.(2); 4 Juglet 1, reg. no. A72/92.50.49.FG41.L374.B207.(1)

Artifacts in Room 375: faience jar 39732; iron nail 40036; iron chisel 40589 (*not shown*—iron nail 39907; stone tools 39463, 40029; jewelry 42501; bronze arrowhead 44036; additional complete jug, bowl, and storage jar)

Artifacts in East Street: bronze 39556; bronze vessel 39617; jewelry 40247, 42379; terracotta figurines 42312, 42426; ostrakon 42721 (*Ashkelon 1*, pp. 341–42, inscr. no. 1.5)



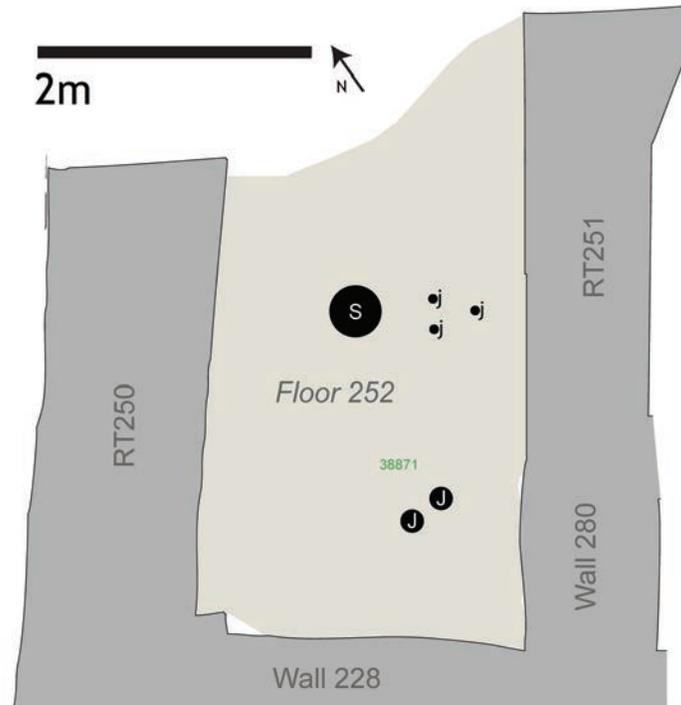


Figure 27.20: Marketplace Map 6—Spatial distribution of pottery and other artifacts in Room 252  
 Artifacts: bronze vessel handle **38871** (not shown—terracotta figurine 38823; three restorable storage jars)

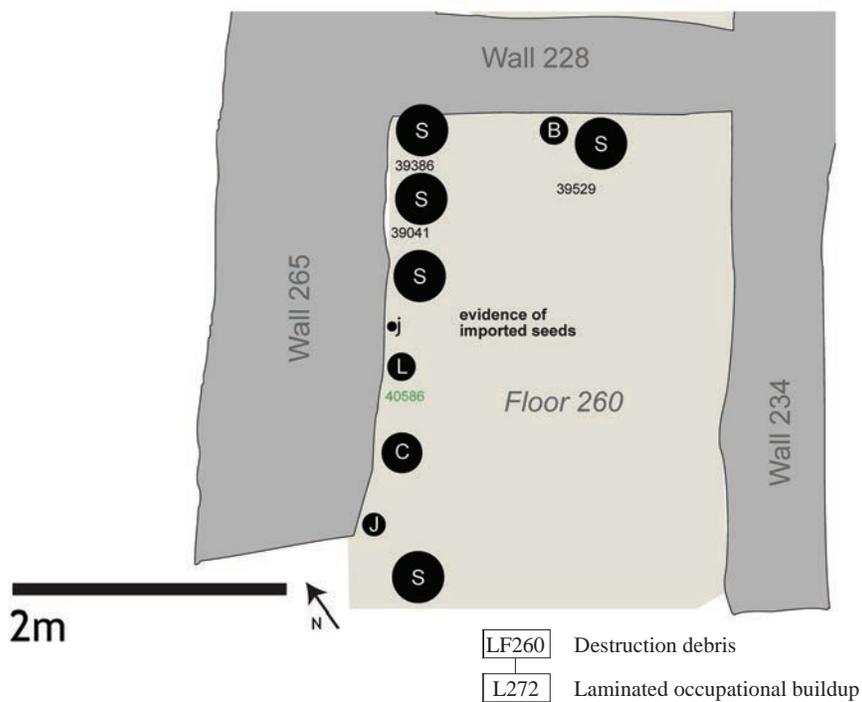


Figure 27.21: Marketplace Map 7—Spatial distribution of pottery and other artifacts in Room 260  
 with a diagram of the stratigraphic relationships within this room

Artifacts: stone tool **39041**; groundstone artifacts **39386**, **39529**; jewelry **40586**

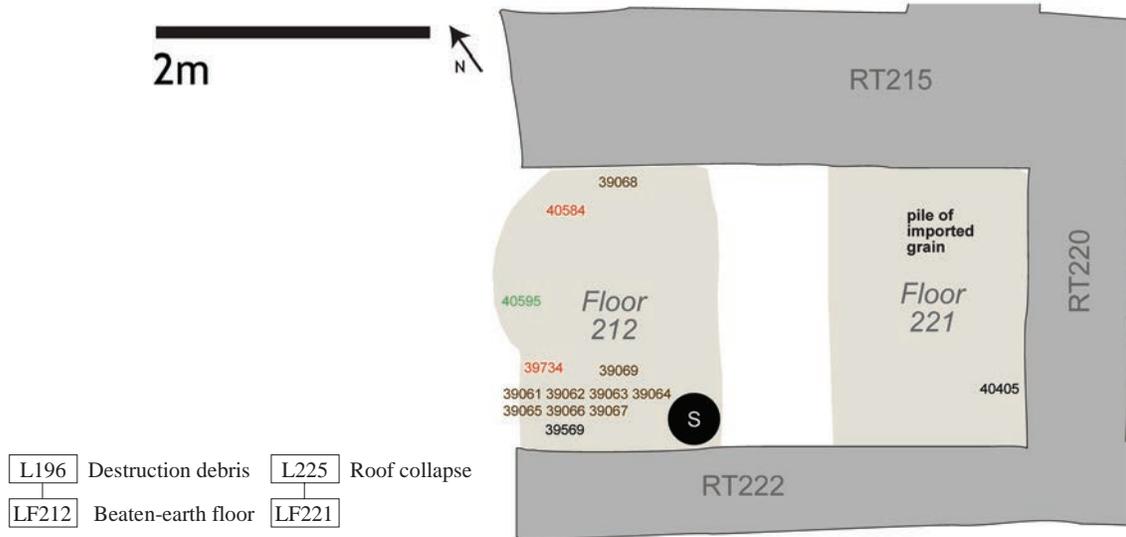
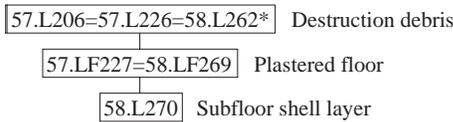


Figure 27.22: Marketplace Map 8—Spatial distribution of pottery and other artifacts in Room 221 with a diagram of the stratigraphic relationships within this room

Artifacts: loom weights 39061–39068; jar stoppers 39068, 39069; amulet 39569; iron bracket 39734; iron sheet 40405; iron tang 40584; jewelry 40595

Room 227



\*only fine grids 4 to 7 of Layer 262 are part of this room

Room 234

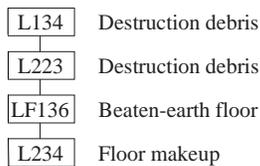
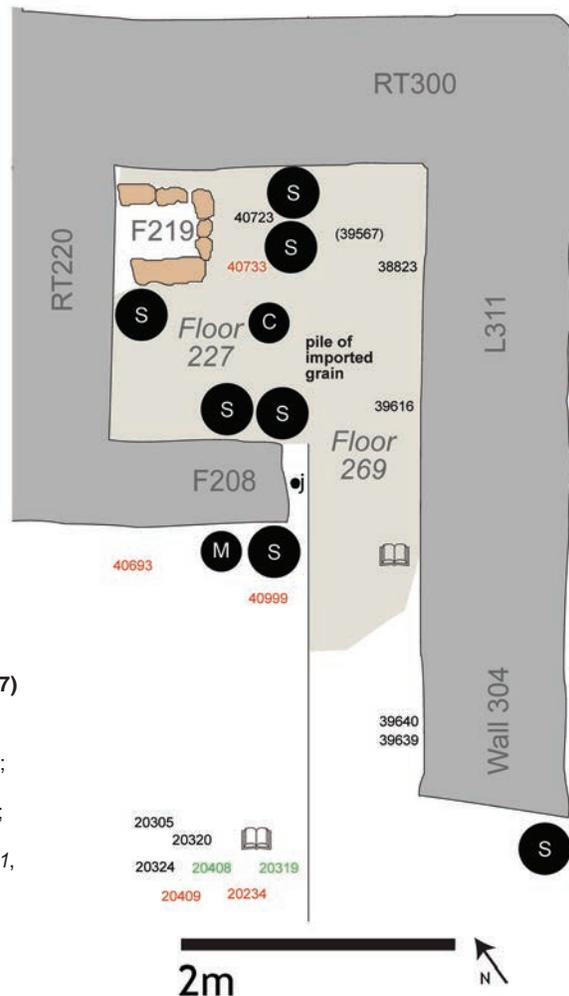
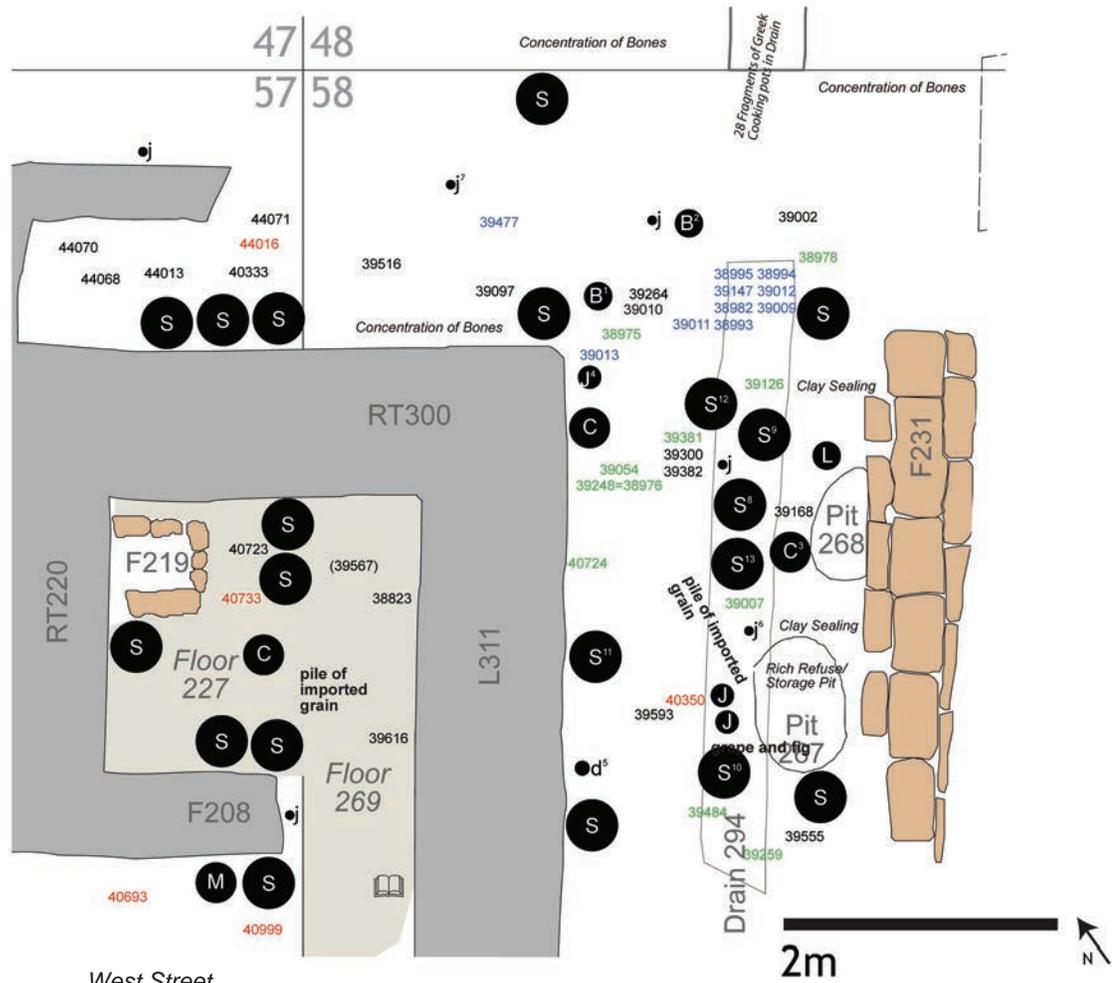


Figure 27.23: Marketplace Map 9—Spatial distribution of pottery and other artifacts in Room 227 (north) and Room 234 (south) with diagrams of the stratigraphic relationships within each room

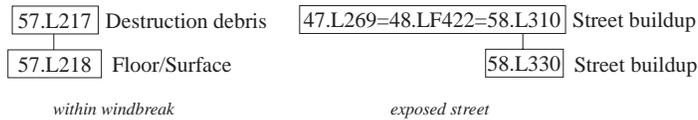
Artifacts in Room 227: groundstone 39616; iron spike 40733; jewelry 40723; terracotta figurine 38823; incense altar (39567) from roof/second floor

Artifacts in Room 234: ostracon 39594 in northeast corner (records sale of grain; see *Ashkelon 1*, p. 336, inscr. no. 1.2); stone tool 39639; weight 39640; iron bracket 40693; iron chisel 40999; approx. locations—iron spear point 20234; lead net sinker 20305; weight 20320; ostracon 21608 in south end of room (records name Rapō<sup>o</sup>-ba<sup>o</sup>l; see *Ashkelon 1*, p. 346, inscr. no. 1.10); jewelry 20319, 20324, 20408; iron saw 20409

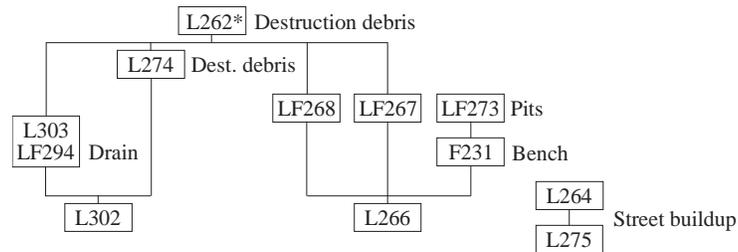




West Street



South Street



\*excluding fine grids 3-7

Figure 27.24: Marketplace Map 10—Spatial distribution of pottery and other artifacts in West Street (north of RT300) and South Street (east of L311) with diagrams of the stratigraphic relationships in each street

**Artifacts in West Street:** groundstone **39097**; faience bowl **39477**; stone tool **39516**; jewelry **40333, 44068, 44071**; amulets **44013, 44070**; iron blade **44016**

**Artifacts in South Street:** scale weights **38975, 38978, 39007, 39126, 39259, 39300, 39381, 39382, 39484, 40724**; amulets **38982, 38993, 38994, 38995, 39009, 39011, 39012, 39147**; jewelry **39002, 39101, 39168, 39264, 39593, 39628**; alabastron **39013**; bronze balance scale pan **39054**; bronze balance scale fragment **39248=38976**; iron spear point **40350**; (not shown—terracotta figurines 40281, 40395, 40396, 40397, 44344, 44660; stone tool 40545; jewelry 44120, 44174, 44211, 44214)

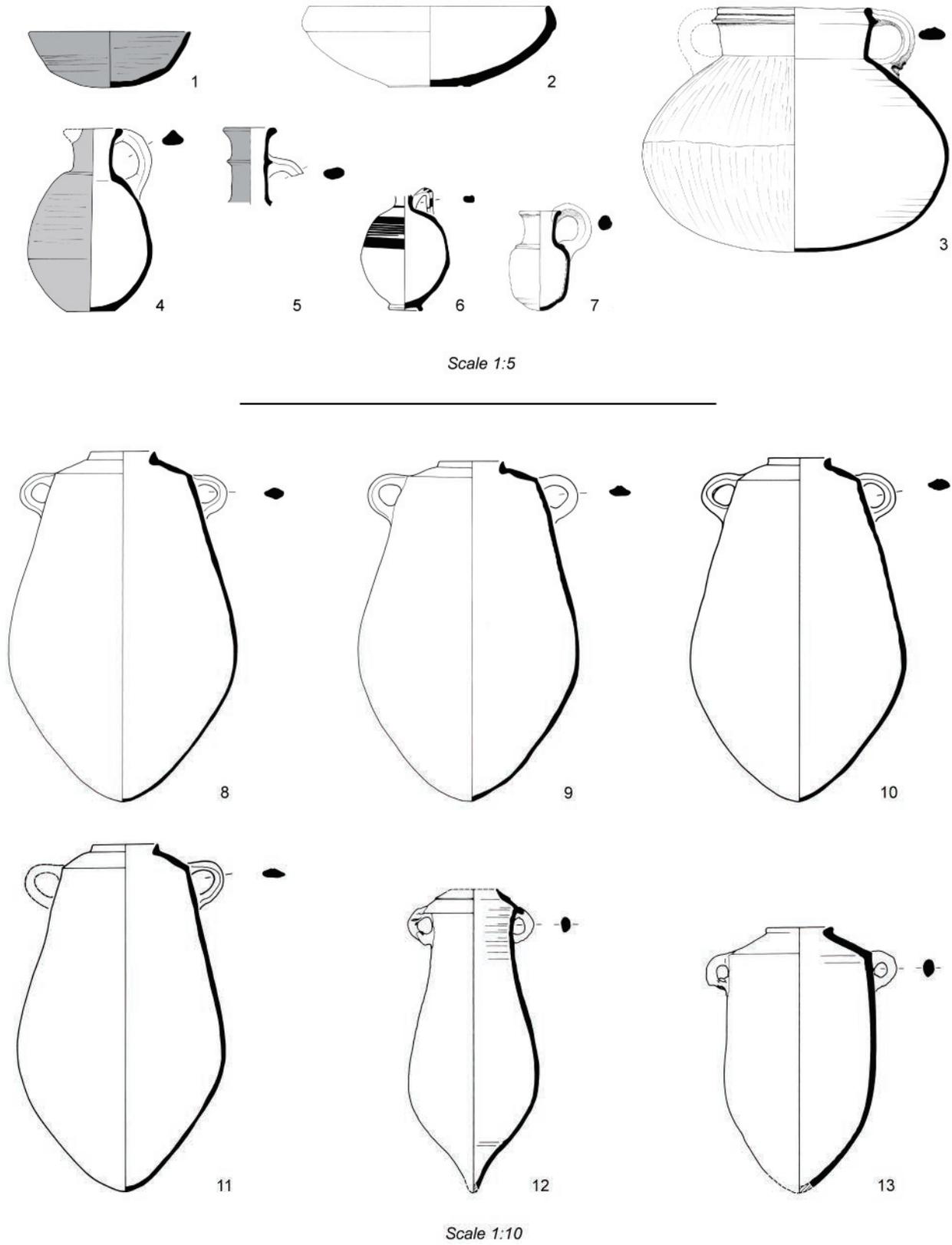


Figure 27.25: Pottery found in West Street and South Street (drawing numbers are shown as superscripts on vessel icons in Marketplace Map 10 in figure 27.24)

## Types and registration numbers of pottery illustrated in Figure 27.25 on previous page

1 Bowl 1, reg. no. A72/92.50.58.FG13.L262.B87.(7); 2 Southeastern Bowl 1, reg. no. A72/92.50.58.FG13.L262.B72.(14); 3 Cooking Pot 1, reg. no. A72/92.50.58.FG34.L262.B83.(9); 4 Jug 3, reg. no. A72/92.50.58.FG23.L262.B84.(1); 5 Decanter 2, reg. no. A72/92.50.58.FG53.L262.B174.(5); 6 Cypriot WP IV juglet, reg. no. A72/92.50.58.FG44.L262.B101.(3); 7 Juglet 1, reg. no. A72/92.50.58.FG2.L262.B208.(11); 8 Storage Jar 1, reg. no. A72/92.50.58.FG14+24+34+43.L262.(13); 9 Storage Jar 1, reg. no. A72/92.50.58.L262.(12)+(56); 10 Storage Jar 1, A72/92.50.58.FG53+54.L262.B102+104.(5); 11 Storage Jar 1, reg. no. A72/92.50.58.FG43+53.L262.B100+170.(22); 12 Phoenician Amphora 1, reg. no. A72/92.50.58.FG34.L262.B77.(7); 13 Phoenician Amphora 2, reg. no. A72/92.50.58.L262.FG23.B87.(8)

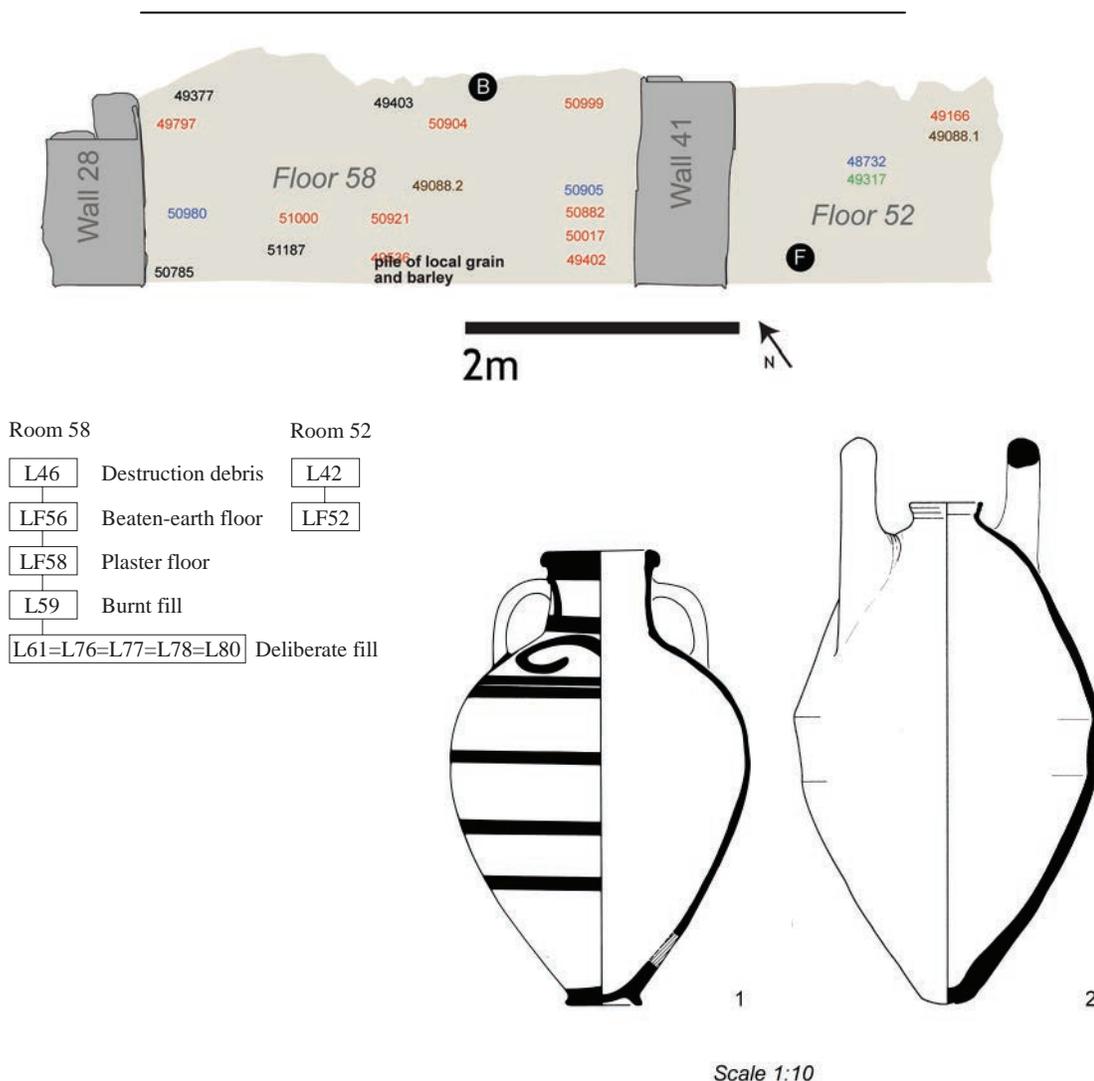


Figure 27.26: Marketplace Map 11—Spatial distribution of pottery and other artifacts in Rooms 52 and 58 with a diagram of the stratigraphic relationships in these rooms and drawings of two complete vessels found in Room 58

1 Chian amphora, reg. no. A73/98.50.67.FG37.L61.B57.(1); 2 Basket-handled amphora, reg. no. A73/98.50.67.FG37.L61.B93+.(2)

Artifacts in Room 52: jar stopper 49088.1; iron spear point 49166; locations approximate—scarab 48732; bronze ornamental stud 49317

Artifacts in Room 58: jar stopper 49088.2; jewelry 49377, 49403; scarabs 50905, 50980; iron blades 49402, 49536; iron socketed blade or plowpoint 49797; iron saw 50017; iron cotter pin 50882; iron blade or sickle 50904; iron chisels 50921, 50999; stone tool 50785; locations approximate—iron blade 51000; lead net sinker 51187

## 28. CONCLUSION

by Daniel M. Master and Lawrence E. Stager

WHEN we imagine Ashkelon “on the eve of destruction” in 604 B.C., we think of a vibrant city about to be incinerated and the sudden cessation of six hundred years of Philistine history. But it is good to remember that this very destruction has preserved for us a panorama of the wider ancient world. For decades before its demise, Ashkelon had successfully navigated the worlds of Phoenician trade, Assyrian conquest, and Egyptian imperial ambition. The sudden event of its destruction is overwhelming in the archaeological record, but on closer inspection we see that the ruins illuminate broader historical trends that go far beyond the moment of their creation. Each chapter in this volume contributes to our understanding of Ashkelon both as a city destroyed and as a city alive and well that participated in some of the most fascinating economic and political interactions of the ancient Mediterranean world.

From this perspective, the most important discovery in seventh-century Ashkelon was the permanent marketplace in the Grid 50 excavation area, which provides direct evidence for an integrated market economy in this Iron Age seaport. Furthermore, if Ashkelon was a typical coastal city, which we have no reason to doubt, this site provides important information about the economy of the entire Mediterranean littoral. During the Iron Age maritime commerce was dominated by Phoenician (Canaanite) middlemen who had nearly exclusive control over the expertise required for Mediterranean shipping. Their tradecraft is best illustrated by two eighth-century vessels that had swamped and sunk in the sea west of Ashkelon (Ballard et al. 2002; Stager 2005). Given the breadth of Phoenician coastal contacts in the Iron Age, it was to be expected that Ashkelon was connected to the rest of the Mediterranean world. But questions remained about the breadth and depth of those interactions. If the goods imported into Ashkelon were primarily prestige items for consumption by the elite, we would still imagine an economy in which exchange was embedded in social relationships. If the imports were rare items from far away, they could hardly compete with local products enmeshed in networks of gift-exchange and reciprocity (Sahlins 1972). Now, however, the excavations of the Leon Levy Expedition in the Ashkelon marketplace have given us direct evidence of what was exchanged in a typical coastal city and how the transactions took place.

First, the mechanisms of exchange are clear. In South Street of the marketplace, the weights (chapter 17) and balance (chapter 19) mark a location for weighing silver in exchange for goods or services. The weights seem to be related to several metrological systems, perhaps corresponding to a diverse clientele (chapter 17). Lest we doubt that silver was used as a medium of exchange for commodities other than silver, an inscription found within a few meters of the balance records the sale of grain (see *Ashkelon 1*, p. 336, inscription no. 1.2).

But this is not all: the commodities exchanged are also clear. Skinned sheep were brought to the marketplace and sold off piece by piece until all that remained were the heads, which were discarded in the streets (chapter 24).<sup>1</sup> Nile perch and sea basses came in with the ships (chapter 25) and grain was imported overland from Judah (chapter 23). The Mediterranean trade network that distributed East Greek pottery from the Iberian peninsula to the Black Sea also touched Ashkelon, providing vessels valued for their distinctive decoration as well as for their contents (chapter 10). These vessels competed with imported Cypriot bowls and amphoras (chapter 7) as well as the panoply of items offered by the Phoenicians (chapter 6). Even the typical local cooking pot (chapter 5: Cooking Pot 1) was a specialized pot made outside Ashkelon and brought to the city for distribution via the market.

In other words, all of the necessities of life were discovered together in the marketplace, from the grain, meat, and wine needed for daily subsistence to the decorated oinochoai used by the elite. And they were found in quantities and patterns of spatial distribution that suggest that the marketplace was an institution intended for distribution and exchange and not

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<sup>1</sup> In the Hebrew Bible, the only description of a local market with shifting prices is found in 2 Kings 6. In this narrative, an Aramaean siege creates such desperation that even the heads of animals are sought as food. The faunal remains from Ashkelon provide no indication that the siege of Ashkelon ever resulted in this level of desperation in the market. It is unclear whether these animals arrived by land, from nearby pastures, or by a short sea journey from a region such as the central coastal plain (Gadot 2006:31). Note that there is botanical evidence of grain shipments to Ashkelon, presumably by sea, from the Sharon Plain and perhaps from other regions along the Mediterranean coast to the north (see above, chapter 23, p. 607).

merely for final consumption.<sup>2</sup> Like Tyre, Ashkelon not only received commodities that came in for local consumption but also received commodities that were reexported to other parts of the Mediterranean (Stager 2005). The movement and exchange of all these goods were integrated according to the logic of a market-based silver standard.

We recognize that the discovery of a marketplace at Ashkelon does not explain the economy of the entire southern Levant. There were differences in land-based versus maritime trade networks that determined the types and quantities of goods that could be transported over long distances. In the agricultural economies of the highland kingdoms, economic activity was closely tied to periodic harvests and the possibilities for economic expansion were limited by the carrying capacity of the land. As a result, internal trade seems to have been less developed in the inland regions of the Levant (but cf. Holladay 2006; Master 2010). In the ostraca found at Samaria, Jerusalem, and Arad economic transactions are recorded using a *lamed* prefix before the name of the recipient of the goods (Dobbs-Allsop et al. 2005). These brief notations indicate that goods were moving from place to place and, at Samaria, that the goods were potentially valuable export items (Stager 1983; Suriano 2007). More elaborate descriptions of economic exchange typically involved the verb *ntn*, “to give,” which was used to record administrative disbursements from royal storehouses. On the whole, though the highland inscriptions are quite laconic and difficult to interpret, the clearest of them seem to indicate an essentially redistributive economy.

At Ashkelon, however, the redistributive agrarian economy of the highlands and the commercial concerns of the Mediterranean were integrated by means of market exchange. The Ashkelon ostraca use the *lamed* prefix and the verb *ntn*, as in the highland inscriptions (see *Ashkelon 1*, chapter 17), but they also mention other types of transactions. Frank M. Cross notes that one of the ostraca is a receipt recording a “payment” for grain, using a verb cognate to the Akkadian *našu*. This inscription finds its best parallel in an inscription from Sidon which mentions a payment in silver. Another Ashkelon inscription mentions “merchandise,” using a term that Cross describes as cognate to the Hebrew *rakullâ*, which is used in the Hebrew Bible to describe the products of Tyre in

<sup>2</sup> In the Grid 50 excavation area were found imported metals (chapter 19), imported ground stone (chapter 21), and imported amulets (chapter 12); however, these were not found in clusters that would indicate they were assembled for purposes of exchange.

Ezekiel 27 and 28. Thus, the inscriptions discovered in the Ashkelon marketplace show that it was a commercial city, just like the seaports of Tyre and Sidon in Phoenicia.

The discovery of the Ashkelon marketplace not only has implications for economic history but also provides a context for the interpretation of many of the imported goods found at coastal sites of the southern Levant. Alexander Fantalkin (2001) has argued that the nearby fortress at Meşad Ḥashavyahu was home to Greek mercenaries on the basis of the abundance of Greek pottery found there.<sup>3</sup> However, the Ashkelon marketplace provides evidence that contradicts this view. We therefore disagree with the way in which Fantalkin, following Na’aman (1991), has used the presence of Greek imports to reconstruct the rest of the southern Levantine coast. In 1961, Cross (see 2003:122) argued that Meşad Ḥashavyahu was a Judahite fortress on the basis of the biblical description of the Josianic expansion (2 Chr. 32:37) and the content of the seven Hebrew inscriptions found at that site. One of the inscriptions describes a dispute with resonances in biblical law (Deut. 24:12–15, 17) between an unnamed servant and an overseer by the name of “Hoshayahu ben Shabay” (Pardee

<sup>3</sup> Unfortunately, the site was only preliminarily published by its excavators and considerable time elapsed between the excavation of the site and its reevaluation by Fantalkin. Furthermore, Fantalkin was not the excavator or part of the original team, so his knowledge of the site came second-hand through the memories of the excavators. The pottery, for instance, has a broken chain of custody. The Greek sherds were assiduously kept while a substantial quantity of local pottery was discarded. Moreover, additional sorting was done subsequently to select fragments deemed thick enough to save (Fantalkin 2001:n. 34, quoting Reich 1989: 232 n. 7). Fantalkin declares, based upon the recollections of the excavator, that all rim sherds were kept (2001:98), but this would have been highly unusual for excavations at the time. Fantalkin’s description of Basket 51 is telling: this basket contained two joining fragments of the complete profile of a coarse bowl, two joining fragments of a jar, and two body sherds of East Greek oinochoai (Fantalkin 2001: 24). This is precisely the type of presorted assemblage that one would expect to have been preserved from a basket of pottery collected in that era; however, such assemblages create substantial problems if the sorted material is then used for statistical purposes. Furthermore, in Area A, the trench with the largest number of vessels, more than a quarter of the pottery baskets are missing (Fantalkin 2001:21). Is this because they lacked the Greek sherds that would have caught the eye of the excavators? We cannot know. We do not criticize the excavators’ work, nor do we fail to appreciate Fantalkin’s heroic work in finding and describing this important ceramic corpus. But we doubt the conclusion that 46 percent of the pottery excavated at Meşad Ḥashavyahu consisted of East Greek and related wares.

2003:77). The theophoric element points to a Judahite element in the officialdom at the site and the litigant's recourse to biblical ideals seems to indicate that the adjudicator at Mešad Ḥashavyahu was familiar with Judahite custom. However, Na'aman hypothesized on broader historical grounds (which we would reject) that Judah was subject to Egypt during this period. He further argued that Hoshayahu was a Judahite appointee chosen by Josiah for the benefit of Egypt rather than for Josiah's independent purposes. Such a historical theory of Egyptian dominance over Judah does not rest on any archaeological evidence. Fantalkin's comparison of the site to a Twelfth Dynasty fortress is not compelling even to Fantalkin (2001:49–52). These arguments are merely an attempt to circumvent evidence pointing toward Judahite control of Mešad Ḥashavyahu.

In Na'aman's view, not only were Greek mercenaries a major part of Egyptian foreign policy but their presence at any place is an indication of Egyptian control (see the discussion of the Arad letters in Na'aman 1991). Fantalkin built on Na'aman's conclusions to argue that any Levantine site with a substantial quantity of Greek pottery should be understood as an Egyptian garrison. Thus, according to Fantalkin, even Ashkelon housed an Egyptian garrison. But this is where the context of the Greek pottery found at Ashkelon is crucial. This pottery was clustered in the seaside marketplace but was also present in the winery in the center of the city, where it was scattered in various rooms. The bulk of it was in the marketplace but individual vessels had found their way into most other living spaces. It was not restricted to a particular location—for example, the barracks of Greek mercenaries. Instead, everyone who could afford the elegant Greek wares seems to have possessed a cup or two.

This accords well with the pan-Mediterranean distribution of East Greek wares in this period. Jane Waldbaum has pointed out the similarity between the East Greek pottery found at Ashkelon and similar assemblages at Histria on the Black Sea and Huelva in Iberia (chapter 10). If this pottery spans the Mediterranean and extends as far north as the Black Sea, the explanation for its geographical distribution cannot rely on an overly narrow and geographically localized causal factor.<sup>4</sup> The proposed connection be-

<sup>4</sup> As Lawrence Stager (1985:83) wrote twenty-five years ago: "Marc Bloch, the great historian of medieval Europe, has used the comparative method very effectively to test hypotheses and, in some cases, to eliminate 'pseudo-local causes.' For him (and other good historians), a general phenomenon must have equally general causes. Compari-

tween East Greek pottery and Egyptian imperial hegemony becomes increasingly problematic as one moves north and west from Egypt. On the other hand, the mercantile explanation that we espouse fits the phenomenon in every case.<sup>5</sup>

Although maritime trade was the focus of economic activity in Ashkelon, the city was not an island. Land routes radiated from Ashkelon in all directions with few geographic impediments; there is evidence of trading contacts as far as the Aravah and Edom in the southeast (chapter 8). While some of the trade routes—perhaps most of them—were a consequence of Ashkelon's role as an outlet to the sea (Fargo 1979:90–92, 238–41; Stager 2001), the diversity of attested landward connections indicates that Ashkelon was closely tied to inland regions.

To participate in the southern Levantine economy and provide local products for export in the Mediterranean, Ashkelon turned to wine production. The date of this economic expansion is unclear. Proposals have ranged from the mid-eighth century (Na'aman 2003) to the late seventh century (Stager 1996b). We have only two fragments of comparative evidence: the absence of late seventh-century East Greek imports in the original construction of the winery and the construction of similar production units in the nearby Philistine city of Ekron sometime in the first half of the seventh century (a date based on inscriptional evidence). There is considerable latitude within these parameters, but whatever the precise date, four wine-production modules were constructed simultaneously at Ashkelon. Their construction, like the construction of the "industrial" buildings at Ekron, provides evidence of a single architectural design with shared walls. The dimensions of each unit are

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son with a similar, but widespread phenomenon often undermines purely local explanations."

<sup>5</sup> Even at Mešad Ḥashavyahu most of the East Greek pottery comes from Area A and Area S (Fantalkin 2001:102–3), the same gate areas that produced the Hebrew inscriptions dealing with economic arrangements: texts that describe payments in silver and a letter regarding the enforcement of a labor contract. Did our homesick Greek mercenaries simply loiter at the gate with their cooking pots, passing the time by listening to administrative cases in Hebrew? We find this unlikely, choosing rather to begin with the Hebrew texts at Mešad Ḥashavyahu and see there a small coastal enclave, lightly fortified and guarding no inland route, staffed by Judahites. It was of no use to any grandiose Egyptian designs. Its primary purpose was as a coastal lookout, perhaps a minor stop for various ships. At the end of the seventh century, it participated in the spike in East Greek ceramic export production. It received a shipment of such goods and when the site was abandoned the unsold pots were left clustered around the city gate.

roughly similar at Ashkelon and Ekron. Furthermore, in the best-preserved floors of the Ashkelon winery (in Rooms 312 and 413) the relative frequency of pottery types precisely matches the proportions in the Ekron olive-processing facilities and the distribution of loom weights for seasonal weaving is closely paralleled in a similar building at Tel Batash. Just as at Ekron and Tel Batash, Ashkelon's "industrial buildings" produced evidence of a variety of complementary activities. This was a common mode of ancient production, described as a "cellular" system by Kemp (1989:291) and "nucleated workshops" by Peacock (1982:9). It may not have been efficient by modern standards but was undoubtedly lucrative for those in control. Although the commodities produced at Ashkelon differed in some cases from those produced at contemporary sites farther inland, the methods of production did not.

The question of why these dedicated production facilities were built has been a matter of some debate. Seymour Gitin argued that the Assyrians had a policy of targeted growth, which explains the economic expansion in seventh-century Philistia (1998b; 2003). But neither Ekron nor Ashkelon has produced artifacts that show interaction with Assyria. Perhaps, in the case of Ashkelon, some goods arrived from Assyrian garrison towns farther to the southeast (chapter 8), but even these are extremely rare. On the other hand, there is no doubt that the Assyrians transformed the southern Levant at the end of the eighth century and everything that happened afterward was affected by their actions. Perhaps the demographic and economic expansions in Philistia followed the pattern of similar expansions in highland Israel after the campaigns of Adad-nirari or of the expansion of Jerusalem after the fall of Samaria. The Assyrians did not directly determine these outcomes but they certainly created the conditions in which others changed their economic behavior to take advantage of the new situation that had been created. Along these lines, some have pointed to consumption by Egypt (Stager 1996b) or Phoenicia (Faust and Weiss 2005) as the primary motivation for Philistia's increased production. Increased demand surely played a significant role; however, the winery in Ashkelon gives little evidence that would allow us to assess the relative importance of the political factors that were at work.

By the late seventh century, however, the archaeological finds from Ashkelon do provide evidence of political structures. A cluster of amulets and scarabs (chapters 11, 12, and 14) found next to the bronze balance in the marketplace mark the presence of Egyptian officials who oversaw the commercial exchanges. In the winery, the best-preserved rooms are full of Egyptian objects. As Lanny Bell notes, the bronze situlae in these rooms would even have been thought to create, via transubstantiation, "Nile water" in Ashkelon (chapter 14).

The Egyptian artifacts in both the winery and the marketplace bring to mind the cache of Egyptian objects discovered by J. H. Iliffe at Ashkelon in the 1930s. Iliffe's hoard contains an Osiris figurine (chapter 13) similar to the one found in the winery, as well as rare cuboid weights (chapter 17) similar to those found alongside the Egyptian-style objects in marketplace. The tight spatial clustering of these objects in key locales supports the idea that Egyptians, or official agents of the Egyptians, occupied strategic places throughout Ashkelon, watching production and distribution in their vassal city at the end of the seventh century.

But in the end, even though the commercial seaport of Ashkelon had successfully negotiated the economic and political world of the southern Levant for many years, the power of Mediterranean trade was no match for the armies of an inland empire. By the late seventh century Ashkelon was on the brink of destruction, whether its inhabitants realized it or not. Nebuchadnezzar claims to have made the site "a tell" and our work bears out his claim.

From the perspective of the modern historian, Nebuchadnezzar could hardly have picked a better place to demolish. By his sack of the city he sealed in its ruins Greek, Cypriot, and Phoenician pottery, together with local pottery of the southern Levant. He trapped in the rubble an assortment of Egyptian sealings, amulets, and bronzes. He provided a chronological snapshot of the era that is without parallel, preserving for us bones, seeds, and items of stone and metal which are evidence of goods in the process of production and exchange. His destruction did far more than the accomplishments of any of Ashkelon's kings to ensure that this Iron Age city would not be forgotten.

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## CONCORDANCE OF STRATIGRAPHIC CONTEXTS

Context	Description	Page refs. to context	Page refs. to objects found in context
38.63.L28	Occupational/destruction debris in Building 776, Room 739; equal to 38.63.L733		
38.63.LF35	Floor in Building 776, Room 739; equal to 38.63.LF739, 38.64.LF784		
38.63.F730	Wall	14, 15, 17, 26, 714	
38.63.L732	Destruction debris	16	564
38.63.L733	Occupational debris in Building 776, Room 739; equal to 38.63.L28	17	689
38.63.F734	Threshold	14, 15, 17	
38.63.LF737	Pit in Building 776, Room 739	14, 15, 17, 714	666, 689
38.63.LF739	Floor in Building 776, Room 739; equal to 38.63.LF35, 38.64.LF784	14, 15, 17, 714	540, 666, 689
38.63.F751	Wall	14, 15, 20, 714	
38.63.F762	Wall	14, 15, 20, 714, 716	
38.63.F765	Door socket	14, 15, 17	
38.63.F766	Foundation		
38.63.L768	Wall fall		552
38.64.F54	Mudbrick wall; equal to 38.64.F66, 38.64.F75	14, 15, 17, 714, 715	667
38.64.L57	Destruction debris in Building 776, Room 780		537
38.64.L58	Destruction debris; equal to 38.64.L66, 38.64.L69	16, 19	
38.64.F61	Wall fall in Building 776, Room 780		207, 209, 210, 217, 218, 219, 220, 224, 227, 287, 294, 333
38.64.L61	Destruction debris on top of 38.64.F67	19	78, 90, 96, 439, 553, 666, 689, 690
38.64.F64	Wall	14, 15, 19, 714, 715	
38.64.L65	Natural fill on top of 38.64.F67		
38.64.F66	Mudbrick wall; equal to 38.64.F54, 38.75.F38		
38.64.L66	Destruction debris; equal to 38.64.L58, 38.64.L69		
38.64.F67	Floor; equal to 38.64.F73, 38.64.F76, 38.64.LF806		667
38.64.L67	Destruction debris in Building 776, Room 780	16, 19	81, 666, 689
38.64.F68	Floor in Building 776, Room 801, immediately above 38.64.F71	715	667, 689
38.64.L69	Destruction debris; equal to 38.64.L58, 38.64.L66		436
38.64.F70	Wall; equal to 38.64.F765	14, 15, 17, 714, 715	
38.64.F71	Floor in Building 776, Room 801; equal to 38.64.LF801	715	667, 689

<b>Context</b>	<b>Description</b>	<b>Page refs. to context</b>	<b>Page refs. to objects found in context</b>
38.64.L71	Natural accumulation	17	
38.64.F72	Floor in Building 776, Room 801; equal to 38.64.LF802	715	667, 689, 690
38.64.F73	Floor; equal to 38.64.F67, 38.64.F76, 38.64.LF806		
38.64.F74	Ashlar block; part of a wall or platform	14, 19, 714, 715	
38.64.L74	Foundation trench for wall 38.64.F54		
38.64.F75	Mudbrick wall; equal to 38.64.F54, 38.64.F66		
38.64.F76	Floor in Building 776, Room 801; equal to 38.64.F67, 38.64.F73, 38.64.LF806	715	
38.64.F77	Wall foundation		
38.64.F103	Wall foundation; equal to 38.64.F738		
38.64.F738	Foundation stones for wall 38.64.F70; equal to 38.64.F103		
38.64.F745	Wall in Building 776, Room 780	15, 18, 715	
38.64.F758	Wall	15, 17, 19, 714, 715	552
38.64.L764	Deliberate fill in Building 776, Room 780	18, 715	65, 66, 91, 209, 220, 333
38.64.F765	Wall	17	
38.64.F766	Wall in Building 776, Room 780	15, 18, 19, 715	
38.64.F767	Wine vat	715	524, 551, 565
38.64.F773	Wall	14, 15, 18, 19, 20, 714, 715, 716	
38.64.L774	Deliberate fill in Building 776, Room 780	18, 715	
38.64.LF776	Destruction debris/floor in Building 776, Room 796; equal to 38.74.LF480	16, 20, 716	287, 333
38.64.F777	Plaster pool in Building 776, Room 780	14, 13, 18, 19, 21, 23, 714, 715	
38.64.LF778	Floor in Building 776, Room 796	14, 15, 20, 714, 716	
38.64.LF780	Floor in Building 776, Room 780	14, 15, 18, 714, 715	578, 666, 689
38.64.LF784	Floor in Building 776, Room 739; equal to 38.63.LF739		666, 689
38.64.LF785	Occupational debris in Building 776, Room 801	16, 19, 715	66, 67, 78, 81, 117, 204, 209, 323, 333, 501, 540, 564, 573, 666, 689
38.64.F794	Wall	15, 19, 714, 715	
38.64.L795	Occupational debris in Building 776, Room 796	20, 716	
38.64.LF796	Floor in Building 776, Room 796	20, 716	
38.64.LF797	Floor in Building 776, Room 796	20, 716	666, 689
38.64.LF799	Floor in Building 776, Room 796; equal to 38.74.L520	15, 20, 714, 716	224, 333, 666, 689

<b>Context</b>	<b>Description</b>	<b>Page refs. to context</b>	<b>Page refs. to objects found in context</b>
38.64.LF800	Foundation trench	18	
38.64.LF801	Floor in Building 776, Room 801; equal to 38.64.F71	20, 715	67, 118, 209, 227, 289, 323, 333, 501, 667, 689
38.64.LF802	Floor in Building 776, Room 801; equal to 38.64.F72	19, 715	209, 227, 333, 667, 689
38.64.L803	Deliberate fill or destruction debris in Building 776, Room 796	16, 20	551
38.64.LF806	Floor in Building 776, Room 801; equal to 38.64.F67, 38.64.F73, 38.64.F76	14, 15, 17, 19, 714, 715	667, 689
38.64.LF807	Foundation trench	17	
38.64.LF809	Deliberate fill	18	
38.64.F810	Pillar stone in Building 776, Room 801	14, 19, 715	
38.64.L840	Destruction debris in alley; equal to 38.65.L1, 38.65.L38	16, 28	
38.65.L1	Destruction debris in alley; equal to 38.64.L840, 38.65.L38	16, 28	82, 86, 218, 333, 551, 667, 689
38.65.L22	Destruction debris in Building 7, Room 22	16	439, 554, 667
38.65.F24	Wall	14, 15	
38.65.F25	Wall	14, 15, 28, 714, 719	
38.65.F27	Wall	14, 15, 28, 714	124
38.65.L32	Deliberate fill in Building 7, Room 32		
38.65.F35	Wall; equal to 38.65.F36	14, 15, 28, 714, 719	
38.65.F36	Wall; equal to 38.65.F35	14, 15, 28, 714	
38.65.F37	Wall; equal to 38.75.F7		
38.65.L38	Destruction debris in alley; equal to 38.64.L840, 38.65.L1	28	
38.65.L44	Deliberate fill	29	
38.65.LF59	Robber's trench robbing part of 38.65.F35 and 38.65.F36	14, 15, 28, 714	
38.65.LF81	Robber's trench	14, 15, 714	
38.73.LF358	Robber's trench; equal to 38.73.LF362, 38.73.LF415, 38.83.LF272	14, 15, 23, 714	
38.73.LF362	Robber's trench; equal to 38.73.LF358	20	523, 527
38.73.LF364	Robber's trench; equal to 38.74.LF502	14, 15, 714	
38.73.F365	Wall	14, 15, 20, 22, 714	
38.73.LF380	Occupational debris on 38.73.LF394, in Building 776, Room 796	716	225, 333, 667, 668, 689
38.73.LF394	Floor in Building 776, Room 796	14, 15, 20, 716	668, 689
38.73.LF408	Floor in Building 776, Room 408	14, 15, 22, 714	

<b>Context</b>	<b>Description</b>	<b>Page refs. to context</b>	<b>Page refs. to objects found in context</b>
38.73.F411	Wall; equal to 38.74.F507, 38.83.F336, 38.84.F300, 38.84.F316		
38.73.LF415	Robber's trench; equal to 38.73.LF358	14, 15, 20, 22, 714	523
38.73.F418	Wall fragment, most of wall robbed by 38.73.F358		
38.74.F420	Wine press in Building 776, Room 420	14, 15, 13, 20, 21, 22, 26, 28, 714	
38.74.LF429	Destruction debris in Building 776, Room 492; equal to 38.84.LF280	16, 22, 716	227, 287, 333, 668, 690
38.74.LF451	Pit in Building 776, Room 420	14, 21, 714	
38.74.F457	Wall	14, 15, 20, 21, 714	
38.74.F458	Wall; equal to 38.74.F614	14, 15, 17, 20, 21, 22, 26, 28, 714	
38.74.LF460	Floor in Building 776, Room 460	14, 22, 23, 714	436, 668, 669, 690
38.74.LF461	Pit in Building 776, Room 460; ash pit cut into 38.74.LF460		669
38.74.LF462	Pit in Building 776, Room 420	14, 20, 22, 714	669
38.74.LF463	Pit in Building 776, Room 420	14, 23, 714	
38.74.LF463	Pit in Building 776, Room 460	23	
38.74.L464	Wall fall in Building 776, Room 460	16, 23	225, 333, 436, 561
38.74.L472	Wall fall in alley	16, 28	545
38.74.F476	Wall	14, 15, 20, 22, 714, 716	
38.74.LF480	Surface in Room 796; equal to 38.64.LF776	716	484, 487, 534
38.74.L482	Deliberate fill	22	220, 333, 484, 488, 501, 551, 567, 669, 690
38.74.F483	Wall	20, 22	
38.74.F483	Wall	14, 15, 20, 714, 716	
38.74.LF492	Floor in Room 492; equal to 38.84.LF298	22, 714, 716	342, 343, 669, 690
38.74.LF493	Surface in alley		445, 574, 669, 692
38.74.LF497	Robber's trench	14, 15, 20, 714, 716	
38.74.LF502	Robber's trench; equal to 38.73.LF364	14, 15, 20, 714, 716	
38.74.F507	Wall; equal to 38.73.F411, 38.83.F336, 38.84.F300, 38.84.F316	14, 15, 22, 714, 716	
38.74.LF508	Robber's trench	14, 15, 22, 714, 716	670
38.74.LF509	Surface in alley; equal to 38.84.LF412	14, 26	105, 552, 670, 692
38.74.F510	Wall	14, 15, 22, 714, 716	
38.74.F512	Door socket	14, 15, 20, 21, 714, 719	

<b>Context</b>	<b>Description</b>	<b>Page refs. to context</b>	<b>Page refs. to objects found in context</b>
38.74.F513	Platform	14, 28	
38.74.L514	Deliberate fill in Building 776, Room 420	22	361, 362, 377, 378, 516
38.74.F515	Facing of wall	20, 21, 22, 26	
38.74.F516	Wall; equal to 38.84.F378		551
38.74.LF518	Channel	21	670
38.74.L520	Floor in Building 776, Room 796; equal to 38.64.LF799	716	
38.74.F522	Foundation for wall 38.74.F458; equal to 38.74.LF614		
38.74.F523	Foundation for wall 38.74.F457		
38.74.F534	Threshold	14, 15, 20, 22	
38.74.LF540	Foundation trench for wall 38.74.F483		
38.74.LF545	Robber's trench; equal to 38.84.LF393	14, 15, 22, 23, 714, 719	
38.74.LF550	Foundation trench for wall 38.74.F483		
38.74.L574	Deliberate fill	20	
38.74.F588	Channel	22	
38.74.F589	Foundation	21	
38.74.L591	Deliberate fill	21	551
38.74.LF595	Foundation trench		
38.74.F597	Wall foundation, cobble foundation for wall 38.74.F457		
38.74.LF603	Foundation trench for wall 38.74.F458		
38.74.F611			569
38.74.F613	Foundation for wall 38.74.F458		
38.74.F614	Wall; equal to 38.74.F458, 38.74.F522		
38.74.LF615	Foundation trench for wall 38.74.F458		
38.75.L4	Destruction debris in Building 7, Room 22	16, 29	342, 356, 437, 438, 439, 554, 670
38.75.F7	Wall; equal to 38.65.F37	14, 15, 28, 714	
38.75.LF9	Robber's trench; equal to 38.75.LF35, 38.75.LF39	14, 15, 28, 714, 719	
38.75.F15	Wall	14, 15, 29, 714	
38.75.F16	Wall	14, 15, 29, 714	
38.75.F18	Wall	14, 15, 28, 714	

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38.75.LF28	Robber's trench	14, 15, 29, 714	
38.75.L29	Destruction debris in Drain 58		342, 356, 532, 543, 553
38.75.F31	Wall	14, 15, 29, 714, 719	
38.75.LF35	Robber's trench; equal to 38.75.LF9, 38.75.LF39	14, 15, 28, 714	
38.75.LF36	Robber's trench	14, 15, 29, 714	
38.75.F37	Wall	14, 15, 29, 714	
38.75.LF39	Robber's trench; equal to 38.75.LF9, 38.75.LF35	28	
38.75.LF40	Robber's trench	14, 15, 28, 714, 719	
38.75.F45	Wall	14, 15, 28, 714	537
38.75.F49	Wall of drain; equal to 38.75.F61, 38.75.F67		
38.75.L54	Deliberate fill in alley; equal to 38.75.L65	28	670
38.75.L56	Wall fall	16, 28	
38.75.L57	Deliberate fill in Building 7, Room 57	16, 29	124, 125, 439, 533
38.75.F60	Wall of drain	14, 26, 28	
38.75.F61	Wall of drain; equal to 38.75.F49, 38.75.F67	14, 26, 28	
38.75.L65	Deliberate fill; equal to 38.75.L54	28	
38.75.F67	Wall of drain; equal to 38.75.F49, 38.75.F61		
38.75.F77	Drain	14, 28	543
38.75.L89	Deliberate fill in Building 7, Room 104	29	580
38.75.L104	Deliberate fill in Building 7, Room 104	29	
38.75.L106	Deliberate fill	29	
38.83.LF272	Robber's trench; equal to 38.73.LF358		501, 544
38.83.L320	Destruction debris in Building 776, Room 342	16, 23, 717	66, 96, 120, 227, 333, 438, 439, 501, 570, 579, 670, 690
38.83.L328	Deliberate fill in 38.83.LF341, in Building 776, Room 341		574
38.83.F336	Wall; equal to 38.73.F411, 38.74.F507, 38.84.F300, 38.84.F316	14, 22, 714	
38.83.LF341	Floor in Building 776, Room 341	14, 15, 23, 714	
38.83.LF342	Floor in Building 776, Room 342	14, 15, 23, 714, 717	484, 487, 670, 690
38.83.LF343	Surface in Building 776, Room 342	23, 717	670, 690
38.83.LF345	Shell subfloor in Building 776, Room 342	23, 717	671, 690

Context	Description	Page refs. to context	Page refs. to objects found in context
38.83.LF346	Robber's trench	14, 15, 23, 714, 717	671, 690
38.83.F353	Wall		
38.83.L357	Deliberate fill	23	
38.84.LF280	Destruction debris in Building 776, Room 492; equal to 38.74.LF429	716	436, 501, 551, 671, 690
38.84.LF281	Ashy patch on 38.84.LF280	716	551
38.84.F282	Plaster basin	14, 15, 22, 714	
38.84.LF292	Surface, beaten earth surface fragment; equal to 38.84.LF298	716	
38.84.L295	Destruction debris in Building 776, Room 413; equal to 38.84.L297, 38.84.L383	16, 24, 717	416, 500, 671, 691
38.84.L297	Destruction debris in Building 776, Room 413; equal to 38.84.L295, 38.84.L383	28, 717	361, 362, 366, 367, 436, 500, 573, 579, 671, 691
38.84.LF298	Floor; equal to 38.74.LF492	716	690
38.84.L299	Destruction debris in Building 776, Room 312; equal to 38.84.L311, 38.84.L386	16, 23, 717	67, 118, 181, 208, 225, 227, 333, 342, 355, 361, 362, 369, 370, 436, 438, 457, 484, 486, 562, 566, 567, 671, 691
38.84.F300	Wall; equal to 38.74.F507, 38.83.F336, 38.84.F316		
38.84.F307	Wall	14, 15, 22, 714	
38.84.L311	Occupational debris in Building 776, Room 312; equal to 38.84.L299, 38.84.L386	717	
38.84.LF312	Floor in Building 776, Room 312; equal to 38.84.LF402	14, 15, 23, 714, 717	210, 227, 333, 342, 343, 344, 361, 362, 370, 394, 437, 518, 530, 671, 672, 691
38.84.F316	Wall; equal to 38.74.F507, 38.83.F336, 38.84.F300		
38.84.L317	Deliberate fill	22	342, 345, 438, 517, 552
38.84.LF323	Robber's trench	14, 15, 23, 714, 717	
38.84.L371	Destruction debris in alley; equal to 38.85.L21, 38.85.L22	16, 28	69, 316, 333, 672, 692
38.84.LF374	Natural fill; equal to 38.84.LF380, 38.84.LF540		572
38.84.F378	Wall; equal to 38.74.F516, 38.84.F423	14, 22, 26	
38.84.LF380	Gully in surface 38.84.LF412 in alley east of winery; equal to 38.74.LF493, 38.84.L374, 38.84.LF540		438, 552
38.84.L381	Deliberate fill in 38.84.393		551
38.84.LF383	Destruction debris in Building 776, Room 413; equal to 38.84.L295, 38.84.L297	717	500, 540, 672, 691
38.84.L386	Destruction debris in Building 776, Room 312; equal to 38.84.L299, 38.84.L311	717	361, 362, 364, 366, 399, 400, 401, 402, 403, 428, 436, 438, 672, 691
38.84.LF391	Robber's trench	14, 15, 22, 24, 714	500, 551, 552
38.84.L392	Destruction debris in Building 776, Room 413; equal to 38.84.L295, 38.84.L297, 38.84.L383	717	436, 500

<b>Context</b>	<b>Description</b>	<b>Page refs. to context</b>	<b>Page refs. to objects found in context</b>
38.84.LF393	Robber's trench; equal to 38.74.LF545, 38.84.LF414		553
38.84.LF396	Robber's trench	14, 15, 24, 714, 717	438, 552
38.84.L401	Occupational debris in Building 776, Room 312	23, 717	342, 345, 361, 362, 366, 367, 370, 374, 375, 391, 392, 394
38.84.LF402	Floor in Room 312; equal to 38.84.LF312	23, 717	
38.84.L410	Deliberate fill	23	
38.84.LF412	Surface in alley	14, 26	361, 362, 363, 365, 438, 532, 672, 692
38.84.LF413	Floor in Building 776, Room 413	14, 15, 24, 714, 717	342, 346, 427, 672, 691
38.84.LF414	Robber's trench; equal to 38.84.LF393, 38.84.LF551	14, 15, 22, 24, 27, 714	573
38.84.LF416	Pit	22	
38.84.L419	Deliberate fill	23	552
38.84.L420	Deliberate fill	22	552
38.84.LF421	Posthole in Building 776, Room 312	14, 15, 23, 717	
38.84.LF422	Posthole in Building 776, Room 312	14, 15, 23, 717	
38.84.F423	Wall; equal to 38.84.F378		
38.84.F424	Row of stones and jars in alley; equal to 38.84.F549		
38.84.F425	Wall	14, 15, 22, 714	
38.84.L427	Deliberate fill	24	437
38.84.LF428	Foundation trench for wall 38.84.F425		
38.84.L431	Deliberate fill		
38.84.L433	Deliberate fill		
38.84.L436	Deliberate fill in alley; equal to 38.84.LF412		
38.84.LF438	Row of stones and jars in alley		
38.84.LF459	Deliberate fill	16, 24	437, 561
38.84.LF540	Natural fill; equal to 38.85.LF380.	28	
38.84.LF548	Alley deposit east of winery; equal to 38.84.LF412		76, 94, 104, 105, 112, 553
38.84.F549	Row of stones and jars in alley; equal to 38.84.F424		
38.84.LF551	Robber's trench; equal to 38.84.LF414, 38.94.LF295		
38.84.LF552	Destruction debris in alley; equal to 38.94.LF297	16, 28	95
38.84.F553	Wall	14, 15, 24, 26, 714	

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38.85.L5	Occupational debris	14, 15, 28, 714	
38.85.L9	Deliberate fill	28	553
38.85.L21	Destruction debris in alley; equal to 38.84.L371, 38.85.L22	28	
38.85.L22	Destruction debris in alley; equal to 38.84.L371, 38.85.L21	29	439
38.85.LF32	Robber's trench	14, 15, 28, 714	
38.85.F36	Wall	14, 15, 714	
38.93.L157	Destruction debris in Building 776, Room 210; equal to 38.94.L207	718	342, 346
38.93.LF159	Floor in Building 776, Room 210; equal to 38.94.LF210	718	672, 691
38.94.L206	Destruction debris in Building 776, Room 210	16, 25, 718	100, 227, 333, 342, 355, 672, 673, 691, 692
38.94.LF207	Destruction debris in Building 776, Room 210; equal to 38.93.L157	16, 24, 25, 718	65, 83, 227, 333, 673, 691
38.94.L209	Destruction debris in Building 776, Room 210	718	
38.94.LF209	Floor in Building 776, Room 210; equal to 38.94.LF235	24, 25	673, 691
38.94.LF210	Floor in Building 776, Room 210; equal to 38.93.LF159	14, 15, 24, 714, 718	227, 333, 562, 673, 691, 692
38.94.L217	Destruction debris in Building 776, Room 299; equal to 38.94.L296		
38.94.LF218	Wine press in Building 776, Room 210	14, 15, 13, 24, 25, 714, 718	
38.94.L230	Destruction debris in Building 776, Room 210	16, 24, 718	
38.94.LF235	Surface in Building 776, Room 210; equal to 38.94.F209	718	
38.94.LF236	Floor in Building 776, Room 210	24, 718	
38.94.LF237	Hearth in Building 776, Room 210	15, 25, 718	
38.94.L243	Destruction debris in Building 776, Room 210	16, 25, 718	673, 691, 692
38.94.L252	Destruction debris	16, 26	674, 691
38.94.L255	Destruction debris	25, 718	674, 691, 692
38.94.F259	Wall	14, 15, 24, 26, 714, 718	
38.94.L261	Deliberate fill in Building 776, Room 210	24, 718	
38.94.LF262	Floor in Building 776, Room 210	24, 25, 718	
38.94.F263	Bench	14, 24, 714, 718	
38.94.F264	Wall	14, 15, 26, 714	
38.94.LF266	Pit or trench	14, 15, 24, 25, 714, 718	
38.94.F267	Plaster-lined ridge in Building 776, Room 210	14, 15, 24, 714, 718	

<b>Context</b>	<b>Description</b>	<b>Page refs. to context</b>	<b>Page refs. to objects found in context</b>
38.94.LF268	Floor in Building 776, Room 210	14, 15, 24, 714, 718	
38.94.F273	Wine press in Building 776, Room 210	14, 24, 25, 714, 718	
38.94.LF274	Foundation trench in Building 776, Room 210. Fill below 38.94.F218		
38.94.F283	Plaster-lined ridge in Building 776, Room 210	14, 15, 24, 25, 714, 718	
38.94.LF295	Robber's trench; equal to 38.84.LF551	14, 26, 714	
38.94.L296	Destruction debris in Building 776, Room 299; equal to 38.94.L217	16, 26	674, 691
38.94.LF297	Destruction debris in alley; equal to 38.84.LF552	16	
38.94.LF298	Row of stones and jars in alley	14, 26	102, 674, 692
38.94.LF299	Floor in Building 776, Room 299	14, 15, 26, 714	
38.94.L301	Natural fill below 38.94.F218		
50.46.F53	Wall in Building 276; equal to 50.46.F60, 50.46.F90		
50.46.LF55	Floor in Building 276, Room 78		675, 693
50.46.L56	Occupational debris in Building 276, Room 57	43	65, 484, 486, 674, 693
50.46.LF57	Floor in Building 276, Room 57	43, 44	674, 675, 693
50.46.LF59	Bin in Building 276, Room 78	43, 44, 727	
50.46.F60	Wall in Building 276; equal to wall 50.46.F53, 50.46.F90		
50.46.L61	Occupational debris in Building 276, Room 78	43	227, 333, 675, 693
50.46.F67	Wall		
50.46.F68	Bin in Building 276, Room 78	43, 44, 727	
50.46.LF70	Bin in Building 276, Room 78	43, 44, 727	
50.46.LF72	Deliberate fill		
50.46.L73	Destruction debris in Building 276, Room 78	43	
50.46.L75	Deliberate fill	36	66, 111, 436, 518
50.46.F76	Wall	43, 44, 727	
50.46.LF77	Robber's trench		
50.46.LF78	Floor in Building 276, Room 78	43, 44, 727	675, 693
50.46.L79	Deliberate fill	36	
50.46.L80	Deliberate fill	35, 36	
50.46.L81	Deliberate fill; equal to 50.46.L85	36	

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50.46.L82	Deliberate fill		
50.46.LF83	Floor in Building 276, Room 78		304, 333
50.46.L84	Deliberate fill	36	
50.46.L85	Deliberate fill; equal to 50.46.L81	36	111
50.46.F86	Wall in Building 276	43, 44, 727	
50.46.L87	Deliberate fill above 50.46.F96		
50.46.L88	Deliberate fill	36	
50.46.F89	Wall in Building 276	43, 44	
50.46.F90	Wall in Building 276; equal to 50.46.F53, 50.46.F60	43, 44, 727	
50.46.F91	Wall in Building 276	43, 44, 727	
50.46.F92	Wall in Building 276	43, 44	
50.46.F93	Wall in Building 276	43, 44, 727	
50.46.F94	Wall in Building 276	43, 44, 727	
50.46.F95	Wall	43, 44, 727	
50.46.F96	Stone pavement in Building 276, Room 78	43, 44, 727	
50.46.L100	Deliberate fill	36	195, 228, 288, 323, 333, 552, 562, 675, 693
50.47.LF268	Pit in Building 276, Room 421	42, 731	438
50.47.L269	Surface in West Street; equal to 50.48.L422, 50.58.L310	47, 734	675, 696
50.47.LF276	Robber's trench in Building 276	42, 44, 727	
50.47.LF277	Robber's trench in Building 276	42, 44, 727, 731	
50.47.LF278	Deliberate fill in Building 276	43, 44, 727	446
50.47.LF279	Robber's trench; equal to 50.48.LF407	42, 44, 727	
50.47.L281	Deliberate fill	36	109, 252, 333, 438, 551
50.47.L283	Deliberate fill	36	
50.47.L284	Deliberate fill	36	
50.47.L285	Deliberate fill	36	66, 104, 108, 166, 191, 220, 225, 228, 241, 253, 258, 259, 264, 267, 268, 274, 287, 305, 310, 311, 323, 333, 361, 362, 385, 386, 437, 438, 467, 517, 524, 535, 541, 551, 552, 553, 563, 568, 570
50.47.F289	Wall	44, 727	

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50.47.LF300	Deliberate fill; equal to 50.48.LF460, 50.57.LF272, 50.58.LF362	36	
50.47.F301	Wall	32, 35, 36	
50.47.L302	Natural fill	36	149, 333, 458, 484, 489, 490, 553
50.47.L303	Deliberate fill; equal to 50.48.L303, 50.48.L462, 50.48.L465	36	439, 553
50.47.L304	Deliberate fill	36	
50.47.L305	Deliberate fill	36	
50.47.L306	Deliberate fill	36	342, 347, 553
50.47.L307	Deliberate fill	36	
50.47.L308	Deliberate fill	36	
50.47.L309	Deliberate fill; equal to 50.47.L313	36	437, 439
50.47.L310	Deliberate fill	36	166, 333
50.47.L313	Deliberate fill; equal to 50.47.L309	36	327, 333, 553, 571
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50.48.F373	Silo	32, 35	567
50.48.F374	Bench	32, 48	
50.48.LF383	Technical surface; sandy fill		66, 114, 675, 676, 693, 694
50.48.L384	Natural fill		64, 66, 67, 77, 98, 204, 217, 222, 223, 225, 230, 277, 306, 334, 361, 362, 371, 372, 450, 484, 489
50.48.L385	Natural fill	48	551, 577
50.48.L387	Wall fall in Plaza	48	
50.48.L388	Street in Plaza	48	84, 143, 144, 334, 452, 539
50.48.L389	Natural fill		278, 334
50.48.L390	Wall fall in Building 406, Room 431	42, 731	99, 111, 484, 488, 539
50.48.L391	Natural fill		
50.48.L392	Occupational debris on floor 50.48.LF421	42, 731	68, 169, 227, 270, 287, 304, 334, 676, 693, 694
50.48.L393	Occupational debris in Plaza		64, 69, 74, 80, 149, 162, 169, 182, 185, 208, 210, 220, 224, 225, 227, 247, 248, 287, 294, 304, 323, 328, 334, 342, 357
50.48.F394	Wall in Building 406, Room 431	40, 42, 727, 731	
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50.48.L397	Natural fill	48	551
50.48.L398	Destruction debris in Plaza	48	68, 162, 227, 294, 303, 304, 334
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50.48.L402	Deliberate fill in robber's trench 50.48.LF400	42	
50.48.L403	Natural fill	35	107, 110
50.48.L404	Natural fill		
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50.48.L406	Deliberate fill in robber's trench 50.48.LF407	42	
50.48.LF407	Robber's trench; equal to 50.47.LF279	42	85
50.48.L408	Occupational debris; equal to 50.57.L213, 50.58.L396	36	304, 334, 677, 693
50.48.F409	Drain in Plaza; equal to 50.49.F388, 50.58.F294	40, 44, 48, 727	
50.48.L412	Occupational debris	48	677, 693
50.48.L414	Natural fill	36	361, 362
50.48.L415	Occupational debris in Plaza; equal to 50.48.L430, 50.49.L389	48	74, 80, 155, 182, 323, 334, 528
50.48.LF417	Street in Plaza		
50.48.L418	Wall fall in Plaza; equal to 50.49.L380	48	553
50.48.LF419	Pit	36	
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50.48.LF421	Floor in Building 276, Room 421	42, 44, 727, 731	123, 342, 348, 460, 541
50.48.LF422	Surface in West Street; equal to 50.47.L269, 50.58.L310	47, 48, 734	
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50.48.L428	Occupational debris in Building 406, Room 431	42, 731	95, 436, 484, 486, 677, 694
50.48.LF429	Floor in Building 406, Room 431	40, 42, 727, 731	677, 678, 694
50.48.L430	Street in Plaza	48	84, 86, 162, 227, 334, 540
50.48.LF431	Floor in Building 406, Room 431	42, 731	334, 227, 246, 287, 579, 678, 694
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50.48.L439	Occupational debris	36	65, 67, 68, 72, 75, 79, 82, 85, 87, 105, 179, 180, 212, 215, 225, 228, 241, 248, 258, 266, 273, 286, 288, 294, 305, 310, 315, 323, 324, 327, 334, 453, 455, 463, 529, 541
50.48.LF442	Foundation trench		
50.48.LF443	Foundation trench		
50.48.L444	Deliberate fill	36	65, 66, 67, 68, 179, 180, 189, 191, 203, 211, 217, 226, 228, 250, 266, 273, 275, 286, 288, 305, 313, 324, 334, 438, 458, 523
50.48.L445	Deliberate fill	36	
50.48.L446	Deliberate fill	36	462, 524, 678, 694
50.48.F447	Wall	32, 36	
50.48.L448	Deliberate fill	36	253, 334, 446, 447, 461, 463, 468, 553, 576
50.48.L449	Deliberate fill	36	94, 146, 334, 464, 530, 678, 679, 694
50.48.L450	Deliberate fill	36	104, 437, 679, 694
50.48.L451	Deliberate fill	36	165, 168, 324, 334
50.48.L452	Deliberate fill	36	64, 67, 68, 69, 78, 79, 105, 109, 123, 150, 154, 155, 157, 158, 159, 163, 164, 165, 166, 167, 168, 169, 171, 173, 178, 179, 180, 186, 187, 190, 191, 192, 193, 195, 196, 197, 198, 200, 201, 202, 203, 205, 211, 212, 213, 214, 216, 217, 222, 223, 224, 225, 226, 228, 229, 231, 236, 240, 242, 243, 248, 250, 251, 252, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 282, 283, 284, 286, 287, 288, 289, 290, 291, 295, 296, 297, 298, 299, 300, 301, 302, 303, 305, 309, 310, 311, 312, 315, 318, 319, 321, 322, 323, 324, 327, 328, 334, 335, 342, 348, 349, 436, 437, 438, 447, 448, 449, 450, 456,

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50.48.F458	Wall	36	
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50.48.L461	Deliberate fill	36	65, 67, 68, 83, 159, 180, 185, 190, 203, 210, 217, 223, 225, 226, 229, 231, 254, 264, 288, 289, 303, 324, 328, 335, 449, 453, 553
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50.48.L495	Deliberate fill	41	
50.48.LF496	Deliberate fill	41	342, 350, 437, 484, 492, 553
50.49.L353	Occ. debris in Building 406, Room 375; equal to 50.49.F362	41, 730	65, 225, 308, 335, 679, 694, 695
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50.49.L360	Occupational debris in Building 406, Room 375; equal to 50.49.L353	41, 729	522
50.49.F362	Wall	40, 41, 727, 728, 729	
50.49.L364	Wall fall in Building 406, Room 373	41, 730	113, 426, 528, 551, 679, 680, 694, 695
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50.49.F367	Surface in East Street		
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50.49.L369	Surface in East Street	48	438, 569
50.49.L370	Wall fall in East Street	48	
50.49.F371	Fire pit in East Street	40, 48, 727	
50.49.F372	Wall; equal to 50.49.F378		
50.49.L373	Floor in Building 406, Room 373	41, 730	169, 227, 288, 460, 680, 694
50.49.L374	Floor makeup in Building 406, Room 375	41, 730	184, 287, 336, 527, 551, 680, 694
50.49.L375	Occupational debris in Building 406, Room 375	40, 41, 727, 730	227, 336, 527, 680, 694
50.49.L376	Occupational debris in Building 406, Room 373, immediately below 50.49.LF373	730	438
50.49.L377	Natural fill; equal to 50.49.L379	48	
50.49.F378	Wall in Building 406, Room 375	32, 40, 41, 42	
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50.49.LF385	Surface in East Street		
50.49.L386	Wall fall in Building 406, Room 406; equal to 50.49.L391	41, 729	305, 336, 551
50.49.F387	Wall	35	
50.49.LF388	Drain in East Street; equal to 50.48.F409, 50.58.F294	40, 48, 727, 730	209, 225, 336
50.49.L389	Surface in East Street; equal to 50.48.L415, 50.48.L430	48	65, 84, 93, 145, 227, 287, 288, 305, 323, 336, 438, 452, 461, 535
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50.49.L391	Wall fall in Building 406, Room 406; equal to 50.49.L386	41, 48	
50.49.L392	Destruction debris in Building 406, Room 406; equal to 50.49.L401	41, 729	64, 77, 106, 227, 336, 681, 695
50.49.LF393	Wall fall in East Street	48	162, 336
50.49.L394	Surface in East Street	49	
50.49.L398	Surface in East Street	49	
50.49.L399	Natural fill	37	551
50.49.F400	Human skeleton in Building 406, Room 406	41, 727, 729	
50.49.L401	Destruction debris in Building 406, Room 406; equal to 50.49.L392	41, 729	429, 484, 491, 501, 563, 681, 695
50.49.F402	Threshold	40, 41, 727	
50.49.F403	Bin in Building 406, Room 406	40, 41, 727, 729	
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50.49.F405	Stone installation in Building 406, Room 406	40, 41, 729	
50.49.LF406	Floor in Building 406, Room 406	40, 41, 727, 729	681, 695
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50.49.LF408	Robber's trench	32, 35	
50.49.F410	Wall in Building 406, Room 375	40, 41, 42, 727, 730	
50.49.L411	Wall fall in Building 406, Room 423; equal to 50.49.L413, 50.49.L414	41, 728	551
50.49.L413	Wall fall in Building 406, Room 423; equal to 50.49.L411, 50.49.L414	41, 728	68, 276, 336, 551
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50.49.L416	Wall fall in Building 406, Room 425; equal to 50.49.L419	41	
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50.49.L418	Destruction debris in Building 406, Room 423	40, 41, 728	65, 66, 89, 90, 114, 153, 336, 484, 491, 516, 544, 681, 682, 695

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50.49.L421	Deliberate fill	36	229, 336
50.49.LF422	Pit	42	518
50.49.LF423	Floor in Building 406, Room 423	40, 41, 727, 728	209, 220, 225, 227, 336, 445, 682, 695
50.49.F424	Wall in Building 406	41	
50.49.L425	Deliberate fill	36	94, 105, 436, 452, 484, 491, 524, 682, 695
50.49.LF426	Floor in Building 406, Room 426	40, 41, 727, 728	682, 695
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50.49.LF428	Foundation trench		
50.49.F429	Foundation trench		
50.49.LF429	Foundation trench		
50.49.LF430	Foundation trench		
50.49.F431	Foundation trench		
50.49.LF431	Foundation trench		
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50.49.L437	Deliberate fill	36	683, 695
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50.49.L439	Deliberate fill	36	229, 336, 683, 695
50.49.L440	Deliberate fill	36	145, 147, 336, 361, 362, 389, 437, 438, 463
50.49.LF441	Deliberate fill	36	342, 351, 683, 695
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50.49.L451	Deliberate fill	36	66, 67, 68, 95, 97, 98, 103, 106, 109, 113, 152, 165, 167, 173, 176, 177, 179, 193, 194, 196, 198, 199, 203, 213, 214, 221, 222, 223, 224, 225, 226, 229, 230, 235, 238, 252, 258, 283, 288, 289, 290, 291, 296, 300, 304, 305, 312, 321, 322, 324, 327, 336, 427, 438, 449, 454, 456, 464, 465, 519, 521, 532, 577
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50.56.L212	Deliberate fill	36	428
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50.57.LF136	Floor in Building 234, Room 234	733	
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50.57.L197	Deliberate fill	36	575
50.57.L203	Washed destruction debris in Building 234	45	277, 337, 551
50.57.L206	Destruction debris in Building 234, Room 227; equal to 50.57.L226, 50.58.L262	46, 733	65, 73, 225, 228, 287, 337, 436, 484, 487, 523, 527, 528, 683, 684, 696, 697
50.57.F208	Wall in Building 234	44, 45, 46, 727, 733, 734	
50.57.LF212	Floor in Building 234, Room 221	44, 46, 727, 733	169, 337, 685, 696
50.57.L213	Deliberate fill; equal to 50.48.L408, 50.58.L396	36	
50.57.LF215	Robber's trench; equal to 50.58.LF300	44, 45, 727, 733	
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50.57.LF222	Robber's trench; equal to 50.57.LF239	44, 45, 46, 727, 733	
50.57.L223	Destruction debris in Building 234, Room 234	46, 733	
50.57.F224	Wall	44, 47, 727	
50.57.L225	Destruction debris/roof collapse in Building 234, Room 221	46, 733	
50.57.L226	Destruction debris in Building 234, Room 227; equal to 50.57.L206, 50.58.L262	46, 733	
50.57.LF227	Floor in Building 234, Room 227; equal to 50.58.LF269	36, 44, 46, 727, 733, 734	
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50.57.L239	Deliberate fill; equal to 50.59.LF222	36	
50.57.L240	Deliberate fill	36	185, 186, 230, 288, 337, 436
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50.57.L245	Deliberate fill	36	66, 98, 241, 337
50.57.L248	Deliberate fill	36	170, 225, 230, 241, 261, 337
50.57.L252	Deliberate fill; equal to 50.57.L254, 50.57.L256	36	
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Grid 50. Square 59-49  
West Section

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