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ADAM T. SMITH, RUBEN BADALYAN, PAVEL AVETIYAN, AND MKRTICH ZARDARYAN, WITH CONTRIBUTIONS BY ARMINE HAYRAPETYAN, LEAH MINC, AND BELINDA MONAHAN

Abstract

The Late Bronze Age (ca. 1500–1200 B.C.) in southern Caucasia marked the first appearance of a radically altered regional sociopolitical tradition founded upon newly empowered elites sequestered in fortified citadels. The archaeology of the era indicates a significant break from the preceding Middle Bronze Age, when large burial mounds and a dearth of settlement sites have long suggested the prevalence of pastoral nomadism and mobile sociopolitical institutions. The patterns of social order and institutional formation that developed in the Late Bronze Age appear to have endured well into the Iron Age, exerting a profound impact upon later historical empires, such as Urartu. The investigations of Project ArAGATS are examining the rise of complex societies in Caucasia by detailing the nature of social organization and the apparatus of political authority that constituted this emergent tradition. Having completed an archaeological survey of the Tsakahovit Plain region in 2000, we initiated phase II of our investigations in 2002 with intensive excavations at Tsakahovit and Gegharot fortresses, two settlement sites with well-preserved strata from three major archaeological periods: the Kura-Araxes III phase of the Early Bronze Age, the Late Bronze Age, and the Yervandid period of the mid first millennium B.C. (sixth–third centuries B.C.). The Early Bronze Age settlement at Gegharot is notable not only for its unexpected large size, good preservation, and terraced construction, but also for the illumination it promises to shed on the terminal era of the Kura-Araxes horizon. With the discovery of stratigraphically superimposed Late Bronze Age and Yervandid occupations at Tsakahovit, continuing research at the site promises to shed light on both the initial emergence of sociopolitical complexity in southern Caucasia and the reconfiguration of local practices in the aftermath of the Urartian imperial collapse.*

In the summer of 2002, the joint Armenian-American project for the Archaeology and Geography of Ancient Transcaucasian Societies (Project ArAGATS) conducted eight weeks of archaeological excavations at the fortresses of Tsakahovit and Gegharot, two multicomponent sites in the Tsakahovit Plain of western Armenia (Aragatsotn Marz).1 Our attention was initially drawn to these two sites during the course of two seasons of systematic archaeological survey in the region during 1998 and 2000 (fig. 1).2 These earlier investigations indicated that the initial emergence of complex societies in the Tsakahovit region during the Late Bronze Age (ca. 1500–1200 B.C.) entailed a broader transformation in the sociopolitical landscape than had been previously documented, including a proliferation of mortuary complexes and the simultaneous construction of a network of fortified citadels. While our survey allowed us to document the

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* The 2002 research of Project ArAGATS was supported by grants from The National Geographic Society (Gr. # 7215-02), The Wenner-Gren Foundation for Anthropological Research (Hayrapetyan dissertation fieldwork grant #6918), The University of Chicago Department of Anthropology Marion and Adolph J. Lichtstern Fund, The University of Chicago Social Science Division Research Grants, and the Friends of Project ArAGATS. Our gratitude is extended to these organizations for their support.

1 Avetisyan et al. 2000; Badalyan et al. 2003; Smith 1999; Smith et al. 1999.
general historical transformations in regional settlement and landscape production, we were particularly interested in examining the rise of Late Bronze Age polities in greater detail. Test excavations at several sites revealed that Tsakahovit and Gegharot boasted extraordinarily well-preserved mid-second-millennium B.C. occupation levels that preliminary results suggested dated to the initial phases of the Late Bronze Age (table 1).

The sites were thus thought to perhaps represent one of the earliest known expressions of a southern Caucasian sociopolitical tradition. This tradition was centered on elite institutions closeted within stone-walled fortresses that dominated the region through the first half of the first millennium B.C. While the broad outlines of this tradition have recently begun to come into better focus, the political practices that secured authority in these precocious polities remain woefully unclear. We are similarly uncertain about the forces that contributed to the eventual eclipse of this enduring tradition by Achaemenid and later Hellenistic models of sociopolitical order that flourished in the Yervandid period of the mid-first millennium B.C. The extensive mid-first-millennium B.C. occupations at Tsakahovit fortress provide a compelling sequel to the Late Bronze Age settlement of the site, allowing for the simultaneous exploration of the emergence and collapse of the southern Caucasian political tradition. The 2002 excavations at Tsakahovit and Gegharot fortresses were undertaken in order to describe the institutional structure of political authority, the social foundations of elite privilege, and the bases of the local political economy during both the initial emergence of complex societies in the Late Bronze Age and the broad sociopolitical transformations that followed the collapse of Urartu. Our investigations also encountered an extraordinarily well-preserved Early Bronze Age site at Gegharot. Although surface reconnaissance had indicated the strong presence of an Early Bronze Age site at Gegharot. Although surface reconnaissance had indicated the strong presence of an Early Bronze occupation, we had expected that these would in large measure have been destroyed by the subsequent Late Bronze construction on the citadel. Excavations in 2002, however, showed that substantial portions of the Early Bronze Age village at the site

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3Smith and Thompson in press.
### Table 1. Periodization and Chronology of Southern Caucasus from the Early Bronze Age to the Iron Age.
(After Avetisyan et al. 1996; Zardaryan 1997)

<table>
<thead>
<tr>
<th>Years B.C.</th>
<th>Periodization</th>
<th>Horizon Style</th>
<th>Key Sites</th>
</tr>
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<tr>
<td>200</td>
<td>Antique Era</td>
<td>Early Yervandid-Achaemenid</td>
<td>Karchaghpyur, Noratus, Astghig Blur, Jujevan Norashen Armavir, Horom, Benjamin Erebu, Oshakan, Sari-Tepe</td>
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<tr>
<td>300</td>
<td>Late Iron Age</td>
<td>&quot;Local&quot; Urartu</td>
<td>Metsamor, Horom, Shirakavan, Lori-Berd</td>
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<tr>
<td>400</td>
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<td>Early Urartu</td>
<td>Erebuni, Argishtiinili, Karmir-Blur</td>
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<tr>
<td>500</td>
<td>Early Iron Age</td>
<td>Early Iron II</td>
<td>Horom, Elar, Keti, Metsamor Artik (group 3) Dvin (burnt level)</td>
</tr>
<tr>
<td>600</td>
<td>Late Bronze Age</td>
<td>Late Bronze III</td>
<td>Lhashen-Artik (groups 1–2) Karashamb, Lori-Berd</td>
</tr>
<tr>
<td>700</td>
<td>Middle Bronze Age</td>
<td>Late Bronze II</td>
<td>Shamiram (burials) Karashamb, Horom, Talin</td>
</tr>
<tr>
<td>800</td>
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<td>Late Bronze I/ Middle Bronze IV</td>
<td>Karmirberd, Lhashen, Horom, Uzerlik 2–3</td>
</tr>
<tr>
<td>900</td>
<td>Middle Bronze Age</td>
<td>Middle Bronze III</td>
<td>Sevan, Karmirberd, and Karmirvank Complexes</td>
</tr>
<tr>
<td>1000</td>
<td>Late Bronze Age</td>
<td>Middle Bronze II</td>
<td>Karashamb (kurgan) Vanadzor (Kirovakan) Trialeti (groups 1–3) Lhashen (120, 123) Lori-Berd, Uzerlik I</td>
</tr>
<tr>
<td>1100</td>
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<td>Early Iron I</td>
<td>Trialeti (“early group”) Berkaber (burials 1–3, kurgans 1–2) Stepanakert</td>
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<tr>
<td>1200</td>
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<td>Late Bronze III</td>
<td>Shengavit (levels 3–4) Garni, Dvin, Karnut, Harich, Elar P3, Kosi Choter, Horom (EBA upper level)</td>
</tr>
<tr>
<td>1300</td>
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<td>&quot;Kurgan&quot; Culture</td>
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<tr>
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<td>Early Bronze III</td>
<td></td>
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<td>Early Bronze III</td>
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<td>&quot;Kurgan&quot; Culture</td>
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<td>Early Bronze III</td>
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<td>Early Bronze III</td>
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<tr>
<td>2300</td>
<td>Late Bronze Age</td>
<td>Early Bronze IV</td>
<td></td>
</tr>
<tr>
<td>2400</td>
<td>Middle Bronze Age</td>
<td>&quot;Kurgan&quot; Culture</td>
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<tr>
<td>2500</td>
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<td>Early Bronze III</td>
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</table>
remained intact both on the citadel and western slope. Thus our investigations opened new possibilities for understanding a broad temporal horizon of transition and continuity in the Tsakahovit Plain.

PRIOR INVESTIGATIONS

Current accounts of the rise of complex societies in southern Caucasia during the Late Bronze Age provide a vision of the cultural processes and sociopolitical practices attendant to the formation of early states that is tantalizingly iconoclastic, if, at the moment, rather faintly drawn. Traditional models of archaic states built upon evidence from well-known centers of complexity (e.g., Mesopotamia and Mesoamerica) describe settled agrarian populations ruled by sets of elites located in discrete institutional settings (e.g., lineage, temple, palace, etc.) predicated upon varying sources of power (e.g., ideological, economic, etc.). In contrast, archaeological investigations suggest that complexity in southern Caucasia arose with the differentiation of a stable elite, centered in fortified settlements, from a highly mobile population engaged primarily (though not exclusively) in pastoral production. The dynamic politico-spatial relations between rulers and subjects that such a model entails present real organizational problems for institutions of rule and a challenge to modern theories of the constitution of authority in complex societies. Yet the apparatus of sociopolitical authority in Late Bronze Age Caucasia is poorly known. An archaeological account of the political institutions that mediated relations between sovereign regimes and political subjects would provide an analytical platform from which to describe the development of early polities in the region (i.e., the impact of this political tradition upon later empires such as Urartu) and allow for the creation of an empirically grounded challenge to traditional anthropological theories of political formation.

Examinations of early complex societies in highland Caucasia began in the late 19th and early 20th centuries when archaeologists and architectural historians embarked on a series of nonsystematic surveys to document the settlement history of the region. More recent surveys have greatly increased our understanding of the broad shifts in settlement that accompanied the emergence of the first complex societies. A large number of Late Bronze Age cemetery sites have been examined (Talin, Mastara, Artik, Harich, Horom), allowing for the periodization of ceramic and metal artifacts and an initial description of social hierarchy as reflected in mortuary behavior. Unfortunately, very few contemporary fortresses have hosted intensive excavations (pace Metsamor), although several important fortresses from the subsequent Early Iron Age, such as Elar, Horom South, and Keti, have received some attention. Taken together, these limited investigations indicate that Late Bronze Age fortified political centers hosted a range of discrete areas of activity, including ritual precincts, production facilities, and residential areas. However, because each site exists in relative isolation—places with neither the local nor regional context that we now have for the Tsakahovit Plain—it is difficult to assemble a coherent picture of political practices from the extant data.

Archaeological research in the Tsakahovit Plain began with a brief visit to the region in 1893 by Nikolai Marr, who recorded several large fortresses on the northern slope of Mt. Aragats and remarked upon numerous outlying cemetery complexes. Marr’s passage through the region provided a template for nonsystematic archaeological and architectural survey that was repeated by Toramanyan, Adzhan et al., and Kafadarian, all of whom re-recorded several of the major “cyclopean” fortresses in the region in increasing detail. Only very limited excavations had been conducted in the Tsakahovit Plain prior to the commencement of our investigations in 1998. In 1956, Martirosian opened five graves adjacent to the fortress of Gegharot that he dated to the Late Bronze Age. Recent reanalysis of the ceramics refines the date to the Late Bronze I and II phases. In 1960, Esaian examined three additional graves from the same complex.

6 Adzhan et al. 1932; Kalantar 1994; Piotrovskii and Gyulalyan 1933; Toramanyan 1942.
11 Adzhan et al. 1932; Kafadarian 1996; Toramanyan 1942.
13 Esaian’s work in the Late Bronze Age cemeteries at Gegharot is unpublished. The authors would like to extend our thanks to him for making these materials available.
The materials uncovered are attributable to two distinct occupation periods, the Late Bronze II phase and one much later grave from the eighth–seventh centuries B.C. Both Esaian’s and Martirosian’s investigations were conducted as salvage operations in advance of major building projects in the village of Gegharot.

Project ArAGATS began its work in the area in 1998, initiating a transect survey of the Mt. Aragats and Pambak Range flanks, a series of test soundings, and site mapping initiatives. In 2000 we completed the systematic investigation of 85.36 km² of the mountain flanks surrounding the plain, test excavations at five fortress sites and four cemeteries, and targeted test probes of sites on the plain itself directed in part by an analysis of extant remote sensing data. Eight fortresses (three major, five minor) boasting overlapping Late Bronze Age components were documented in the region, providing the basic outlines of the macropolitical context. The remains encountered in the hinterland beyond the fortresses were primarily architectural—small settlements, irrigation facilities, corrals, and above all, cemeteries. We recorded 193 discrete cemeteries, 184 of which were composed of cromlechs (stone circles surrounding earthen or stone-lined tombs) typical of Late Bronze Age mortuary practice (a density of 5.3 cemeteries per km²).¹⁴

With the completion of this phase of research, we began phase II in 2002 with intensive excavations at the two fortified settlements in the region that our test soundings had indicated boasted well-preserved Late Bronze Age occupation levels: Tsakahovit and Gegharot fortresses. That these two sites are located on opposite sides of the plain is also central to our research design as we hope to integrate excavation data with our survey results in order to develop ways of mapping the geography of sovereignty within these emergent institutions.

2002 EXCAVATIONS AT TSAKAHOVIT FORTRESS

Tsakahovit fortress (fig. 2) is located on the southeastern flank of the Tsakahovit depression on a parasitic cone of the Aragats volcano named Kalachi-Tepe (2182.9 m asl). The small Tsakahovit riverbed passes below the western and northern flank of the cone and flows continuously throughout the year. A petrographic analysis of geologic samples taken from summit of Kalachi-Tepe indicates that the rocks at the site are represented by clinopyroxene-plagioclase basaltic andesite.¹⁵ The site overlooks the road from the Aparan Valley to the Shirak Plain that runs along the northern foot of Mt. Aragats. At a greater distance, the road from the Ararat Plain to the Lori-Pambak region, and the upper Kasakh River alongside which it runs, are visible.

Prior soundings at Tsakahovit fortress in 1998 indicated that occupations at the fortress dated to the Late Bronze II and III periods (15th–late 13th centuries B.C.), while the lower town at the site was built during the late Urartian or Achaemenid eras (ca. late seventh–fifth centuries B.C.).¹⁶ Investigations in 2002 concentrated on the citadel, slopes, and terraces of the fortress hill, with four large-scale operations (C3, C5, NT1, and WT02–03) and four additional small soundings (C4, NT3, WS1, ET1). Results suggest that while our initial broad outlines were correct, the settlement history of Tsakahovit is considerably more complex than previously thought (table 2).¹⁷

Operation C3

Operation C3 (fig. 3) was originally established on the eastern edge of the citadel as a 10 × 10 m trench divided by 1 m balks into four quadrants (A–D) and later expanded on its western edge with a 3 m extension to area A and a 4 m extension to area B yielding a total exposure of 116.5 m². Deposits in this area of the citadel proved to be quite deep, extending in places up to 3.1 m below surface. Operation C3 provided strong evidence for three major periods of occupation. The earliest was the Late Bronze Age occupation (Tsakahovit stratum II) that ended dramatically with the conflagration now known to have blazed across the site sometime in the 14th century B.C. While some evidence of burning was found in the C3 excavations capping the Late Bronze Age strata, it was not as extensive as found in the terrace operations described below, perhaps because the intervening deposits were cleared away by later occupations. The Late Bronze Age occupation at the

¹⁴For a more extensive discussion of the results of the 1998 and 2000 archaeological survey, see Avetisyan et al. 2000 and Badalyan et al. 2003.
¹⁵Geomorphological data provided by Dr. Arkady Karakhanyan, Institute of Geology, Armenian Academy of Sciences.
¹⁷In this report, considerations of space limit us to reporting only on the major operations at the Tsakahovit and Gegharot fortresses; a complete monograph on the fieldwork of Project ArAGATS is in preparation.
The site was constructed atop bedrock and included both stone architecture and packed clay features.

The most substantial construction in operation C3 was a large, exceedingly well-made building wall (WC301) more than 10 m in length and of a quality of masonry unknown from such early contexts. Our efforts to establish a clear date for this major construction were complicated by two major factors: (1) extensive rebuilding that was done in several places against the face of WC301 during succeeding eras (see below), and (2) the presence of several very large boulders resting against the interior face of the wall that obstructed excavation. While at present we cannot date WC301 with complete certainty, we tentatively attribute it to the Late Bronze Age inhabitation for the following four reasons: (1) having broken and removed the boulders that obstructed excavation on the interior face of WC301, we encountered deposits associated with the wall’s construction surface that contained exclusively Late Bronze Age ceramics; (2) WC301 was built in large part atop prepared bedrock, which slopes down away from the exterior face of the wall toward an installation that includes a stone basin associated with Late Bronze Age materials; (3) set against the exterior face of WC301 was a clay surface that yielded primarily (though not exclusively) second-millennium B.C. ceramics, and dug into this surface was a pit associated with a later mid first-millennium occupation of the area; (4) later constructions set against WC301 were not established upon the same original building surface as WC301, and no evidence was found in the operation to suggest an intervening occupation between the Late Bronze Age and these mid first-millennium B.C. constructions. The complex stratigraphy of the operation, however, precludes a final chronological assignment of WC301 until further investigations are completed. It remains possible that the feature was constructed during the mid first millennium B.C. and thus represents an intrusion of later occupations into preceding Late Bronze Age levels. In addition to WC301, a curvilinear wall (WC302) built of
large boulders (similar to those uncovered in operation C5, see below) was uncovered in part underneath a later stone floor in C3c. This "cyclopean" construction may represent a surviving portion of the original fortification wall that encircled the citadel in the second millennium.

The ceramic repertoire of the second-millennium B.C. occupation from operation C3 includes the entire range of wares from small cups to jars to large pithoi (fig. 4a–i). Most of the ceramic remains are medium sized cooking jars. We also recovered a large number of fine ware bowls from this operation. The large majority of the second-millennium ceramics can be assigned to the Late Bronze II phase, while the Late Bronze I and III phases are represented in much smaller numbers. These wares generally have black-gray exteriors with incised and burnished decorations on the shoulder (generally concentric lines and thumbnail incisions) and thumbnail incisions around the base. The ceramics from the interior floor of WC301 at present remain a rather small collection but include large and medium sized storage jars of the Late Bronze II phase.

The second major occupation level in operation C3 (Tsakahovit stratum IIIa) dates to the mid first millennium B.C. and was contemporary with the large village settlement below the citadel sampled in 1998.18 Construction during this occupation was substantial, though apparently less grand in its architectural ambition than that of the Late Bronze Age. In addition to utilizing WC301 as a foundation for new constructions, the residents of Tsakahovit in this period appear to have rebuilt the fortification walls, constructed an extensive flagstone floor against the interior face, and established several rooms by reusing the preceding Late Bronze Age walls. A final period of construction on the citadel appears to also date to the mid first millennium B.C. (Tsakahovit stratum IIIb), but the architectural remains of this occupation are far more informal in character than in either of the preceding two strata. The Tsakahovit IIIb occupation consists of several irregular lines of large stones visible on the surface and an unevenly preserved packed clay surface. Three complete jars associated with this stratum were uncovered just beneath the topsoil. These, and other materials from the mid first-millennium B.C. occupation levels on the citadel, are discussed below.

**Operation C5**

Operation C5 (fig. 5) was situated on the northwestern end of the citadel against the curving interior face of the mid first-millennium citadel wall. The eastern edge of the trench was defined by a

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<td>Developed Medieval (8th–13th centuries A.D.)</td>
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<td>x</td>
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<td>Early Medieval (4th–7th centuries A.D.)</td>
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<td>-</td>
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<td>-</td>
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<tr>
<td>Yervandid</td>
<td>Tsakahovit IIIb</td>
<td>x</td>
<td>x</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td></td>
<td>Tsakahovit IIIa</td>
<td>x</td>
<td></td>
<td>-</td>
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<tr>
<td>Late Bronze III</td>
<td>Tsakahovit IIc</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Late Bronze II</td>
<td>Tsakahovit IIb</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td></td>
<td>Tsakahovit IIa</td>
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<td>x</td>
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</table>

large wall perpendicular to the northern citadel wall creating an irregular operation with rectilinear east and south edges (8 m and 5 m, respectively) and curvilinear western and northern borders defined by the citadel wall. In general, deposits in this area were not as deep as recorded on the eastern end of the citadel in operation C3, and the stratified layers of occupation were consequently compressed. In addition, a layer of extensive paved stone flooring and the remains of several enormous stone boulders restricted the area of the trench that we could explore to its complete depth. The deepest level in the operation (3 m below surface) was dominated by a line of large boulders (WC503) set in a line just inside the line of the citadel wall (WC504). Because this level was excavated in a restricted area of the trench, it is difficult to clearly define the nature of this construction. It is possible that these stones were the foundation for the original Late Bronze Age fortification wall. One stone was carved with a semicircular cutout—an example of what have been termed “hitching posts”—adjacent to a carved stone basin; both are common features on the Tsakahovit citadel and have been found at numerous
Late Bronze and Early Iron Age sites.\(^\text{19}\) Set against the exterior of the line of large boulders were two small walls made of small stones similar in masonry to the Late Bronze Age constructions in trench NT1 (see below).

The materials from this lowest layer indicate that it belongs to Tsakahovit stratum II assigned to the Late Bronze Age. The Late Bronze Age ceramic collection from operation C5 embraces the entire temporal range from phase I through III, with a similar group of wares as was found in operations C3, NT1 and WT02-03 (fig. 4j–q). Of particular note is the unusually strong representation of Late Bronze III wares from this trench as compared to our other operations. Black-gray jars decorated with stamped wedge designs and bowls with incised ribbing on the shoulders are particularly indicative of this final phase in the ceramic complexes of the Late Bronze Age.

Set atop the large boulders was a second occupation layer (approx. 1.75 m below surface) defined

\(^{19}\) On hitching posts, see Badaljan et al. 1993.
primarily by a stone paved floor uncovered in the southern part of the operation. The stone floor covered the stone basin of the preceding strata, and it is with this level that the construction of the existing citadel wall is correlated. Adjacent to this stone floor, a medium-sized closed jar with a vessel base reused as a lid were found in situ. These materials and the larger corpus of remains from this level suggest that the citadel wall and stone floor were built as part of the Tsakahovit stratum III occupations dating to the mid first millennium B.C. The materials of this period are discussed at greater length below.

Operation C5 uncovered a final occupation in association with two stone walls (WC501 and WC502) set at a right angle to each other and built
against the upper courses of the citadel wall. No floor was found in association with this construction, and the materials from the surrounding colluvial deposits presented a mix of materials from the second millennium B.C. through the early second millennium A.D.; however, in removing the wall in order to explore the lower levels of the trench, we found a single silver coin in the construction fill below WC502. Armine Zohrabyan, a numismatist in the Armenian State Museum, has identified this coin (weighing 4.02 g with a diameter of 30 mm) as an imitation of the coins of the Sasanian king Peroz (A.D. 459–484). The name of the king is missing on the obverse, and an imitation of script characters is found on the reverse instead of the typical inscriptions. Judging by the stylistic peculiarities of the coin it is likely that it was minted by the Ephtalits of Central Asia. The Ephtalian imitations of Peroz’s coins were widespread in Central Asia, but this specimen represents the first such find in Armenia. According to several historical sources, Armenian princes and their troops participated in campaigns of the Sasanian kings against the Ephtalits in the fifth–sixth centuries A.D. Perhaps the coin came to Armenia during this period. The discovery of this coin in the fill below W502 provides a terminus post quem for the most recent construction and occupation uncovered in operation C5: Tsakahovit stratum IVb, dating to the developed Medieval period of the late first and early second millennia A.D. This suggestion is further supported by the results of a single radiocarbon sample taken from the matrix just below WC501 (AA52907), which suggests that the final occupation documented in C5 could not have been built before the ninth or tenth centuries A.D.

Operation NT1

Operation NT1 (fig. 6) was established on the first terrace below the citadel on the northern slope of the hill. It began as a 10 × 5 m trench that cut horizontally across the entire terrace from north to south with a 1 m balk in the center. It was subsequently expanded in the southeast corner with a 2.5 × 2.5 m extension and to the west with a 3 × 5 m operation separated from the original trench by a 1 m wide balk. The stratigraphy in this trench, as in the operations on the west terrace (see below), was

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20 Our thanks to Armine Zohrabyan for providing us with her description of the coin and its parallels.
rather straightforward. A thick colluvial layer that sloped from south to north from the interior to the exterior terrace wall capped a thick layer of ash filled with burned debris, including large fragments of wooden beams. These beams appear to have been part of the roofing material burned during the final destruction event. Below the thick ash deposits, excavations in operation NT1 uncovered a broad packed clay floor in the northern two-thirds of the trench that held a large scattering of exclusively Late Bronze Age pottery and, lying on the floor, a large stone “phallus” carved of gray basalt (fig. 7). This sculpted stone is 1.15 m high and closely resembles similar stones found in Late Bronze Age tombs (223 and 265) in the Artik cemetery. The southern third of the trench contained the only architectural remains uncovered in the operation, all of which are contemporary with the clay floor and built against the terrace wall. These constructions consist of two roughly parallel lines of stone cobble walls (WN101 and WN102 on fig. 6) with a single line of intervening stones between them that appears to be a more informal architectural element (WN103). WN101 backs against the interior (southern) terrace face and serves as the primary architectural bulwark for the upper wall, which was then surmounted by the large boulders that marked the edge of each terrace. In front of WN101 was a cleared platform of clay and worked bedrock with a small hearth set to one side. One particularly notable feature of the terrace construction is the opportunistic way that it utilized bedrock outcrops as elements of the construction. Note particularly the large slab of basalt bedrock incorporated at either end of WN101 into the terrace backing (fig. 6). WN102 appears to have served as a small interior terracing wall that raised the level of the bedrock and clay platform above that of the clay floor that constituted the northern two-thirds of the trench. WN103 was a line of small cobbles only one course high that effectively divided the raised bedrock and clay platform. While it is clear that a great deal of attention was paid to defining the spaces on the terrace, the present exposure in operation NT1 precludes a clear assessment of the nature of the spaces or the types of activities that the area hosted. The suite of Late Bronze Age ceramics from operation NT1 spans the entire period (fig. 8). The earliest phase (Late Bronze I) is represented by fine ware bowls and large storage jars, the former decorated with punctuate designs emblematic of the transition from Middle Bronze Age decorative

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21 This event was first documented at the site in 1998 in soundings on the west terrace. The beams that were sufficiently well preserved are currently undergoing analysis at the Malcolm and Carolyn Wiener Laboratory for Aegean and Near Eastern Dendrochronology at Cornell.

22 Khachatrian 1975, 149–50.
traditions (such as the Karmir-Berd [black pottery] and Sevan-Uzerlik horizons). The extensive collection of Late Bronze I ceramics suggests that occupation at Tsakahovit may have begun in the earliest moments of the move toward fortified settlements during the Late Bronze Age, synchronous with the occupation at Gegharot across the plain. The second and third phases of the Late Bronze Age are represented in the North Terrace 1 collection by a broad ceramic suite, including fine wares, storage jars, and cooking vessels. These vessels are primarily gray-black wares with incised and burnished decorations on the shoulder, often with oblique thumb-nail incisions around the base. Indeed, the ceramics from operation NT1 contrast markedly with the collection from our West Terrace operations (see below). Excavations on the west terrace produced a highly restricted ceramic collection dominated by large storage vessels and production vessels (such as the butter-making vessel found in operation WT01 in 1998). This pronounced segregation of ceramic types suggests that we must modify the basic segregation that we have previously noted between citadel complexes dominated by fine and detected an array of Late Bronze I wares at the latter but not at the former. The significant collection of Late Bronze I ceramics from Tsakahovit found in 2002 now suggests that the two sites emerged contemporaneously.

23 In a previous discussion (Badalyan et al. 2003) we suggested on the basis of our 1998 and 2000 test soundings that the extant ceramic materials indicated that Tsakahovit fortress was occupied slightly later than the fortress at Gegharot as we had...
table wares and terrace complexes where storage and production predominate. Operation NT1 suggests that a more nuanced segregation of functions, one which we are only now beginning to define, created discrete functional areas within the terraces, implying a wide range of activities within these areas.

Operation WT02 and WT03

Operations WT02 and WT03 (fig. 9) expanded the small test sounding (WT01) excavated in 1998 to both the north and south. These operations were located on a narrow, sloping terrace halfway down the western slope of the outcrop. Our previous excavations on this terrace had uncovered extensive evidence of burned beams and blackened earth that effectively sealed the well-preserved Late Bronze Age living floors beneath. The prevalence of large storage and manufacturing jars in our 1998 sounding suggested that further investigation in the area might yield a broader understanding of the role of the terraces within the fortress’s political economy. We established WT03 as a 6 × 6 m trench to the north of WT01 with an intervening 2 m balk between them delimited, in part, by a wall (WW301) of medium-sized uncut stones set atop bedrock foundations. We had exposed the western face of this wall in 1998 and now hoped to expose its northern profile in order to get a better sense of its construction. We were concerned about the position of operation WT03 from the outset because of a shallow gully that seemed to sweep through the area, raising concerns regarding the damage that might have been caused by erosion and millennia of structural collapse. No occupation floors were found in the trench, and WW301 was the only architectural feature. Large boulders scattered throughout the northern half of the trench appear to have crashed down upon the area from the upper reaches of the citadel either as the site fell into ruin or perhaps during the later efforts to rebuild the fortress during the mid first millennium B.C. While it is likely that the significant difference in preservation between operations WT03 and WT01 resulted from the immediate conditions of site deflation and erosion, it is also possible that the Late Bronze Age terraces at Tsakahovit were not fully realized, all-encompassing architectural projects but instead were contained areas where the vagaries of site morphology or sociopolitical demands left some spaces without formal construction.

To the south of our 1998 sounding, we established WT02 as a 4 m extension of WT01. This operation proved far more productive than WT03 in that we were able to clearly trace the continuation of both the destruction layer and the occupation floor defined in our previous excavations. Several large fragments of burned beams were discovered in ashy deposits just above the Late Bronze Age floor. The occupation floor, constructed of thick clay atop bedrock, was littered with remains very similar to those

Fig. 9. Plan and section of operations WT01, WT02, and WT03 at Tsakahovit fortress
uncovered in WT01, including three large Late Bronze II storage jars. Also set on the floor was a large stone basin with two “hitching posts” carved into opposite sides, similar to the basins found in the Late Bronze Age levels of both C5 and C3. A number of manufacturing instruments were also found scattered around the basin, including a bone spindle whorl and an antler tool as well as numerous pieces of basalt groundstone.

Excavations conducted on the western terrace, in addition to providing further evidence of the final conflagration that ended the Late Bronze Age occupation of the site, yielded extensive materials related to storage and production facilities. These materials will undoubtedly prove critical to our reconstruction of the political economy that accompanied the fluorescence of fortress-based polities in the mid second millennium B.C.

2002 Excavations at Gegharot Fortress (with Armine Hayrapetyan)

The fortress of Gegharot (fig. 10) sits atop a high outcrop (2155 m asl) on the northeastern edge of the Tsakahovit Plain in the foothills of the Pambak Range. The fortress hill and the surrounding territory are composed of the Gegharot granite intrusion of the lower Cretaceous age. Dikes of granite-aplite, diorite, and gabbro composition break through the intrusion. These dikes are 1.5–2 km long and 0.1–2 m wide. Within the contact zone of the Gegharot intrusion, calcareous skarns and hornfels have developed, and there is evidence of overcrystallization and silicification of rocks. The primary building materials at the site were local granite of the Gegharot intrusion and some basalt (which may have come from the Kolgat massif on the western edge of the plain). Additionally, a very small percent of the building material comes from limestone deposits found locally in contact with the intrusion.

The western slope of Gegharot fortress has a grade of 25–29%. It is almost completely eroded, with a soil level of approximately 0.5 m, except where subsurface architectural remains have contributed to the buildup of deeper deposits. A sharp escarpment, created by modern construction of Gegharot village and exacerbated by continuing erosion, cuts the western slope at its base. Evidence from accidental finds in the village and the 2002 investigations indicate that this construction activity has destroyed part of the Early Bronze Age site, disturbing both settlement and mortuary features. To the west, the salvage excavations conducted by Martirosian and later Esaian (see above) indicate that the expansion of the modern village has also intruded on the territory of a Late Bronze Age cemetery to the west of the modern road.

Test excavations at Gegharot by Project ArAGATS in 2000 established the presence of three primary occupations at the site: the Early Bronze Age, the Late Bronze Age, and the Yervandid period. The 2002 investigations at Gegharot fortress established the spatial extent of these occupations and defined their general character in comparison with the results from Tsakahovit across the plain. The Early Bronze Age settlement appears to have been concentrated on the summit of the hill and its western slope (table 3). Evidence for the Late Bronze Age occupation comes exclusively from the citadel and western terrace immediately outside the fortification wall. In contrast to the extensive Yervandid period constructions at Tsakahovit fortress, mid-first-millennium occupations at Gegharot fortress are ephemeral, represented only by a small collection of ceramics without an identifiable habitation level. Thus its extent and character cannot at present be described.

Excavations at Gegharot in 2002 focused on two primary areas: the upper terrace (where test soundings in 2000 revealed exceedingly well-preserved Late Bronze Age architecture) and the lower flanks of the hill’s western and southern slopes (which had previously gone unexplored). In 2002 we established five soundings across the southern and southwestern slopes of the hill (T05, T06, T07, T08, T09, T10). We subsequently expanded two of these trenches (T05 and T08) and one of our 1998 soundings (T02) into major operations. In addition, a survey of the lower escarpment, just above the modern village, revealed two areas where architectural remains were eroding and in danger of imminent destruction (KW01, KW02). We worked to mitigate the damage in the area and to document the remaining materials.

Operations T05, T10, and T08/T10a, and Salvage Operations KW01 and KW02

Operations T05 and T08 began as adjacent test soundings but were expanded when we encountered evidence of considerable architectural remains and occupation floors. In addition, a step

24 Geomorphological data provided by Dr. Arkady Karakhanyan, Institute of Geology, Armenian Academy of Sciences.
26 Hayrapetyan 2002.
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Excavations at T05 and T08/T10a revealed two parallel walls (probably terrace walls) that extended along the lower slope, separated by 25 m. The lower wall (W801), exposed in both the T08 and T10a operations, was preserved to a maximum height of 0.7 m and extended laterally for 23 m in an irregular northwest–southeast orientation. Built against the terrace wall, and set upon bedrock cut below the level of the adjacent terrace wall, was a curvilinear habitation wall (W802). The wall was constructed of smaller stones that defined the eastern edge of a room closed at its northern end by a perpendicular wall (W803) preserved to a length of 2.3 m. A second curvilinear habitation wall (W804) appears to have cut the southern end of W802 but was not well preserved because of erosion of the bedrock foundation (a phenomenon which also destroyed sections of W801). The deposits to the east of W801 consisted of mixed colluvial deposits atop cleared bedrock. To the southwest of W802, we defined a packed clay occupation layer set atop prepared bedrock (no preserved occupation level was found interior to W804).

Excavations in T05 exposed a second terrace wall (W501), which extends 15.5 m in a northwest–southeast direction. The maximum preserved height of W501 is 1 m. W501 was only one course thick and up to three courses in height, though at several points it was anchored by large vertical stones. Deposits to the east consisted of mixed colluvial sediments atop natural bedrock. Deposits to the west of W501 consisted of poorly preserved patches of packed clay flooring atop prepared bedrock. In order to define the terrain between T08/T10a and T05, a 19 m long, 2 m wide step trench (T10) was excavated. No cultural levels were found, only mixed colluvial deposits (0.5 m maximum depth) atop bedrock.

Operation KW01 was initiated when a brief survey of the eroding western escarpment revealed a substantial wall in immediate danger of destruction. We opened the western face of the wall with a 5 × 1 trench, which revealed an artificial clay construction platform. The wall was rectilinear, oriented north–south, with evidence of a perpendicular adjoining wall (now preserved for only 0.45 m) on the southern end. The walls found during KW01 are preserved to a height of 0.76 m and a length of 5 m. The masonry was not similar to any of the constructions in T05 or T08/T10a, with a single line of stones arranged in 3–4 courses.

Operation KW02 was similarly initiated following a survey of the eroding lower escarpment. Construction in the village several years ago had made a cut along the escarpment, revealing a 1 × 1 m stone tomb chamber. Human bones and ceramic materials could be seen eroding from the cut. We cleaned the remaining area of the tomb and found in the chamber only a few disarticulated human bones and several Early Bronze Age sherds. The owners of the adjacent home presented us with one complete jar (fig. 12a), fragments of a large bowl, a small piece of a cup, a ceramic jar lid (fig. 12b), and one obsidian block (8.86 kg), all of which they had recovered from the tomb chamber during their construction work.

Table 3. Correlation of Major Operations and Occupation Strata at Gegharot Fortress. (“x” denotes the presence of an occupation level; “–” denotes presence of artifactual materials only)

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<td>Tsakhatovit IIIb</td>
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<tr>
<td></td>
<td>Tsakhatovit IIIa</td>
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<tr>
<td>Late Bronze III</td>
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<tr>
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<td>x</td>
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<td>Late Bronze I</td>
<td>Tsakhatovit IIa</td>
<td>x</td>
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<td>Early Bronze Age</td>
<td>Tsakhatovit I</td>
<td>x</td>
<td>x</td>
<td>x</td>
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</table>
The ceramics from the T05, T10, T08/T10a, KW01, and KW02 operations were largely homogeneous remains from the Kura-Araxes III phase of the Early Bronze Age (fig. 12). They consist of pitchers, jars, basins, bowls, goblets, and lids. Vessels with burnished black exteriors and red interiors form a large majority of the ceramic complex, although some sherds of vessels with red exteriors were also recovered. Large storage vessels with two handles (with or without ornamental decorations in belts along the shoulder, neck, or rim), jars with tripartite profiles, goblets with concave bases, and bowls with straight or inverted rims decorated with incised geometric ornaments are characteristic of the Gegharot ceramic inventory. The decorative motifs include spirals, concentric rings, and quadrangles, so-called anchor designs, horizontal bands of linear geometrical decorations, and stylized zoomorphic figures. Incised lines and figures cast in raised relief were employed for ornamentation. In addition, the ceramic complex from Gegharot’s Early Bronze Age occupation also includes wheels from model carts, a complete terracotta statuette of a bull, and several fragments of horseshoe-shaped zoomorphic andirons. The ceramic complex of Gegharot has its parallels in numerous archaeological sites in Armenia, including Karnut, Horom (upper layer), Karmrakar, Shengavit III–IV, Elar P3, Dvin, Kosi Choter, Lusakhpyur, and Jaghatsategh (among others).27 The Gegharot Early Bronze Age occupation can be assigned, on the basis of the ceramic complex, to the final Kura-Araxes III phase (Shengavit/Karnut phase) which is dated to the 26th–24th/22nd centuries B.C. according to the extant radiocarbon data from Karnut and Shengavit. This period designation is well within the range of the single radiocarbon date from the Early Bronze levels in operation T02 at Gegharot (table 4, AA52900),

Fig. 10. Map of Gegharot fortress

27 Hayrapetyan 2002.
which yielded a calibrated 2-sigma range of 2890–2620 B.C.\textsuperscript{28} The single small sample of burned bone submitted for radiocarbon dating from operation T10a returned a 2-sigma calibrated range of 1890–1610 B.C. This is far too late to bear upon the Early Bronze Age levels at the site and thus must be set aside until further results can clarify the chronological position of Gegharot’s Early Bronze occupations.

Operation T02
Operation T02a, a 3 × 4 m trench excavated in 2000 on the upper western terrace, stimulated a number of interesting architectural and stratigraphic questions that were addressed in 2002 with two adjacent trenches on the upper terrace (T02b–c) and a third operation within the citadel wall (T02d). The goals of the 2002 excavations in the area were to (1) better understand the stratigraphic relationship between the Early Bronze and Late Bronze constructions; (2) trace the substantial Late Bronze wall to the north and west in order to define its function within the terrace architectural complex; and (3) probe the Early Bronze Age constructions noted in 2000 just inside the Late Bronze Age citadel walls as a continuation of our investigations into the Kura-Araxes III settlement defined on the lower slopes.

\textsuperscript{28} Continued excavations at Gegharot in 2003 do not exclude the possibility of an Early Bronze occupation at the site slightly earlier than the Kura-Araxes III phase, as suggested by the 2002 radiocarbon determinations.
Fig. 12. Early Bronze Age ceramics from operations KW02 (a–b), T02, (i, m–n, v), T05 (g–h, k, l, r, t–u, x), T07 (f), T08 (c–d, j, w), T09 (s), T10 (o), T10a (e, q), and surface (p) at Gegharot fortress: a, black burnished exterior with relief ornaments of stylized birds and spirals on the body, incised linear decoration belt on the shoulder, reddish-brown interior, two small lug handles; b, yellowish-brown polished exterior, reddish interior; c, black burnished exterior with incised linear decoration belt on the shoulder and relief ornaments on the body, light brown interior; d, black burnished exterior with circumferential incised line on the shoulder, yellowish-brown rim and neck, yellowish-brown interior; e, black burnished exterior, dark brown interior; f, light brown burnished exterior and incised linear decoration belt on the shoulder, light brown interior; g, light brown burnished exterior with an oval lug and incised linear decorations on the shoulder, brown interior; h, black burnished exterior, yellowish-brown interior, oval lug handle; i, black burnished exterior and relief decoration of triangles on the body, light brown interior; j, black burnished exterior with incised linear decoration belt on the shoulder, light brown interior, handle forms a triangular platform joining to the rim; k, black burnished exterior, light rose interior, lug handle; l, black burnished exterior, light brown interior, handle forms a small triangle joining to the rim; m, black burnished exterior, dark brown interior; n, black burnished exterior, gray interior; o, black burnished exterior, incised linear decoration belt on the external part of the rim, reddish-brown interior; p, black burnished exterior, reddish rim and interior; q, black burnished exterior, yellowish rim and interior; r, black burnished exterior with incised linear triangle decorations, ochre-brownish interior; s, black burnished exterior with incised linear decorations set on a belt in low relief, yellowish-rose interior; t, black burnished exterior with incised linear triangle decorations, gray interior; u, black burnished exterior with incised linear triangle and rhombic decorations, light brown interior; v, black burnished exterior with two belts of incised linear decorations, brownish-rose interior; w, yellowish-brown polished exterior with relief decorations, interior not preserved; x, red burnished exterior, relief ornaments on the body and incised linear belt on the neck, reddish-yellow interior.
Table 4. Radiocarbon Dates from the Investigations of Project ArAGATS in the Tsakahovit Plain, Armenia. (Calibrated by OxCal v. 3.5; italics indicate samples from 2002 excavations)

<table>
<thead>
<tr>
<th>Lab Code</th>
<th>Site</th>
<th>Material</th>
<th>Provenience</th>
<th>Radiocarbon Date B.P.</th>
<th>Calibrated Range 1-Sigma B.C.</th>
<th>Calibrated Range 2-Sigma B.C.</th>
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<td>AA40143</td>
<td>Hnaberd fortress</td>
<td>Charcoal</td>
<td>Op. F1 locus 1B</td>
<td>2967 ± 50</td>
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<td>1100–1080 (3.5%)</td>
<td>1320–1010 (91.5%)</td>
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<td>1060–1050 (1.9%)</td>
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<td>Charcoal</td>
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<td>940–890 (31.2%)</td>
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<td>880–830 (28.9%)</td>
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<td>AA40149</td>
<td>Gegharot fortress</td>
<td>Charcoal</td>
<td>Op. T02 locus 23</td>
<td>3098 ± 42</td>
<td>1430–1310 (68.2%)</td>
<td>1450–1250 (94.2%)</td>
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<td>1340–1320 (5.9%)</td>
<td>1230–1210 (1.2%)</td>
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<tr>
<td>AA40150</td>
<td>Gegharot fortress</td>
<td>Charcoal</td>
<td>Op. T02 locus 16</td>
<td>2982 ± 42</td>
<td>1300–1120 (68.2%)</td>
<td>1380–1330 (5.9%)</td>
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<td>1320–1040 (89.5%)</td>
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<td>AA40151</td>
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<td>Charcoal</td>
<td>Op. T02 locus 18</td>
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<td>1500–1380 (62.3%)</td>
<td>1530–1300 (95.4%)</td>
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<td>1340–1320 (5.9%)</td>
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<tr>
<td>AA40152</td>
<td>Gegharot fortress</td>
<td>Charcoal</td>
<td>Op. T02 locus 4</td>
<td>2324 ± 42</td>
<td>410–350 (57.4%)</td>
<td>520–350 (72.7%)</td>
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<td>280–230 (10.8%)</td>
<td>320–200 (22.7%)</td>
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<tr>
<td>AA52898</td>
<td>Gegharot fortress</td>
<td>Burned bone</td>
<td>Op. T10a locus 3</td>
<td>4314 ± 60</td>
<td>3020–2880 (68.2%)</td>
<td>3100–2700 (95.4%)</td>
</tr>
<tr>
<td>AA52899</td>
<td>Gegharot fortress</td>
<td>Burned bone</td>
<td>Op. T10a locus 3</td>
<td>3441 ± 51</td>
<td>1880–1840 (14.8%)</td>
<td>1890–1610 (95.4%)</td>
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<td>1820–1790 (5.2%)</td>
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<td>1780–1680 (48.2%)</td>
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<tr>
<td>AA52900</td>
<td>Gegharot fortress</td>
<td>Charcoal</td>
<td>Op. T02 locus C10</td>
<td>4197 ± 40</td>
<td>2890–2690 (14.1%)</td>
<td>2890–2830 (20.8%)</td>
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<td>2820–2740 (39.9%)</td>
<td>2820–2660 (70.7%)</td>
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<td>2730–2690 (14.2%)</td>
<td>2650–2620 (3.9%)</td>
</tr>
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<td>AA52901</td>
<td>Gegharot fortress</td>
<td>Charcoal</td>
<td>Op. T02c locus 19</td>
<td>2961 ± 37</td>
<td>1270–1120 (68.2%)</td>
<td>1320–1040 (95.4%)</td>
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<td>AA31034</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. WT01 locus 8</td>
<td>3015 ± 45</td>
<td>1390–1210 (68.2%)</td>
<td>1410–1120 (95.4%)</td>
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<td>AA31035</td>
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<td>Charcoal</td>
<td>Op. WT01 locus 6 (sample A)</td>
<td>3040 ± 45</td>
<td>1400–1260 (68.2%)</td>
<td>1430–1290 (92.6%)</td>
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<td>AA30136</td>
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<td>Op. WT01 locus 5 (sample C)</td>
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<td>1310–1120 (68.2%)</td>
<td>1390–1040 (95.4%)</td>
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<td>AA52902</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. WT02 locus 9</td>
<td>3100 ± 38</td>
<td>1430–1310 (68.2%)</td>
<td>1440–1250 (95.4%)</td>
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<tr>
<td>AA52903</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. C3 locus A11</td>
<td>2973 ± 37</td>
<td>1290–1280 (1.4%)</td>
<td>1370–1340 (1.6%)</td>
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<td></td>
<td>1270–1120 (66.8%)</td>
<td>1320–1040 (93.8%)</td>
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<tr>
<td>AA52904</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. C3 locus A7</td>
<td>2499 ± 38</td>
<td>780–750 (4.9%)</td>
<td>890–480 (90.0%)</td>
</tr>
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<td>710–520 (63.3%)</td>
<td>470–410 (5.4%)</td>
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<tr>
<td>AA52905</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. C3 locus B7</td>
<td>3088 ± 37</td>
<td>1410–1310 (68.2%)</td>
<td>1440–1250 (95.4%)</td>
</tr>
<tr>
<td>AA52906</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. C5 locus 14</td>
<td>2997 ± 38</td>
<td>1370–1360 (1.0%)</td>
<td>1390–1110 (95.4%)</td>
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<td></td>
<td>1310–1120 (67.2%)</td>
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T02b and T02c extended the T02a operation to the north and west respectively, tracing the continuation of the curvilinear wall (W201) discovered in 2000 (fig. 13). To the north, W201 was found to extend for 1.9 m, where it appears to have cut into preceding Early Bronze levels. These levels included ceramics that echoed the Kura-Araxes III remains from operations on the lower western slope (fig. 12), several beads (one made of paste was decorated with diagnostic Early Bronze Age incised motifs), and a complete obsidian projectile point. Below these disturbed Early Bronze deposits, we encountered colluvial layers bearing diagnostic Late Bronze Age wares and large quantities of animal bone, echoing the results of the 2000 T02a excavation (see appendix 1). As we removed these mixed deposits, we came upon a sculpted bedrock shelf in the west half of the trench. It appears that the construction of W201 disturbed Early Bronze Age deposits and also cut a 1 m deep north–south channel into the bedrock as a foundation trench. No living floors remained preserved in association with W201 in this operation.

The stratigraphy in T02c was similar. W201 extended through the entire western side of the trench. Cultural deposits varied considerably from the south to the north side of the construction. To the south of the W201, mixed colluvial deposits terminated in a thin packed floor of reddish clay atop a sloping prepared bedrock surface. We uncovered several partial vessels of the Kura-Araxes III phase of the Early Bronze Age in situ on this floor, echoing the materials recovered on the lower slopes.

In contrast, deposits to the north of W201 were considerably deeper. Late Bronze Age materials predominated throughout the initial colluvial layer. As we worked down the northern face of W201 we encountered a second wall (W202), constructed in a different masonry style, against its northern face. While the curvilinear W201 was constructed of a single width of closely packed, unworked small stones set against bedrock, W202 was built using larger stones set perpendicular to the curvilinear face and against the exterior face of W201. Near the bottom of the colluvial layers (3.97 m below datum) we encountered deposits that included an increasing quantity of charcoal, including three substantial segments of burned wood beams (the preservation was not as good as in Tsakahovit fortress’s NT01 operation, and evidence of large-scale conflagration was less extensive). Below these evidences of burning, we opened a packed clay floor (4.2 m below surface datum) set atop prepared bedrock. Both W201 and W202 appear to have been constructed atop this clay floor, although erosion of the living surfaces have left the bottom of the wall atop clay preserved 0.05 m above the original surface. This floor included large portions of four Late Bronze Age vessels.

The ceramic remains from T02b–c include diagnostic Early Bronze Age, Late Bronze Age, and mid first-millennium B.C. wares. Early Bronze Age artifacts include large storage vessels and smaller jars and bowls, clearly identifiable by the highly burnished black exteriors and brown/orange interiors typical of the Kura-Araxes horizon. A large number of the ceramics were decorated with incised band decorations or raised relief emblems indicative more specifically of the Kura-Araxes III phase (discussed further below). The Late Bronze Age suite includes the full range of wares, from large pithoi to small cups, including a unique chalice-shaped vessel not at present known from the ceramics at Tsakahovit. This operation at Gegharot has presented us with the largest collection of Late Bronze I sherds (fig. 14) in all of our investigations in the region, including several boasting the earliest decorative styles that retained clear associations with the Sevan-Uzerlik Middle Bronze III phase. As with most Late Bronze Age ceramic collections, black-gray wares with incised and burnished decorations predominate. The mid first-millennium B.C. wares are generally of a poorer quality than the rep-

<table>
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<th>Lab Code</th>
<th>Site</th>
<th>Material</th>
<th>Provenience</th>
<th>Radiocarbon Date B.P.</th>
<th>Calibrated Range 1-Sigma B.C.</th>
<th>Calibrated Range 2-Sigma B.C.</th>
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<tr>
<td>AA52907</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. C5 locus 17</td>
<td>1116 ± 34 A.D.</td>
<td>890–930 (28.4%)</td>
<td>A.D. 780–790 (1.2%)</td>
</tr>
<tr>
<td>AA52908</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. NT1 locus A5</td>
<td>3028 ± 38</td>
<td>1380–1330 (19.3%)</td>
<td>1400–1120 (95.4%)</td>
</tr>
<tr>
<td>AA5290</td>
<td>Tsakahovit fortress</td>
<td>Charcoal</td>
<td>Op. NT1 locus B16</td>
<td>3094 ± 46</td>
<td>1430–1310 (65.6%)</td>
<td>1500–1470 (1.1%)</td>
</tr>
</tbody>
</table>
ertoire from Tsakahovit. Most importantly, we have yet to locate a cultural level clearly associated with this period, leaving open the possibility that occupations at Gegharot in this time were less substantial than across the plain at Tsakahovit. A less impressionistic assessment of the Yervandid period at Gegharot must await further research.

In sum, the excavations in T02b and T02c suggest that during the Late Bronze Age, a curvilinear terrace wall (W201) was constructed by cutting through preceding Early Bronze Age levels and, in places, into the bedrock. This wall served as a terrace wall against which larger, more solid living room walls were constructed. The large quantities of animal bone and cultural materials found in 2000 in the space between the terrace walls and the rooms perhaps suggest that this space served not as a living area but as a convenient midden for disposal of animal remains.

The excavations of T02 in 2000 also uncovered a small built stone corner set atop bedrock behind (to the east) of W201. Preliminary evidence indicated that this construction was part of the Early Bronze Age occupation of the site that had been cut by Late Bronze Age builders. We were surprised to find well-preserved third-millennium architecture, undisturbed by later cultural layers, in the immediate territory of a Late Bronze Age citadel. In order to further explore the relation between these Early Bronze Age constructions and the Late Bronze Age...
Age building on the citadel, we opened operation T02d (10 × 10 m) within the citadel walls, just above the T02a–c terrace excavations (only 75 m² was excavated in 2002 as one quadrant was left to await future seasons). Deposits varied in depth across the operation but nowhere exceed 0.9 m (on the western end of the trench, where the operation reached toward the southern citadel wall, deposits were shallow—less than 0.6 m).

The T02d operation revealed evidence of three primary periods of occupation. In the southwestern quadrant, excavations uncovered two small walls (W2d02, W2d03) and a short range of large boulders that may have served as foundation stones. Unfortunately, either the limitations of present exposures or vagaries of preservation preclude an understanding of how these walls and boulders might have been integrated into an architectural complex; however, remains from this area were exclusively Early Bronze Age, suggesting that the constructions were part of the Kura-Araxes III settlement. The thin deposits in this quadrant terminated with evidence of burning and floors of both reddish packed clay and hard rammed earth. In addition to a significant quantity of diagnostic Kura-Araxes III ceramics, several unique finds were uncovered in this quadrant, including zoomorphic terracotta figurines (ram and bull) and a wheel from a model of a cart.

Most enigmatic among the finds in this area was a cache of stone (88), paste (217), and metal beads, including 13 anchor shaped, 10 barrel shaped, 14 tubular, and 62 bowling-pin shaped pendants made of bronze (the alloys await analysis, but surface inspection suggests that several pendants may be silver-copper bronzes). The context of the cache was unfortunately unclear as it was uncovered just below topsoil. The anchor shaped pendants are strongly reminiscent of Early Bronze Age decorative styles known from both metal and ceramic media (fig. 15). A single rectangular paste (?) bead (which serves as the clasp in our reconstruction) decorated with five incised bull’s-eyes is most immediately reminiscent of first-millennium B.C. decorative motifs. At present the stylistic uncertainties and lack of clear provenience prohibit us from assigning a certain date to this cache; however, indications from the surrounding context strongly indicate contemporaneity with the Kura-Araxes III settlement.

The eastern quadrants of T02d were divided from the western quadrants by a large well-built stone wall (W2d04). Whereas the deposits to the west of this wall yielded primarily Early Bronze Age materials, the deposits to the east of W2d04 contained both Late Bronze and mid first-millennium B.C. ceramics. Wall W2d01 and W2d04 are of a masonry that utilized large stone blocks with shaped exterior surfaces, identical to W202 described above. Both walls were built on bedrock and likely were part of an interior built construction associated with the Late Bronze Age citadel. A third wall of small stones (W2d05) built against the face of W2d04 was uncovered. This wall was also built atop bedrock but appears to be a later informal construction that took advantage of standing Late Bronze...
Age remains. A clear understanding of any vertical stratigraphic relationship between W2d04 and W2d05 must await expansion of the trench to the south. Results of the 2002 excavations of T02a–d indicate that the fortress of Gegharot presents a rare archaeological situation, where construction of a major Late Bronze Age fortress did not obliterate the preceding Early Bronze village. As a result, the site affords an opportunity to explore a range of archaeological problems that embrace both the last phase of Early Bronze Age village life and the rise of fortified citadels in the Late Bronze Age.

DISCUSSION

While an overall account of the settlement history of the Tsakahovit Plain and its major sites has been presented previously, several elements of the regional archaeological chronology warrant further discussion as they arise from our continued investigations.

The Early Bronze Age

Early Bronze Age remains from the Tsakahovit Plain are known from three sites: Tsakahovit, Aragatsi-Berd, and Gegharot. While the Early Bronze Age at the first two sites is known only from small collections of surface finds, excavations at Gegharot in 2002 revealed a large settlement and, in some places, well-preserved living floors and architectural remains. Stone architecture rests atop a thin occupation level, which is typical for both this period and region, but contrasts with several sites known

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29 Avetisyan et al. 2000.
from the Ararat Plain, where Early Bronze Age levels continue through a series of very deep stratified deposits, such as Mokhrablur, Jrahovit, Aygevan. Analysis of the ceramic materials suggests that Gegharot was initially occupied during the Kura-Araxes III phase dating to the third quarter of the third millennium B.C. However, the single extant radiocarbon date for the Early Bronze Age level in operation T02 (table 4, AA52900) may suggest, pending further analysis of radiocarbon samples from contemporary occupation layers, that the beginnings of this phase need to be pushed back into the second quarter of the third millennium. No evidence of a preceding settlement was found at the site, suggesting that the third millennium occupation of Gegharot was part of the large expansion in settlement that marks the last phase of the Early Bronze Age. Similar Kura-Araxes III initial occupations are known from Karnut, Karmrakar, Lusakhpyur, Jrahatsategh, and Dvin (among others), and these sites contrast with other Early Bronze Age sites that boast longer lasting occupations during the Early Bronze Age, such as Shengavit, Horom, Harich, and Elar (again, among others). The large number of new settlements of the Kura-Araxes III phase suggests a broad demographic shift, whose motivations and character remain unknown, led to the founding of a significant number of new villages. The end of the occupations at Gegharot (like those of Karnut) marks the end of the Kura-Araxes horizon and the beginning of the post-Kura-Araxes Early Bronze IV (“Early Kurgan”) phase. For the Tsakahovit Plain, the abandonment of Gegharot also appears to mark the beginning of a long hiatus in settled occupation of the region and the rise of the more mobile lifeways traditionally ascribed to the peoples of the Middle Bronze Age. This archaeological hiatus ends with the rise of fortified settlements in the mid second millennium B.C.

The Late Bronze Age

The Late Bronze Age was an era of profound sociopolitical fluorescence in the Tsakahovit region. Elsewhere we detailed the broad parameters of the periodization and chronology of the era. Here we outline the present, more detailed knowledge of the absolute chronology of the region as revealed in a series of recent radiocarbon dates from fortress and mortuary sites and describe our current understanding of the general situation during the period.

Excavations at Tsakahovit fortress in 1998 and 2002, Hnaberd fortress in 2000, and Gegharot fortress in 2000 and 2002 have shown that all three major fortress sites in the Tsakahovit Plain were occupied simultaneously during the Late Bronze Age. Additional explorations of cemetery complexes on the north slope of Mt. Aragats adjacent to Hnaberd fortress in 2000 and Tsakahovit fortress in 1998 indicate that the explosion in cemetery construction documented by the regional survey also dates to the same era. The preceding excavations of cemetery complexes adjacent to Gegharot fortress by Martirosian and Esayan indicate that the cemeteries on the slopes of the Pambakh Range are also products of this Late Bronze Age fluorescence. These materials indicate that the growth of the Tsakahovit Plain Late Bronze Age communities began at the very start of the Late Bronze Age.

Three radiocarbon dates from Tsakahovit fortress have already been reported. In 2000, two radiocarbon samples from Hnaberd fortress and a single sample from Hnaberd cemetery A were submitted for analysis (table 4). All three results fall within the chronological parameters of the Late Bronze Age. In 2000, seven radiocarbon samples were submitted from Gegharot fortress, five from the Late Bronze Age occupations and two from later first-millennium deposits. Finally, 12 samples from the 2002 excavations at Gegharot and Tsakahovit recently have been analyzed, including three samples from Early Bronze Age contexts at Gegharot, seven samples from Late Bronze Age levels (one from Gegharot, six from Tsakahovit) and two from later, first-millennium B.C./A.D. cultural deposits.

When combined with data from the ceramic evidence, the radiocarbon results (summarized in table 4) support a three-phase archaeological chronology of the Tsakahovit Plain’s Late Bronze Age. Phase I begins simultaneously at Gegharot, Hnaberd, and Tsakahovit fortresses, which all include ceramics of the transitional period between the Middle and Late Bronze Ages. Analogous materials are known from sites in Armenia including Aparan II, Tsakaldanj cemetery, Karashamb, and Talin cemetery. Radiocarbon dates from Gegharot, Tsakahovit, and Hnaberd cemetery A (tomb 1a) suggest an absolute date for this early phase of approximately 1500–1400 B.C. Phase II, known from sites in Armenia such as Horom (south citadel and cemetery), Metsamor, and Lchashen (kurgan), is again documented in the Tsakahovit Plain at all three of the Late Bronze Age, see Badalyan et al. 2003. Our thanks to Dr. A.J.T. Jull and the University of Arizona AMS laboratory for their help and support of these investigations.
sites. Indeed, the majority of radiocarbon results from the region fall within this Late Bronze II phase and suggest, in concert with results from Horom, an absolute date of 1400–1250 B.C. The terminal Late Bronze (phase III) is known exclusively from an assortment of materials—no cultural level has to date been identified with this era in the Tsakahovit Plain and no radiocarbon results for this transition are available from sites in Armenia. However, the transition from the Late Bronze to the Early Iron traditionally has been dated to approximately 1200/1150 B.C., suggesting a dating of phase III to 1250–1150 B.C. Occupation of Tsakahovit appears to have ended before the close of phase III, although limited Early Iron Age I materials recovered from Hnaberd suggest that this site may have endured slightly longer than Tsakahovit or Gegharot.

Nowhere in the Tsakahovit Plain have we located evidence of an Early Iron Age settlement system. As a result, future research must address not only the nature of Late Bronze Age occupations at Gegharot and Tsakahovit fortresses and the socio-political institutions that occupied these enigmatic complexes, but also the strange lacuna in the region’s settlement history that seems to have followed abandonment of the region at the end of the Late Bronze Age. While the destruction of Tsakahovit was undoubtedly a watershed event in the political history of second-millennium southern Caucasus, it is unclear why the Tsakahovit region appears to have been abandoned in toto for some 450 years (ca. 1150–700 B.C.) until village life returned during the mid first millennium B.C.

The Late Bronze Age remains from the Tsakahovit Plain have strong parallels with materials from Georgian sites that belong to the so-called Central Transcaucasian or Lchashen-Tsiteligorebi culture. For example, the Tsakahovit pottery with punctate ornament is analogous to materials from Irranchay (burial 5) and Imiris-Gora (burial 12). Analogies for pots and jars with linear circumferential ribbing, wavy incised lines, and fingernail incisions are known from, for example, Treli (burial 57, 56), Zemo Bodbe (burial 1), Ole (burial 13), Samtavo (burial 160, 163), Gadrekili Gora (burial 46). Parallels with archaeological sites in eastern Turkey are more difficult to establish. The recent excavations at Karagündüz, in the Van region, may appear to provide the closest material parallels to the Late Bronze Age of the Tsakahovit Plain; however, while the excavators date these materials to the Early Iron Age, the ceramic remains appear to have closer analogies in southern Caucasus to local Urartian wares known from Armenia than with either Late Bronze or Early Iron Age materials. Despite such discrepancies in typological assignment, it does seem that the Karagündüz materials can be included as substantially later expressions continuous with traditions established in southern Caucasus during the Late Bronze Age. As a final regional analogy, the Late Bronze Age ceramics of the Tsakahovit Plain (particularly the open jars) have strong formal parallels with materials from Haftavan Tepe (late VI).

The Mid First Millennium B.C. (Urartian–Yervandid Eras)

The exact date of the collapse of Urartu is not well known, but it has recently been argued (based on an analysis of Xenophon and other written sources) that the Armenian kingdom of Yervandids (Orontids) emerged at the end of the Urartian dynasty. After a short period of independence, these kings fell under the authority of the Median empire and soon after under the power of the Achaemenid kings; this situation endured until the Macedonian campaigns inaugurated the Hellenistic era in the Near East. The Yervandids remained in power throughout this period as satraps of the Achaemenid empire. Following the collapse of the Achaemenid empire, the Yervandid kings re-established their independence and ruled the territory of Armenia until the beginning of the second century B.C. In 189 B.C., the Artaxian dynasty came to power, a lineage closely related to their predecessors (in his inscriptions, Artashes I referred to himself as Artashes Vervandian). The Artaxian dynasty ruled Armenia until the mid first century A.D. (table 5).

Investigations of late Urartian and post-Urartian era southern Caucasus have been conducted at a number of key sites, including Armavir-Argishtihinili, Erebusi, Artashat, and Oshakan (among others) in the Ararat Plain, Horom and Benjamin in

33 Kakhiani et al. 1991, table 139; Otchot 1975, figs. 65–6.
35 Sevin and Kavakli 1996.
36 Edwards 1983.
37 On the dating of the Urartian collapse, see Diakonoff 1951; Kroll 1984; and Zimansky 1995. On the emergence of the Yervandids, see Zardaryan 1997. For a general overview of the archaeology of mid first-millennium B.C. Armenia, see Tiratsian 1988.
the Shirak Plain, Karchaghpyur and Noratus (along with a number of sites that have been reported from surface material but not excavated) in the Sevan region, Lori-Berd in the Lori region, Sari-Tepe in western Azerbaijan, and small soundings at Astghi Blur, Jujevan, and Norashen in northeastern Armenia. These sites together provide an orientation to the architecture and archaeological materials of the era. During the Yervandid period, local ceramic traditions of the Urartian era endured and many Urartian sites were reoccupied and renovated, often following episodes of destruction that attended the Urartian collapse (e.g., at Armavir-Argishtihinili). The transformed political systems drove a shift away from the handful of large “megapolises” built around the immense fortresses characteristic of Urartian centralized imperial governance and toward a more dispersed settlement pattern with a larger number of smaller towns. Throughout the Urartian period, local ceramics in the southern Caucasian regions peripheral to the major centers continued traditions of the preceding Late Bronze/Early Iron Age horizons. Following the collapse of Urartu, these pre-Urartian ceramic traditions were partly re-energized as local wares developed as syntheses of both pre-Urartian and Urartian traditions. It is during the later Yervandid period that we find the reappearance of painted pottery traditions, absent from the region since the Middle Bronze Age of the early second millennium B.C. While some parallels in technique can be drawn with previous painted pottery styles, in general these wares represented a revolution in pottery traditions. The painted wares of Yervandid Armenia show some parallels with Phrygian traditions from central Anatolia but represent a discrete horizon that continues until the first and early second centuries A.D.

The collection of ceramics from the mid-first-millennium B.C. occupations at Tsakahovit fortress represents a broad temporal scope and a range of forms and wares. The collection includes a range of Urartian era wares, including both local productions and wares with strong parallels to the so-called valley wares that characterized the Urartian occupation of the Ararat Plain. The majority of the first-millennium ceramic assemblage is diagnostic of the Yervandid period of the sixth–third centuries B.C.

Table 5. Chronology and Periodization of the Antique Era. (After Zardaryan 1997)

<table>
<thead>
<tr>
<th>Chronology</th>
<th>Periodization</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th–3rd centuries B.C.</td>
<td>Yervandid period</td>
</tr>
<tr>
<td>2nd century B.C.–first half of 1st century A.D.</td>
<td>Artaxian (Hellenistic) period</td>
</tr>
<tr>
<td>Second half of 1st–end of 4th century A.D.</td>
<td>Armenian Arsacid period</td>
</tr>
</tbody>
</table>

The complex of wares from all phases of the first-millennium B.C. settlement at Tsakahovit appears to be most concentrated on production and storage wares, including milk processing vessels, large jars, and pithoi of intermediate and large size. Far fewer fine wares or table wares are in evidence from this period. The largest part of the Tsakahovit Yervandid era ceramics are gray-black wares with a smaller representation of orange and buff wares. A few sherds of Yervandid painted wares have been found at Tsakahovit (including vessels with painted bands and complete reddened surfaces and polished ornamentation on black, gray, or buff surfaces, fig. 16). In addition, a number of vessels with carved and stamped ornamentation were found on the citadel. Remains of six cooking pots, including one largely complete small jar, were found to bear “maker’s stamps” on the exterior of their bases. Three of these stamps were simple raised lines with dimples near their center; two were raised rectangles with interior X designs (one of which includes an irregular linear design reminiscent of a stylized snake); a final stamp, preserved only in small part, appears to be a raised circle. In addition, a single small pithos bears an incised cross design on its rim.

Following the collapse of the Late Bronze Age system in the Tsakahovit Plain, a pattern of centralized settlement concentrated around fortified outcrops continued in other nearby regions (such as the Shirak Plain, the Ararat Plain, and the Lori-Pambak region) and indeed throughout much of southern Caucasus even as the Tsakahovit region was abandoned. A few large fortress cities arose in southern Caucasus during the Early Iron Age, most notably at Metsamor, Dvin, and Artashat, but the foundation of political rule outside of the Ararat Plain remained in large part in a dispersed group of fortress complexes that continued the traditions established in the Late Bronze Age. It is possible that the rise of these cities in the Ararat Plain was fed by a migration, or demographic shift, which drew populations into the region. With the advent of the Urartian empire, this Late Bronze Age southern Caucasian political tradition was transformed from a strategy of local control utilizing large cities and small fortified political centers into a program
of imperial governance with settlement concentrated around a handful of “megapoles.” The Urartian megapoles (not only in the Ararat Plain but across the empire) were unique in the extent of the territory that they administered as provinces of empire, but institutionally they included storage facilities, sacral precincts, administrative offices, and military barrack within a single massive complex, a scalar extrapolation of government forms inaugurated in the Late Bronze Age. One such megapolis was erected at Horom North in the southern Shirak Plain just 30 km to the west of the Tsakahovit Plain. Coincident with the emergence of Horom, evidence from Tsakahovit indicates that the long period of regional abandonment drew to a close, with the reoccupation of the citadel, the reconstruction of the citadel fortification walls (but not the terrace complexes), and the construction of an extensive village around the base of the hill. We do not know how Tsakahovit was incorporated in the late Urartian imperial political economy, whether as a satellite or as an independent trading partner at the margins of empire, but it is clear that the reoccupation of the site was contemporaneous with the final phase of Urartian megapoles. However, while Horom and the megapoles of the Ararat Plain were abandoned at the end of Urartu’s suzerainty, the village and citadel at Tsakahovit continued to be occupied into the succeeding post-Urartian era, through the Achaemenid dominance and perhaps up to the end of the Yervandid era (ca. late third century B.C.), when the site was once again abandoned. Because the first-millennium settlement of Tsakahovit rests at the margins of empire, with ties to Late Bronze Age, Late Urartian, and post-Urartian sociopolitical traditions, further examination of life in this settlement promises to shed light on both the evolutions and revolutions that undergird this pivotal era in the history of southern Caucasus.

Fig. 16. Yervandid era ceramics from Tsakahovit fortress operations C5 (a–i) and C3 (j–u): a, mottled light brown/black exterior; b, polished gray exterior; c, mottled buff/red burnished exterior; d, light yellowish brown smoothed exterior; e, brownish gray polished exterior with thumbnail incisions on handle; f, burnished brown-gray exterior with reddish yellow painted decoration; g, mottled black/brown exterior; h, smoothed gray-brown exterior with vertical furrows with interior thumbnail incisions; i, polished reddish yellow (buff) exterior; j, smoothed pale brown exterior; k, reddish brown exterior; l, black polished exterior, burnished on top of rim; m, black exterior on rim, light brown exterior on shoulder; n, gray exterior with irregular vertical pattern burnished streaks; o, reddish brown exterior with irregular black burnished horizontal streaks; p, polished light yellow-brown exterior; q, smoothed light brown exterior; r, polished light gray exterior with thin burnish lines on rim; s, polished gray-brown exterior; t, smoothed dark gray exterior; u, black polished exterior.
In the summer of 2003, Project ArAGATS continued excavations at both Tsakahovit and Gegharot fortresses. While a separate report on these excavations is currently in preparation, here we present one important note relevant to the 2002 materials discussed above. Continued excavations in the T02 area of the western terrace at Gegharot revealed a large room with an extensive area devoted to a Late Bronze Age cultic installation or shrine. The shrine consisted of a curvilinear clay altar or basin set atop a clay platform, similar in form to shrines from Metsamor; however, evidence suggests that the Gegharot shrine predates the one from Metsamor by several centuries. On the eastern side of the altar was a single stone stela standing on end (two adjacent overturned stones also may have been standing stela, but their original position is difficult to assess at present). The preservation of the room was extremely good, with no fewer than 12 large storage jars smashed but in situ on the floor (restoration is currently ongoing) and numerous other ware types including bowls, jars, and so-called cultic vessels. It is clear from the stratigraphy, architecture, and ceramic remains that the room was occupied twice during the Late Bronze Age. The initial occupation, marked most conspicuously by transitional Middle to Late Bronze (i.e., Late Bronze I phase) ceramics, including large storage jars with punctuate ornamentation similar to Sevan-Uzerlik horizon wares, ended in destruction. The room was subsequently rebuilt with new walls set atop the destroyed interior space (indeed one wall was set directly atop a large Late Bronze Age storage jar). It is also important to note the extensive repertoire of finds from the room associated with metalworking, including the central portion of a tripartite mold for making bronze jewelry, a crucible, and several bronze artifacts, including a pin and a bracelet. Further details regarding the 2003 excavations at Gegharot and Tsakahovit are forthcoming.

Adam T. Smith

University of Chicago
Department of Anthropology
1126 E. 59th St.
Chicago, Illinois 60613
atsmith@uchicago.edu


Belinda H. Monahan

This appendix focuses on the role of faunal analysis in Project ArAGATS and presents preliminary results of faunal analysis from the 1998 and 2000 seasons. In addition to being used to reconstruct diet and subsistence practices, faunal remains can be used to examine social organization, including degree of social stratification, distribution of wealth, and urban/rural integration. This analysis will focus on evidence for the degree of elite control over production and distribution of animal products. It examines the faunal remains from two cemeteries and from test excavations at two hilltop fortresses. The sample sizes are small and the conclusions are tentative; but it is clear, even from this preliminary report, that faunal data will provide a powerful tool for studying the processes of power consolidation and collapse on the Tsakahovit Plain.

Fauna from Burials

Three burials containing faunal remains were excavated in 2000 (Mantash cemetery 8 tomb 3, Hnaberd cemetery A tomb 2, and Hnaberd cemetery B tomb 1); all three date to the Late Bronze Age. Very little fauna was recovered in the excavation of these tombs, and most of what was present is almost certainly intrusive (see table 6 for enumeration of the taxa present). The exceptions to this are the cattle elements in Hnaberd cemetery B tomb 1. The tomb contained one individual, a female in her 50s, whose arms (including scapulae), and top cervical vertebrae were missing. Her head was set on a small pedestal separate from her body, and included in the grave were a left humerus and left radius.

Ruben Badalyan
Pavel Avetisyan
Mkrtich Zardaryan
Armine Hayrapetyan

Institute of Archaeology and Ethnography of the Academy of Sciences of the Republic of Armenia
15 Charents St.
Yerevan, Armenia 375025

40 McKee 1987.
41 Zeder 1991.

42 For a preliminary discussion of the burials excavated in 2000, see Badalyan et al. 2003. A more extensive account is currently in preparation.
scapula and several ribs of a cattle. Although these elements may have been meant to replace the missing elements from the occupant of the grave, only one side of the animal was present, and only one of the ribs was directly in association with the skeleton. The origin or meaning of this practice is unknown.

FAUNA FROM FORTRESSES

Faunal remains from seven operations, excavated at two sites in 1998 and 2000, have been analyzed. Because of their small sample sizes and mix of temporal and functional contexts, we could draw only limited conclusions from the faunal remains. Yet, certain patterns are visible, which suggest that faunal remains will provide a productive avenue for the exploration of social organization as well as subsistence practices. The majority of the fauna from the settlements date to either the Late Bronze Age or the mid first millennium, with differences visible both between and within the samples from the two time periods.

One small sample, from Gegharot operation T03, cannot be securely dated, because no surfaces or other evidence of occupation levels were found, and furthermore, while the majority of the ceramics date stylistically to the Early Bronze Age, all the deposits were colluvial. This sample, one of the smallest, consists primarily of indeterminate bone (table 7). The high proportion of indeterminate bone may be caused by the redeposition of the sediments; the bone in this sample was extremely small and fragmented. Of the 11 elements identified to the level of genus, nearly two-thirds were sheep/goats (Ovis/Capra), while just over one-third were cattle (Bos). The low proportion of identified bone and the lack of a secure date, however, prevents further interpretation.

LATE BRONZE AGE

The Late Bronze Age fauna is represented by four samples: three from Tsakahovit and one from Gegharot. Two of the Tsakahovit excavations (operation C1 and C2) were small, restricted soundings on the citadel, in which clear identification of occupational strata proved quite difficult. Excavations on the citadel in 2002, however, suggest that this area was used for nondomestic purposes. The West Terrace excavations in both 1998 (operation WT01, the source of the fauna presented here) and 2002 (operations WT02–03, see above) suggest that this location served either as a storage area or as a domestic setting. Although the function of operation T02a at Gegharot is not clear, it was most likely similar in function to the West Terrace at Tsakahovit.

All of the the Late Bronze Age assemblages collected by Project ArAGATS are composed entirely

<table>
<thead>
<tr>
<th>Identification</th>
<th>NISP</th>
<th>Percentage of Total</th>
<th>Percentage of Genus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bos</td>
<td>4</td>
<td>2.40</td>
<td>36.36</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>144</td>
<td>86.23</td>
<td>4.19</td>
</tr>
<tr>
<td>Large artiodactyl</td>
<td>1</td>
<td>0.60</td>
<td>4.19</td>
</tr>
<tr>
<td>Large mammal</td>
<td>7</td>
<td>4.19</td>
<td></td>
</tr>
<tr>
<td>Medium mammal</td>
<td>4</td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td>Ovis/Capra</td>
<td>7</td>
<td>4.19</td>
<td>63.63</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>n=11</td>
<td></td>
</tr>
</tbody>
</table>

*Due to the difficulty in distinguishing sheep from goats in many skeletal elements, sheep and goats often appear as one taxon.*
of mammals (table 8), with large- and medium-bodied mammals predominating. In all but one sample, Gegharot T02a, the most frequently represented class of remains is indeterminate, while over one-third of all of the samples could only be identified to body size. The proportion of remains that could be identified to the level of genus in each sample was less than 50%. Among those identified to body size, small mammals account for less than 2% of each assemblage, but there is no clear spatial or functional difference in the predominance of medium- or large-bodied mammals.

Among remains identified to the level of genus (table 9), all of the assemblages were dominated by domesticates, which comprised over 90% of each assemblage. Sheep and goats were the most commonly represented taxa, followed by cattle. Gazelles (Gazella) are the only nondomesticates present in the citadel trenches, but sample sizes are sufficiently small that the number of taxa present is limited. Pigs (Sus), equids, and red deer (Cervus) are present in both of the domestic or storage contexts and absent from the citadel trenches, but, again, sample size may contribute to this difference.

In most of the assemblages, the sample sizes are too small to be able to discuss kill-off patterns. The exception to this is Gegharot T02a. In addition to having a larger sample size than the other assemblages, a significantly higher proportion of the sample was identifiable to the level of genus: both cattle and sheep and goat remains are present in sufficiently large quantities to begin examining cull-

Table 8. Number of Identified Specimens, Late Bronze

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bos</td>
<td>52 10.06%</td>
<td>513 15.78%</td>
<td>11 7.33%</td>
<td>24 16.11%</td>
<td>600 14.74%</td>
</tr>
<tr>
<td>Bovid</td>
<td>0 0.00%</td>
<td>3 0.09%</td>
<td>1 0.67%</td>
<td>0 0.00%</td>
<td>4 0.10%</td>
</tr>
<tr>
<td>Canis familiaris</td>
<td>0 0.00%</td>
<td>2 0.06%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>2 0.05%</td>
</tr>
<tr>
<td>Capra</td>
<td>3 0.58%</td>
<td>26 0.80%</td>
<td>0 0.00%</td>
<td>1 0.67%</td>
<td>30 0.74%</td>
</tr>
<tr>
<td>Cervus</td>
<td>1 0.19%</td>
<td>2 0.06%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>3 0.07%</td>
</tr>
<tr>
<td>Equid</td>
<td>2 0.38%</td>
<td>15 0.46%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>17 0.42%</td>
</tr>
<tr>
<td>Gazella</td>
<td>0 0.00%</td>
<td>2 0.06%</td>
<td>0 0.00%</td>
<td>1 0.67%</td>
<td>3 0.07%</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>205 39.65%</td>
<td>429 13.20%</td>
<td>51 34.00%</td>
<td>41 27.52%</td>
<td>726 17.85%</td>
</tr>
<tr>
<td>Large artiodactyl</td>
<td>5 0.97%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>5 0.12%</td>
</tr>
<tr>
<td>Large mammal</td>
<td>99 19.15%</td>
<td>490 15.07%</td>
<td>21 14.00%</td>
<td>33 22.15%</td>
<td>643 15.81%</td>
</tr>
<tr>
<td>Medium artiodactyl</td>
<td>1 0.19%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>1 0.02%</td>
</tr>
<tr>
<td>Medium mammal</td>
<td>82 15.86%</td>
<td>730 22.45%</td>
<td>39 26.00%</td>
<td>18 12.08%</td>
<td>869 21.37%</td>
</tr>
<tr>
<td>Ovis/Capra</td>
<td>38 7.35%</td>
<td>811 24.95%</td>
<td>20 13.33%</td>
<td>16 10.74%</td>
<td>885 21.76%</td>
</tr>
<tr>
<td>Ovis</td>
<td>17 3.29%</td>
<td>208 6.40%</td>
<td>7 4.67%</td>
<td>15 10.07%</td>
<td>247 6.07%</td>
</tr>
<tr>
<td>Small mammal</td>
<td>8 1.55%</td>
<td>5 0.15%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>13 0.32%</td>
</tr>
<tr>
<td>Small rodent</td>
<td>2 0.39%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>2 0.05%</td>
</tr>
<tr>
<td>Sus</td>
<td>1 0.19%</td>
<td>15 0.46%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>16 0.39%</td>
</tr>
<tr>
<td>Ursus</td>
<td>1 0.19%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>0 0.00%</td>
<td>1 0.02%</td>
</tr>
<tr>
<td>Total</td>
<td>517 3,251%</td>
<td>150 49.06%</td>
<td>149 49.06%</td>
<td>1 0.06%</td>
<td>4,067</td>
</tr>
</tbody>
</table>
ing practices and kill-off patterns. By recording the ages at which the animals in a given sample died, kill-off patterns reflect patterns of production or consumption, suggesting not only what the methods of production were, but also how these animals were being distributed. The age at death for each animal can be determined and the kill-off patterns compiled using either epiphyseal fusion or tooth wear and eruption stages. Each method has its advantages and disadvantages, and are most reliable when used in conjunction with each other and other methods of examining production and consumption patterns.

The cumulative survivorship curve for sheep and goats was constructed using Payne’s tooth wear stages. The curve indicates that almost half the herd was dead by two years of age (fig. 17). Very little kill-off occurred between two and three years of age. After three years of age, kill-off rates steadily increased so that the entire herd was dead within six years of age. This curve resembles a meat production strategy except for the significant difference in kill-off between two and three years.

Kill-off profiles based on epiphyseal fusion analysis can only record ages at death up until three years. To that point, although the percentages of animals apparently killed are greater, the kill-off profile based on epiphyseal fusion for sheep and goats from Gegharot trench 2 is similar to that based on tooth wear (fig. 18). The implications of this pattern are discussed below. Although cattle fusion stages are later than those for sheep and goats, cattle kill-off according to epiphyseal fusion is similar to that of sheep and goats: kill-off in the first two stages is low and increases in the final two stages. The major difference is that according to both epiphyseal fusion and tooth wear analyses, the majority of sheep and goats were killed before reaching maturity at the age of three. The majority of the cattle herd, however, survived into adulthood. Without a more complete understanding of the production and distribution practices, it is not possible to suggest why this difference might exist.

MID FIRST MILLENNIUM B.C.

As with the Late Bronze Age faunal samples, the mid first-millennium fauna comes from a variety of functional contexts. The deposits in West Settlement room A (operation WSA) and South Settlement room 34 (operation SS34) at Tsakahovit are markedly different from one another, but both are thought to be domestic. Two of the mid first-millennium assemblages contain bird, although both in extremely small quantities (table 10). Although the bird has yet to be identified, size difference indicates that the two bird bones found in West Settlement A are from different kinds of birds. With the exception of these three bird bones, the rest of the assemblage is composed of mammals, most of which are large- and medium-bodied mammals. As with the Late Bronze Age, the most commonly represented class in each sample is indeterminate. The proportion of remains identifies

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47 Payne 1973; Redding 1981.
48 See Noddle 1974 and Silver 1969 for epiphyseal fusion dates for both sheep/goats and cattle.
able only to body size was variable, but less than a quarter of all remains could be identified to the level of genus. Among the remains identified to body size, in half the samples large mammals comprised the greater proportion, in the other half, medium mammals; this split does not appear to be differentiated by settlement type.

As with the Late Bronze Age assemblages, among those remains identified to the level of genus over 90% of three of the four samples are domesticated animals (table 11). In fact, these three samples contain no wild animals identified to the level of genus. The fourth sample, West Settlement A, not only contains a higher proportion of wild animals than do other samples, but it also has a significantly wider range of taxa present. Sheep, goats, and cattle constitute over two-thirds of all of the samples: in the domestic contexts of West Settlement A and South Settlement 34, cattle are slightly more common, while in the citadel trenches, with considerably smaller samples, sheep and goats form the majority of the assemblages. None of the samples had sufficient number of identified elements to construct kill-off curves, so interpretation about use

Table 10. Number of Identified Specimens, Mid First Millennium B.C.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bos</td>
<td>69 7.09</td>
<td>68 7.36</td>
<td>10 8.33</td>
<td>11 5.79</td>
<td>158 7.15</td>
</tr>
<tr>
<td>Canis familiaris</td>
<td>10 1.03</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>10 0.45</td>
</tr>
<tr>
<td>Canis lupus</td>
<td>5 0.51</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>5 0.23</td>
</tr>
<tr>
<td>Capra</td>
<td>0 0.00</td>
<td>2 0.22</td>
<td>2 1.67</td>
<td>1 0.53</td>
<td>5 0.23</td>
</tr>
<tr>
<td>Cervus</td>
<td>2 0.21</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>2 0.09</td>
</tr>
<tr>
<td>Equid</td>
<td>2 0.21</td>
<td>2 0.22</td>
<td>0 0.00</td>
<td>1 0.53</td>
<td>5 0.23</td>
</tr>
<tr>
<td>Gazella</td>
<td>17 1.75</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>17 0.77</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>397 40.80</td>
<td>505 54.65</td>
<td>35 29.17</td>
<td>89 46.84</td>
<td>1026 46.49</td>
</tr>
<tr>
<td>Large artiodactyl</td>
<td>1 0.10</td>
<td>2 0.22</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>3 0.13</td>
</tr>
<tr>
<td>Large mammal</td>
<td>179 18.40</td>
<td>169 18.29</td>
<td>29 24.17</td>
<td>26 13.68</td>
<td>403 18.26</td>
</tr>
<tr>
<td>Large rodent</td>
<td>2 0.21</td>
<td>10 1.08</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>12 0.4</td>
</tr>
<tr>
<td>Medium artiodactyl</td>
<td>2 0.21</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>2 0.09</td>
</tr>
<tr>
<td>Medium bird</td>
<td>1 0.10</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>1 0.53</td>
<td>2 0.09</td>
</tr>
<tr>
<td>Medium canid</td>
<td>1 0.10</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>1 0.04</td>
</tr>
<tr>
<td>Medium mammal</td>
<td>198 20.35</td>
<td>100 10.82</td>
<td>25 20.83</td>
<td>31 16.32</td>
<td>354 16.04</td>
</tr>
<tr>
<td>Medium rodent</td>
<td>2 0.21</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>2 0.09</td>
</tr>
<tr>
<td>Ovis/Capra</td>
<td>58 5.96</td>
<td>59 6.39</td>
<td>15 12.50</td>
<td>23 12.11</td>
<td>155 7.02</td>
</tr>
<tr>
<td>Ovis</td>
<td>8 0.82</td>
<td>4 0.43</td>
<td>1 0.83</td>
<td>1 0.53</td>
<td>14 0.63</td>
</tr>
<tr>
<td>Small bird</td>
<td>1 0.10</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>1 0.04</td>
</tr>
<tr>
<td>Small canid</td>
<td>1 0.10</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>1 0.04</td>
</tr>
<tr>
<td>Small mammal</td>
<td>10 1.03</td>
<td>3 0.32</td>
<td>3 2.50</td>
<td>1 0.53</td>
<td>17 0.77</td>
</tr>
<tr>
<td>Sus</td>
<td>7 0.72</td>
<td>0 0.00</td>
<td>0 0.00</td>
<td>5 2.63</td>
<td>12 0.54</td>
</tr>
<tr>
<td>Total</td>
<td>973 9.24</td>
<td>120</td>
<td>190</td>
<td>2,207</td>
<td></td>
</tr>
</tbody>
</table>

Table 11. Percentage, Number of Identified Specimens, Identified to Genus, Mid First Millennium B.C.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bos</td>
<td>38.76%</td>
<td>50.37%</td>
<td>35.71%</td>
<td>26.19%</td>
<td>41.25%</td>
</tr>
<tr>
<td>Canis familiaris</td>
<td>5.62%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.61%</td>
</tr>
<tr>
<td>Canis lupus</td>
<td>2.81%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.31%</td>
</tr>
<tr>
<td>Capra</td>
<td>0.00%</td>
<td>1.48%</td>
<td>7.14%</td>
<td>2.38%</td>
<td>1.31%</td>
</tr>
<tr>
<td>Cervus</td>
<td>1.12%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.52%</td>
</tr>
<tr>
<td>Equus</td>
<td>1.12%</td>
<td>1.47%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.31%</td>
</tr>
<tr>
<td>Gazella</td>
<td>9.55%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.44%</td>
</tr>
<tr>
<td>Ovis/Capra</td>
<td>32.58%</td>
<td>43.70%</td>
<td>53.57%</td>
<td>54.76%</td>
<td>40.70%</td>
</tr>
<tr>
<td>Ovis</td>
<td>4.49%</td>
<td>2.96%</td>
<td>3.57%</td>
<td>2.38%</td>
<td>3.65%</td>
</tr>
<tr>
<td>Sus</td>
<td>3.93%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>11.90%</td>
<td>3.13%</td>
</tr>
<tr>
<td>Number</td>
<td>178</td>
<td>135</td>
<td>28</td>
<td>42</td>
<td>383</td>
</tr>
</tbody>
</table>
is limited. Carnivores, including the domestic dog (*Canis familiaris*) and the wolf (*C. lupus*) are more common in the mid first-millennium assemblage than in the Late Bronze assemblage, although these carnivores are present in only one sample.

**Modification**

It is difficult, at this stage in the analysis, to assess the degree to which the recovered sample represents the sample of animal used by the inhabitants of Tsakahovit and Gegharot. Modification, including predepositional modification such as butchery and working, and postdepositional modification such as gnawing, was, in all cases, extremely low (table 12). The burnt bone remains from operations C1 and C2 in the Late Bronze Age citadel trenches are the only examples in which modification affects more than 10% of the assemblage. A burnt layer sealed the Late Bronze Age levels in these trenches, and the majority of the burnt bone comes from this destruction layer. Moreover, of the 62 pieces of burned bone in operation C2, 8 of them (all *Bos* 7 astragali and 1 phalanx) appear to have been intentionally burned, as part of the process of producing bone artifacts. In many cases one half of the element is burned more completely than the other; additionally, the anterior face of several of the astragali were incised vertically, and all of the burned elements were polished. The function of these artifacts is not clear, although parallels both burned and unburned were found in Gegharot operation T02a as well as in C2 at Tsakahovit.

**Conclusions**

During both the Late Bronze Age and the mid first millennium, as well as among the undated deposits, inhabitants of the Tsakahovit Plain consumed mainly domesticated animals, with sheep, goat, and cattle dominating all of the assemblages. Wild animals are slightly more common in the mid first millennium; in the Late Bronze Age, wild animals comprise less than 0.5%, and with the exception of a single bear (*Ursus*), these wild animals are all ungulates. Taxa present in the mid first millennium, but absent in the Late Bronze Age, include birds and wolf. There is no clear reason for this difference in the number or types of taxa present, but some suggestions can be made.

The predominance of ungulates usually exploited as food animals in the Late Bronze Age may be explained by the suggestion that the inhabitants of the sites were being supplied with meat. This suggestion is supported by the kill-off patterns from Gegharot T02a, particularly of sheep and goats, which indicate that a large majority of the herd was killed before reaching maturity. This pattern does not reflect a reproductively viable herd, because any herd in which most of the animals are being killed before they are able to reproduce would not be sustainable. The high proportion of juveniles suggests that the faunal remains recovered at Gegharot do not reflect the entire herd; instead, they indicate a strategy by which elites were kept supplied with meat but had no direct control over herding practices. According to this model, the elites are sent prime-aged animals, while the people occupied with the herding consume the older, less desirable animals. That most of the wild animals in the mid first millennium are found in domestic contexts rather than in the citadel trenches supports this idea. Further analysis is ongoing on the body-part distribution of these animals, which should reflect the provisioning of elites with meat-rich parts, while meat-poor parts are less frequent.

The limited sample sizes from the mid first millennium make it extremely difficult to draw conclusions about social organization. Subsistence practices, like those of the Late Bronze Age, were cen-

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50 See Cribb 1987.
tered on domesticated animals. While further analysis needs to be done to support an argument of wealth differentiation, preliminary contextual analyses might indicate that the differences in the domestic contexts in the mid first millennium may be related to wealth distinctions. For example, the masonry of South Settlement 34 was uncut and the walls were poorly constructed, while the masonry of West Settlement A was finely cut and the walls were carefully constructed. The conclusions drawn here are admittedly speculative; however, this analysis indicates that faunal analysis will provide useful data both for reconstructing the diet of the inhabitants of the Tsakahovit Plain and for understanding changes in the social organization of the area.

Appendix 2: Compositional Analysis of Armenian Clays and Ceramics Using INAA

Leah D. Minc

Instrumental neutron activation analysis (INAA) is a key tool in identifying the source of raw materials used by ancient potters to fashion their ceramic wares, thereby enabling archaeologists to trace the trade of ceramic vessels and their contents in antiquity. Based on the assumption that each raw material source or clay bed results from a unique combination of parent material mineralogy and geomorphic process, INAA is used to identify the distinctive geochemical signature or fingerprint of a given clay source and to link products made from that source based on their trace-element composition.

The present study uses compositional analysis to source ceramics from the Tsakahovit depression as an aid to understanding the constitution of political authority in this area during the Late Bronze Age from the perspective of production and exchange of basic goods. The immediate goals of this study are twofold: (1) to characterize regional variation in natural clay composition within the valley and identify the location of major centers/areas of ceramic production; and (2) to determine the provenance of specific artifacts and monitor the flow of ceramic goods from producers to consumers.

A total of 275 samples from Project ArAGATS have been analyzed for elemental composition at the University of Michigan’s Ford Nuclear Reactor using INAA. This sample includes clays representing potential raw material sources within the region, as well as archaeological ceramics excavated by the project from the sites of Gegharot, Hnaberd, Mantash, and Tsakahovit.

CLAYS AND ARCHAEOLOGICAL CERAMICS STUDIED

The use of compositional studies to source ceramics is based on the assumption that clay beds carry distinctive trace-element signatures, resulting from distinctive combinations of parent material mineralogy and geomorphic process. The broken terrain and extensive volcanic activity surrounding the Tsakahovit depression increases the probability for the formation of chemically distinct clays within different subregions of the study area. Preliminary assessment of the geomorphological and morphological composition of the Tsakahovit depression indicates that the study area is bounded by three distinct features:

1. the northern flank, formed by the Pambakh ridge of Cretaceous limestone, cut through with a large granitoid intrusion in the vicinity of Gegharot;
2. the eastern flank, formed by the metamorphic complex of the Tsaghkouniats massif containing slates, diabases, and limestone cut through by plagiogranites; and
3. the southern flank, formed by the northern slope of Mt. Aragats, featuring recent volcanic materials (including basaltic andesites of clinopyroxene-plagioclase content and tuff) and high (> 2200 m) valley-head moraines of considerable clayey content.

To date, 19 clay samples have been submitted for INAA. Clay samples were prepared and fired in a manner to make them as comparable as possible to the ceramic samples. Because of the high level of large inclusions in some of the raw clays, the clays were first levigated to remove the inclusions from a portion of the sample and allow us to assess the contribution of natural inclusions on the clay’s chemical signature. The resulting clays were molded by hand into small tiles approximately 2 × 4 × 1 cm in size, which were oven dried and then fired at 800º F for one hour, with a gradual ramp rate of 3º per minute. Once the tiles had been fired, surfaces of the tiles were abraded with a solid tungsten carbide burr or rotary file to remove possible contamination, and the tile was rinsed in deionized water and dried. Finally, one half of the tile was pulverized with a mortar and pestle. The remaining, unpulverized half of the sample was retained so that it might be thin-sectioned at a later date.
were extremely friable after firing and do not appear suitable for the manufacture of ceramic vessels. The remaining clay samples represent five clay deposits: two from the north flank near Gegharot, and three from the southern flank, near the sites of Hnaberd and Norashen. Clays from the vicinity of Tsakahovit (in the southeast corner of the study area) and from the eastern flank, near Aragatsiberd, will be analyzed at a later date.

A total of 256 sherds were included in the study; the great majority represent Late Bronze Age and transitional Late Bronze to Early Iron Age vessels, although a few come from secure Early Bronze Age contexts, as well as the later Urartian/Achaemenid period (table 13). The sherds were selected to represent a range of wares (fine, utilitarian, and cooking) and vessel shape classes.

**Statistical Analyses**

INAA routinely provides precise determination of ca. 30 major, minor, and trace elements. Working with this multivariate data set, the goal of statistical analysis is to identify groups of samples with similar elemental composition, distinct from other such groups, with each group representing a distinct clay or production source. The analysis includes three phases: (1) preliminary group formation utilizing a combination of bivariate and multivariate techniques to gain initial insight into possible groups within the data set; (2) group refinement to create statistically homogeneous core groups distinct from other such groups based on the multivariate probability of group membership (usually calculated from the Mahalanobis D² statistic); and (3) classification of non-core members into their most likely compositional group based on discriminant function analysis or other statistical measures of group membership. The result is the identification of robust “compositional groups,” reflecting distinct clay sources or production loci.

**Results**

**Clays**

Based on their elemental composition, clay samples from the Tsakahovit basin divide into two main groups, corresponding to significant differences in clay geochemistry between the north and south flanks of the Tsakahovit Plain. Clays from the southern flank contain significantly higher concentrations of first series transition metals (including iron, chromium, nickel, and scandium), reflecting the mafic rock minerals of the basaltic andesites of Mt. Aragats. These clays are variable in other elements, however, such as calcium, cesium, and aluminum, indicating that further information on the specific geomorphic context of the various clay beds sampled is needed to interpret these more local variations in clay composition. In contrast, clays from the northern flank, associated with Cretaceous limestone parent material, are characterized by elevated sodium content but lower values for metals and rare earth elements. In general, the clays from the Gegharot area are more homogenous than those from sites on the southern flank.

Table 13. Spatial and Chronological Distribution of Ceramics Submitted for INAA

<table>
<thead>
<tr>
<th>Site</th>
<th>Early Bronze Age</th>
<th>Late Bronze Age</th>
<th>Late Bronze/Early Iron Age</th>
<th>Early Iron Age</th>
<th>Late Urartian/Achaemenid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gegharot</td>
<td>10</td>
<td>73</td>
<td>88</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Hnaberd</td>
<td>0</td>
<td>22</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mantash</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Tsakahovit</td>
<td>0</td>
<td>1</td>
<td>24</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>95</td>
<td>125</td>
<td>7</td>
<td>18</td>
</tr>
</tbody>
</table>

53 Trace-element composition was characterized at the University of Michigan’s Ford Nuclear Reactor through two irradiations, and four different counts of resulting gamma activity, using ca. 200 mg of powdered ceramic material. The data for elements with intermediate and long half-life isotopes (including As, Ba, La, Lu, K, Na, Sm, U, Yb, Ce, Co, Cr, Cs, Eu, Fe, Hf, Nd, Ni, Rh, Sc, Sr, Ta, Tb, Th, Zn, Zr), result from a 20 H core-face irradiation at an average thermal neutron flux of 4.2 × 10¹⁵ n/cm²/s. Following irradiation, two separate counts of gamma activity were made: a 5,000-second count (live time) of each sample after a one-week decay period, and a 10,000-second count (live time) after a period of five weeks decay. The data for short half-life isotopes (Al, Ca, Ti, V, K, Mn, Na) result from a one-minute core-face irradiation delivered via pneumatic tube to a location with an average thermal flux of 2.1 × 10¹⁵ n/cm²/s. Again, two separate counts were made, one after a 13 minute decay and a second count after a 1 hour and 56 minute decay; both were for 500 seconds. Element concentrations were determined through direct comparison with three replicates of the standard reference material NIST1633A (coal fly ash); all data reductions were based on the NIST1633A element library utilized by the Missouri University Research Reactor for archaeological materials (Glascock 1991; 1992, 15 and table 2.2). Samples of New Ohio Red Clay and NIST1633B (coal fly ash) were included as check standards.

54 Bishop and Neff 1989.
Archaeological Ceramics

Preliminary group formation based on analyses of bivariate plots indicated a primary division of all samples into two main groups, based on the ratio of scandium to iron (fig. 19). The high Sc:Fe group is referred to as group 1. A secondary separation of the low Sc:Fe samples based on the amount of Cr present (fig. 20) indicates two further compositional groups: a higher Cr group (group 2), and a low Cr group (group 3).

Group refinement utilized the Mahalanobis $D^2$ statistic based on the concentrations of 12 elements (Ce, Co, Cr, Cs, Fe, Hf, La, Rb, Sc, Sm, Ta, and Th). The probabilities of group membership confirmed the three preliminary groups and identified core members with a strong probability of group membership based on jack-knifed distance calculations.

The distance measures also indicated a large number of ceramic samples without a strong probability of membership in any of these three groups. Final classification of non-core members utilized a combination of discriminant function analysis along with the multivariate distance statistic. Overall, 213 of the 275 samples (77%) could be assigned to one of the three compositional groups.

Determination of Ceramic Provenance

The provenance of the compositional groups can be determined from two perspectives: compositional similarities to clay samples and the “criterion of relative abundance,” which suggests that pottery was most likely manufactured in the area where it is most abundant.\textsuperscript{55} None of the clay samples collected to date appear affiliated with compositional

\textsuperscript{55} Arnold et al. 1991; Bishop and Blackman 2002; Rice 1987, 177.

Fig. 19. Bivariate plot of Sc vs. Fe content. The Armenian sample separates into two major groups, with the higher Sc:Fe group labeled group 1. Ellipses indicate the 95% confidence interval for the bivariate group mean. Note that clay samples (represented by asterisks) generally fall into the second, lower Sc:Fe division.
group 1, the higher Sc:Fe group. Rather, the multivariate analyses generally link clay samples from the south flank with compositional group 2, suggesting that group 2 ceramics represent a center of ceramic production on the south flank, probably near Hnaberd. In contrast, clay samples from Gegharot are assigned to compositional group 3, indicating that group 3 represents a ceramic production center at or near Gegharot on the northern flank.

Assessment of provenance based on the criterion of relative abundance presents a complementary view. A tabulation of members within these three groups by site (table 14) suggests that compositional groups 1 and 3 consist almost entirely of sherds from Gegharot. In contrast, group 2 contains sherds from a mix of sites. Looked at from the perspective of the sites, all three compositional groups are well represented in Gegharot sherds, while at sites on the southern flank, only group 2 is well represented.

Together, these analyses suggest three major areas of ceramic production within the Tsakahovit Plain. Compositional group 2 represents a production source on the southern flank, probably to the western end of the study area, near Hnaberd, while group 3 can be associated with Gegharot, on the northern flank. The provenance of compositional group 1 remains uncertain. Since this is the numerically dominant group at Gegharot (representing 37% of ceramics analyzed from that site), and since this group is not well represented at other sites, group 1 probably represents another (and highly distinctive) clay source near Gegharot. Alternatively, group 1 may represent clays from the eastern end of the valley (near Aragatsi-berd, between Gegharot and Tsakahovit). Further sampling and analysis of clays from the eastern end of the depression are in process to resolve this issue.

INSIGHTS INTO PRODUCTION AND EXCHANGE

The three compositional groups appear to be roughly contemporaneous, in that all groups are
dominated by the Late Bronze Age and the transitional Late Bronze Age/Early Iron Age (LB/EIA) materials. In addition, however, group 2 includes Late Urartian/Achaemenid ceramics, suggesting that utilization of this clay source continued later in time (although this may be a function of different sampling strategies at the various sites).

The composition groups are also similar in terms of the types of ceramic wares produced. All composition groups produced a range of fine, utilitarian, and cooking wares. Although composition group 2 produced a somewhat higher percentage of fine wares (nearly 50% of all ceramics in group 2 are fine wares) and a correspondingly lower percentage of utilitarian wares, differences between production loci are not strong. These data thus suggest that different wares were widely produced within the study area, and that manufacture of ceramic wares was not centralized within the study area or highly controlled by developing political authorities.

The picture presented on intra-regional trade in ceramic containers and their contents is somewhat puzzling. Assuming that compositional group 2 originates on the southern flank, these ceramic wares were both consumed locally and traded across the plain to Gegharot. Ceramics that were produced at or near Gegharot (groups 1 and 3), however, were largely for local consumption, with only minimal exchange to southern flank sites. Thus, the flow of ceramics appears to have been unidirectional, from sites on the southern flank into Gegharot. This unidirectional flow is more consistent with the movement of goods through tribute than with trade. In contrast, however, Gegharot potters (represented by compositional group 3 and possibly group 1) produced a somewhat lower percentage of fine wares, a production strategy apparently at odds with its status as a regional political center.

The compositional analysis of clays and ceramics from the Tsakahovit Plain identified three chemically distinct compositional groups representing three main areas of ceramic production within the study area: a southern flank source, probably near Hnaberd (compositional group 2); a northern flank source, associated with Gegharot (compositional group 3); and a compositional group probably originating on the northern or eastern margins of the study area (group 1), but not affiliated with any clays sampled to date. A significant percent (21%) of ceramics could not be assigned to one of these main groups, suggesting a number of smaller, independent ceramic producers.

The three production centers were all active throughout the Late Bronze Age and Early Iron Age periods, and no strong evidence of regional specialization was encountered. All production centers produced the full range of fine, cooking, and utilitarian wares, and a variety of vessel forms. The southern flank source produced a slightly higher percentage of fine wares relative to cooking and other utilitarian wares than the two producers associated with the northern flank.

Based on the above analyses, the exchange of ceramic vessels and their contents appears largely unidirectional. Ceramic vessels produced on the southern flank (group 2) were found throughout the study area, indicating trade from south to north. Ceramics produced on the northern flank (groups 1 and 3) were abundant only at Gegharot, suggesting the absence of a reciprocal trade from north to south.

**SUMMARY**

The compositional analysis of clays and ceramics from the Tsakahovit Plain identified three chemically distinct compositional groups representing three main areas of ceramic production within the

**Table 14. Ceramic Samples by Site and Compositional Group**

<table>
<thead>
<tr>
<th>Site</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Unclassified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gegharot</td>
<td>63</td>
<td>55</td>
<td>32</td>
<td>22</td>
<td>172</td>
</tr>
<tr>
<td>Tsakahovit</td>
<td>5</td>
<td>28</td>
<td>2</td>
<td>8</td>
<td>43</td>
</tr>
<tr>
<td>Hnaberd</td>
<td>0</td>
<td>20</td>
<td>2</td>
<td>13</td>
<td>35</td>
</tr>
<tr>
<td>Mantash</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>68</td>
<td>108</td>
<td>36</td>
<td>63</td>
<td>256</td>
</tr>
</tbody>
</table>

**Works Cited**


Payne, S. 1973. “Kill-Off Patterns in Sheep and Goats:


Near Eastern Sources for the Palace of Alkinoos

ERWIN COOK

Abstract

The last quarter century of archaeological discoveries have significantly enriched and nuanced our understanding of interactions between the Greek world and the Levant during the Greek Archaic period (conventionally defined as 776–479 B.C.E.). They have also allowed us to construct an increasingly detailed model explaining the diffusion of knowledge from Mesopotamia to Greece at this time. In addition, advances in our understanding of oral cultures, and the role of oral narrative traditions within them have cast valuable new light on the ways in which the Homeric epics appropriate, adapt, and preserve cultural knowledge. The palace of Alkinoos, described in Book 7 of the Odyssey, poses an interesting problem for archaeologists and Homericists alike, in that it departs significantly from the generalized, or “formulaic,” image of a Homeric palace and, moreover, departs equally from Bronze and Iron Age Greek architecture. In order to account for anomalous features such as these, one must always take into account the narrative function and context of the description, which in this case suggests a possible Near Eastern origin. Archaeological evidence not only confirms the possibility, but allows us to take the comparison further: although some of its features doubtless belonged to a stereotypical Greek image of Near Eastern palaces, the description is sufficiently detailed and coherent that we can identify Assyrian palatial architecture as the chief prototype of the palace of Alkinoos.

It has become something of a cliché in modern Odyssean scholarship that the Phaiakes inhabit a border realm located between the fabulous world of witches and monsters in which Odysseus has been wandering and the real world of Archaic Greece. Their narrative function thus becomes that of providing escort home for hapless wanderers who reach their shores. On this basis, I argued in an earlier study that the narrative function of the Phaiakes assimilates them to the mythological pattern of otherworldly ferrymen who provide live bodily transport of kings from this world to the next. The Phaiakes thus provide Odysseus with the converse service of escort to the Greek world, just as they had earlier escorted the otherworldly judge Rhadamanthus, whom Homer explicitly locates in Elysium, to view the criminal Tityos on Euboia. I thereby provided further support for the argument that the Phaiakes is informed by the Epic of Gilgamesh, in particular the voyage of Gilgamesh with the ferryman Urshanabi to Dilmun. Here I argue that knowledge of Near Eastern palatial architecture reached the Greek world along with the Epic of Gilgamesh, and that it likewise exerted a formative influence on the Phaiakes, specifically on the palace of Alkinoos. Such features, I suggest, were meant to lend the palace an exotic appearance appropriate to the status of Skherie as a border realm and of the Phaiakes as otherworldly ferrymen. The Near Eastern pedigree of the narrative also may have been a motive, at least early on while the connection was still recognized. Although some of the features I examine can be considered generic to the Near East, and belonged to any stereotypical image of Near Eastern palaces the Greeks may have had, others point more specifically to Mesopotamia and in particular to the Assyrian palaces of Ashurnasirpal II and his successors.

* I owe a debt of gratitude to Kirk Grayson and John Russell, who read and commented on an earlier draft of this paper. I am also glad for the opportunity to thank Tanya Feinleib for her help with the illustrations; Dimitri Nakassis, Paula Perlman, and Donna Wilson and the anonymous reviewers of AJA for commenting on the final draft; and Egbert Bakker, Jonathan Burgess, Jim Marks, and Greg Nagy for their comments on the Homeric material. Earlier versions were presented at the conference, New Contributions to Bronze Age and Classical Archaeology: The Minnesota Pylos Project, 16 March 2001, and at Princeton University, 10 October 2002. I would like to thank the audiences for the helpful discussions that followed, in particular Andrew Feldherr, Andrew Ford, Joseph and Maria Shaw, and Froma Zeitlin.

1 See esp. Segal 1962.
3 Other scholars have suggested Near Eastern influence on the narrative. Discussion by Lorimer (1950, 97, 429), who favors Egypt; S. Morris (1997, 621) compares it with the temples of Solomon and of Baal; see also Oppenheim 1965; Stanford 1959, ad Od. 7.122 ff. I leave out of consideration another form of mediation, namely the provincial Assyrian palaces at sites such as Arslan Tash and Tell Ahmar, though this is highly plausible, especially for such features as bronze cladding of doors.


For ease of reference, I cite both of Grayson’s editions of the Assyrian Royal Inscriptions for passages quoted in the text (1972, 1976, 1987, 1991a, 1996), and to save space I only refer to the earlier edition for simple citations (Grayson provides a concordance at the back of his later editions).
HISTORICAL BACKGROUND

A direct path of communication leads from the palaces of the Assyrian kings to the emerging city-states of mainland Greece, whether by way of Phoenician intermediaries or the Greeks themselves. Phoenicia was uniquely positioned to play the role of cultural mediator: during much of the Greek Bronze Age, the cities that would eventually become the centers of Phoenician culture had already risen to prominence, and, consequently, found themselves caught in the crossfire between Egypt and the Hittite empire in their struggle for control of Syria-Palestine. Byblos enjoyed close relations with Egypt throughout this period, and was a principal supplier of timber from the Lebanon mountains. By the 18th Dynasty, shipwrights from the Levant were living in Memphis, and over half a millennium later Herodotos refers to Tyrians living there. After the collapse of Mycenaean civilization and the Hittite empire at the end of the 13th century, Egypt and Assyria both entered a period of gradual decline from which Egypt never fully recovered: despite attempts to reassert herself in the region during the reigns of the 22nd dynasty rulers Sheshonq I (945–924) and Osorkon I (924–889) and II (874–850), Egypt was unable to check the rise of Assyrian power and influence, which by the ninth century extended over the Levant, and which in the seventh century would culminate in successful campaigns against the Egyptian homeland itself under Esarhaddon (680–669) and Ashurbanipal (669–631).

Already in the reign of Tiglath-Pileser I (1115–1076) the principal cities of the Levant acknowledged Assyrian dominance, but it was not until Ashurnasirpal II (883–859) came to power that the Assyrians became a regular presence in the region. Ashurnasirpal reached the Levantine coast around 875; he mentions receiving tribute from Hatti, Sidon, and Tyre and visiting the island kingdom of Arvad. Ashurnasirpal also reinstalled Tiglath-Pileser I’s earlier policy of forced resettlement of conquered peoples to Assyria, and in this practice, Shalmaneser III (858–824), Tiglath-Pileser III (744–727), Sargon II (721–705), and Sennacherib (704–681) followed his lead. Ashurnasirpal himself claims to have resettled 47,000 people, including men of Hatti, in his imperial city of Calah (modern Nimrud), where many took part in the construction of his palace. Shalmaneser III mentions the hardly less modest sum of 44,000 from a single campaign to the west in 858, and he again includes men from Hatti among those he resettled. To judge from the annals, the number of those resettled is far higher than this. Tiglath-Pileser III boasts of resettling over 200,000 men, as did Sennacherib, who mentions Tyrian, Sidonian, and Ionian prisoners. Sargon, Sennacherib, and Esarhaddon all report using resettled foreigners in construction on their imperial cities and palaces. Esarhaddon adds that he enlisted the kings of Syria, Phoenicia, and Cyprus to help in the restoration of his palace.

Ashurnasirpal’s successor, Shalmaneser III, records campaigning “to the western sea” in his first regnal year, and receiving tribute from cities along the littoral in his 18th and 21st regnal years. Although Adadnerari III (809–782) received tribute from Sidon and Tyre in 802, Assyrian influence in the region soon underwent a period of decline before being restored and greatly increased by the usurper Tiglath-Pileser III. By around 738, Tiglath-Pileser had annexed the cities on the coast north of Byblos as an Assyrian province, and made Byblos, Tyre, and Sidon tributary states with Assyrian governors. The first mention of the Greeks, tured during his third campaign, see Russell 1991, 166–7, 239, 275, Esarhaddon (Borger 1956, 80) also speaks of forced resettlement but does not specify numbers.

12 Borger 1956, 60.
13 Grayson 1996, 34, 44, 48, 60, 78–9, 141, 147.
15 Culican 1991, 469: “The Assyrians do not appear to have set up the southern Phoenician cities into a province at this point. Sidon is not mentioned at all, probably because it was incorporated into the Tyrian kingdom; but towards both Tyre and Sidon the Assyrians conducted themselves with leniency, though they placed Assyrian officials in both cities, imposed a tax on the felling of cedar trees in Lebanon, and placed restrictions on their overseas timber trade.”

4 Hdt. 3.112; see also Culican 1991, 471.
5 All ancient references are B.C.E.
9 E.g., Tadmor 1994, 45, 63, 67, 77, 83, 161–7, Luckenbill 1924, 73 §§ 57–6; in addition to Oded 1979, see Kearsley 1999, 122; Rollinger 2001a, 242–3; 2001b, 332. For relief illustrations from Sennacherib’s palace depicting “western” laborers captured during his third campaign, see Russell 1991, 166–7, 239, 275, Esarhaddon (Borger 1956, 80) also speaks of forced resettlement but does not specify numbers.
Phaiakes are Euboian colonists (land they have visited can be seen as a metapoetic joke: the In that case, Alkinoos’s remark that Euboia is the most distant dusa in a general division following a sea voyage (the narrator remarks that Alkinoos acquired the nurse Eurume-be described as engaging in piratical activity themselves, when the region seems to have been a policy of strength-

There is also evidence that Greeks from Paphos those of the Greek cities of Salamis and Paphos. tribute from the kings of Cyprus in 708, including of Esarhaddon; Sargon boasts of having received preeminence in the Near East through the reign reporting a pirate raid on the Persian Gulf. It is fairly certain that a letter by two Assyrian officials to Esarhaddon refers to a Greek living in eastern Mesopotamia, while an administrative document from Nineveh mentions one or more Ionians in the capital itself. The individual mentioned in the letter to Esarhaddon may have been a Cypriot by the name of Antikritos. In any event, he is the first Greek to be mentioned by name in a historical document since the fall of Mycenaean civilization.

Relations between Assyria and the Phoenician states were sometimes tumultuous and required regular Assyrian intervention in the Levant. Tyre’s initial response to the rise of Assyrian influence in the region seems to have been a policy of strength-

Be that as it may, Cyprus acknowledged Assyrian preeminence in the Near East through the reign of Esarhaddon; Sargon boasts of having received tribute from the kings of Cyprus in 708, including those of the Greek cities of Salamis and Paphos. There is also evidence that Greeks from Paphos belonged to Sargon’s court. Ionian sailors captured by Sennacherib and resettled in Nineveh took part in his expedition to the Persian Gulf. It is fairly certain that a letter by two Assyrian officials to Esarhaddon refers to a Greek living in eastern Mesopotamia, while an administrative document from Nineveh mentions one or more Ionians in the capital itself. The individual mentioned in the letter to Esarhaddon may have been a Cypriot by the name of Antikritos. In any event, he is the first Greek to be mentioned by name in a historical document since the fall of Mycenaean civilization.

Relations between Assyria and the Phoenician states were sometimes tumultuous and required regular Assyrian intervention in the Levant. Tyre’s initial response to the rise of Assyrian influence in the region seems to have been a policy of strengthen-
By the time Tiglath-Pileser III arrives on the Levantine coast, Phoenician traders had been sailing in Aegean waters for perhaps a century; evidence suggests that Phoenician craftsmen were living and working in Euboia, Athens, and Crete. Conversely, 10th-century protogeometric ceramics have been found at Tyre. An early predominance of Euboian artifacts in the Levant is matched by the finds at Lefkandi, where Near Eastern artifacts arrive earlier and in greater quantities than in any other region of the Greek world, though Athens and Crete are also important. A bronze amphora from Cyprus is among the more spectacular finds from the protogeometric ruler’s residence at Lefkandi (figs. 1–2); the building was initially identified as a heroon on the basis of the burials within its walls, but the practice would be unexceptional in a Near Eastern context. By the late eighth century, the Phoenicians thus formed a commercial network extending to the Greek world and beyond, and her principal cities on the coast were under Assyrian administration. To judge from the archaeological record, Phoenicia’s own colonizing movement does not begin in earnest until after the arrival of Tiglath-Pileser III in the Levant.

At the time of Tilgath-Pileser’s arrival, Euboians, Cypriots, and Phoenicians could be found living together in the trading post of Al Mina, at the western end of the shortest caravan route to the imperial cities of Assyria and on the coastline immediately facing the eastern tip of Cyprus. Immediately to the north lie the spurs to the Amanus Mountains, long prized by the Assyrians as a source of timber and fruit bearing trees. It was also the first region of the Levant to fall under direct Assyrian rule, when Tiglath-Pileser made it an Assyrian province in 738. By this time, Greek enclaves could be found in Phoenician cities in the area, most notably Tel Sukas, and they were an increasing presence on Cyprus itself. A century later, Greek soldiers had established a mercenary settlement at Mesad Hashayahu in the south; it is certain that Greeks served under Psamtik and in the war between

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27 For Greek contact with the Levant, see Bikai 1978, pls. XXII A.1 and XXX.3; Boardman 1980, 35–54; 1999; Braun 1982a; Coldstream 1982, esp. 262; Riis 1982, esp. 244–6; Elayi 1987; Burkert 92, 12–4; Snodgrass 1994; Popham 1994; Haider 1996; Kearsely 1999; Rollinger 2001a, 2001b.

Fig. 1. Lefkandi bronze amphora and other items from a female burial. (From Popham et al. 1993, pl. 18; reproduced with permission of the British School at Athens)
Necho and Nebuchadrezzar. The name of Periander’s nephew, Psammetichos, points to the increasing involvement of other regions of Greek civilization in the Near East. In 665, Gyges brought the Greek cities of Asia Minor into regular contact with Mesopotamia when he created the “Royal Road” leading east from Sardis.

Thus, when Tiglath-Pileser and Sargon consolidated Assyrian hegemony over Phoenicia, Syria, and Cilicia in the second half of the eighth century, they created a clear and direct path along which information could travel to the Greek-speaking world. Along this path traveled Mesopotamian mythology and literature, including the *Epic of Gilgamesh, Atrahasis*, and *Enuma Elish*, each of which has been shown to have left its imprint on Archaic Greek epic. It is, I suggest, no coincidence that the library of Ashurbanipal at Nineveh housed copies of all three works.

**THE HOMERIC EVIDENCE**

Thus far, I have sought to demonstrate how knowledge of Mesopotamian, and in particular Assyrian, palatial architecture could have reached the Greek world. I have also suggested that by this same path Near Eastern mythological narrative did in fact find its way into Greek epic. We shall presently see that Assyrian kings, beginning with the reign of Ashurnasirpal, employed a common and distinctive architectural vocabulary in the construction of their palaces. Moreover, not only did these rulers employ a similar architectural vocabulary, but the rhetoric with which they described the palaces in their commemorative inscriptions is remarkably similar. In other words, one may speak of a common narrative tradition, by which I mean a formulaic way of describing the palaces and their embellishments, that could have reached the Greek world along with Near Eastern mythology. It is thus at least possible that the Homeric *Phaiakis* could be simultaneously informed by accounts of Assyrian palaces and the *Epic of Gilgamesh*. And to repeat a point made earlier: a straightforward narrative motivation for doing so can be supplied in the desire to give Skherie an exotic patina appropriate to its status as a “border realm.”

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29 Hdt. 5.49–53; see Burkert 1992, 14 with n. 26.

30 The traditional date of Assyrian domination of Cyprus is 709 B.C.E.


32 I am not here attempting to provide a history of Assyrian architecture, and I consciously elide significant developments between the reigns of Ashurnasirpal II and Ashurbanipal: my interest lies solely in documenting characteristic and distinctive features of Assyrian palatial design that could have become part of a general image of the palaces transmitted to the Greek world in the Archaic period.
Homer and Archaeology

Before proceeding, however, it is necessary to address the issue of method: in its broadest terms the question becomes one of how the historically minded archaeologist can use Homer to illuminate the material evidence. The status of the epics as “oral poetry” is now generally recognized. Progress in comparative linguistics has confirmed that the antecedents of Homeric epic extend at least as far back as Proto-Indo-European: that the Homeric formula *klos apdithiton* has a metrical, cognate-formula in Vedic Sanskrit suggests that heroes who win “unwithering fame” by their exploits were celebrated in song before the emergence of the Indo-Iranian and Hellenic language families. That the Cyclops episode before the emergence of the Indo-Iranian and Vedic myth suggests that not only the genre of praise poetry but at least some of its themes are likewise an Indo-European inheritance. Archaeological and linguistic evidence suggest that in the Mycenaean period heroic poetry was sung in meters cognate with the Homeric hexameter, featured a divine apparatus—including Zeus and Here—and celebrated heroes—among them Aias and Odysseus—who win *klos* in battle using Homeric weaponry such as the tower shield and *phasganon arguelon*.

Homeric epic thus could and did preserve cultural information extending to the BA and even beyond it by virtue of the inherent conservatism of its formulas and themes, including the actual plots of the epics (viewed here as themes). This is, however, far from saying that epic is either interested in or capable of reproducing the Mycenaean world. As has often been observed, the collective memory of preliterate societies is relatively shallow: a common rule of thumb being that such memory extends three generations. Apparent violations of the rule can often be explained by assuming the object or practice itself survived into the IA, or that memory of it continued to play a role in contemporary ideology. Finley was thus right, in a restricted sense, to argue that “the Homeric world was altogether post-Mycenaean, and the so-called reminiscences and survivals are rare, isolated, and garbled. Hence Homer is not only not a reliable guide to the Mycenaean tablets; he is no guide at all.” The clear implication of this for the archaeologist is that the historical memory of the epics is largely constrained by the continued relevance of that memory in the present. Moreover, what the epics do preserve they also adapt: the Cyclops story may preserve an Indo-European theme, but in the *Odyssey* it has been transformed into a vehicle of cultural self-definition through construction of the antithetical other.

Finally, a distinction should be drawn between material artifacts and the social world in which they

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33 The seminal works are Parry 1971; Lord 2000. Subsequent literature is vast. The following are especially important for the discussion that follows: Goody 1968, 1977a, 1977b; Finnegan 1977; Jensen 1980, 1999; Havelock 1982; Ong 1982; Thomas 1989, 1992; Svenbro, 1993; Dickson 1995; de Vet 1996; Nagy 1996.


35 Frame 1978, 44–6; Cook 1995, 80–1, 85; Watkins (1995, esp. 297–303, 398–407) argues that the punishments of the Cyclops and suitors in the *Odyssey* constitute a pair of reciprocal formulas that developed out of the IE theme “hero slay serpent.” Burkert (1983, 130–4), moreover, has argued that the *Cyclopeia* preserves ritualized patterns of behavior extending into the upper Paleolithic. Renfrew’s (1987, 250–2) skeptical assessment of Indo-European mythology succeeds chiefly as a critique of an unreconstructed Dumézilian trifunctionality, which is of course its principal target.

36 Ruijgh (1967, 53; 1995, 73–8) has been able to resolve metrical anomalies in various Homeric formulae by reconstituting their Mycenaean forms: for example, *patmos Here* without prosodic hiatus in Mycenaean Greek, and *Dii métoin atalantos*, which requires restoration of both the digamma in Zeus’s name and a fully consonantal *h*-prefixed to *atalantos* (*hata- talantos < *sm*-Gk. *(s)mia, Lat. semel)*; see also M. West 1988; Janko 1992, 10–1.

37 On tradition itself as a type of intention, a “speech act,” see the subtle discussion by Bakker 1997; and on the reten-
circulate: a silver studded sword is inherently more interesting than a palace bureaucracy and the formulaic system of epic better suited to preserve its memory.

But this is not to say that the epics simply reproduce contemporary culture: they must provide a plausible account of life in the distant past they claim to be describing. The epics thus employ various distancing effects, such as deliberate archaizing through the suppression of known anachronisms and inclusion of elements that would be generally recognized by the audience itself as belonging to the past.42 The “Bronze Age” is thus largely the world as it was 90 years or so before the poems were composed, and it colors but does not significantly alter the Homeric world with an exotic patina. Scholars who have argued that Homeric society is a historical amalgamation have then chosen to foreground the BA and early IA survivals, together with archaizing features taken from the more recent past.43 And again, in a restricted sense, they are justified in doing so, with the important caveat that the amalgamation is not simply temporal but also geographic.44

Another reason why the epics cannot be treated as a historical transcript is that there is no such thing as a monolithic IA Greek society to which they can be compared.45 The issue becomes acute once it is recognized that the Iliad and Odyssey were composed for a Panhellenic audience: their vision of the heroic age must therefore be recognizable—and culturally relevant—throughout the Greek world.46 Nor do the poems simply reproduce the abstraction of Panhellenic culture; rather they are themselves ideological constructs designed to shape the realities they describe.47 Homeric society is thus a refraction of an abstraction, which is, I suggest, a principle reason why proposed dates for the epics range so widely. In short, the geographic scope that defines Homeric epic gives it comparable temporal scope: the epics have identified tensions and contradictions so basic that their cultural relevance encompasses the entire IA; and the result is an image of society so fundamental as to appear rudimentary.

If a general consensus has emerged in recent years that the Homeric world is contemporary, then Homer’s own dates have become increasingly controversial. The pursuit of a precise time and place in which to locate Homer, however, is in certain respects misguided. Indeed, Foley has recently argued, based on analogies with South Slavic oral traditions, that “Homer” is a personification of the epic tradition.48 Yet, even if an individual poet, whom for want of another name we choose to call Homer, is responsible for the manuscripts that have come down to us, a single author model does not account for the origins or “genius” of the epics, whose temporal and geographic scope extends to Proto-Indo-European and throughout the Greek world, and beyond them both.

Modern attempts to date Homer were substantially framed in the 19th century by the “Homeric Question,” in which debate over the artistic unity of the poems led to very different conclusions as to when, where, and by whom they were written down.49 The findings of Parry and Lord, however, required

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44One could use similar strategies to argue that historical Greek society is an “amalgam”: the cult of Athen in fifth-century Athens, for example, combines contemporary and BA features in a manner no less striking than what one finds in Homer.
45The various regions of the Greek-speaking world developed at different rates and along different lines. Even in the Classical period Greeks could travel back and forth in time simply by visiting their neighbors, and the differences would have been far more striking in the IA. In this context, see Whitely 1991; Morgan 1993; see also van Wees 2002, 112.
46Nagy 1980, 1996, 1999; see also I. Morris 1986, 123; Patzek 1992, 98–101; Raaflaub 1998, esp. 177, 186; Wilson 2002, 11–2, 37–8; for the archaeology of the Panhellenic sanctuaries, see Morgan 1990, 1993. It is, I think, largely the streamlining effects of the Panhellenizing process, combined with “ideological distortion,” that caused Finley to date Homeric society to within the 10th century.
47Redfield 1975, 23; Finnegan 1977, esp. 242–3, 263; Morris 1986, esp. 83, 115, 120; Seaford 1994, 5–6; Raaflaub 1998, 182; Wilson 2002, 11–2. This is above all observable in the poems’ elite oiko-centrism, though it would be wrong in more than one respect to reduce this to a binary opposition between elites and the dēmos.
48Foley 1998, 1999, esp. 45, 50 and 56–61. Others have reached similar conclusions by different means. See in particular Nagy (1996, 21) who calls attention to the Greek tendency to retroject any great cultural achievement, such as the development of a law code, onto a single person; see also M. West 1999; van Wees 2002. For a recent survey, see Graziosi 2002.
49Unitarian scholars, who defended the integrity of the poems, tended to argue that Homer wrote down the epics in Asia Minor during the eighth century, while Analysts, who held that the poems showed signs of extensive revision, usually favored a much later date for the text, often sixth-century Athens. The debate fed into historical models in which Homer belonged to an earlier period than seventh-century lyric poetry, in which the individual voice first emerged, while the Cyclopic epics were seen as later because they were inferior and therefore derivative.
not only a reframing of the discussion, but a fundamental reevaluation of the very concepts of authorship, composition, poem, and text. Their research led many scholars to conclude that Homer dictated the epics to an amanuensis in Asia Minor during the eighth century; if this date is to be accepted, it is also the most likely explanation. For other scholars, however, a date so soon after the introduction of writing seems implausibly early for the creation of the written texts, and not only in terms of their production, preservation, and diffusion, but in cultural terms as well. In their view, the anthropological considerations of oral cultures do not provide ready explanations of why an oral poet or his audience would have wanted a written text, or would see one as authoritative, or consequently how such a text, once it existed, could have stabilized poetic traditions that continued to be orally composed and transmitted. Nagy has thus proposed an evolutionary model for the development of the texts, and for their increasingly authoritative form, as the poem. According to this model, the poems gradually crystallized between the eighth and sixth centuries before being written down in Peisistratid Athens, where poetic competitions at the Panathenaia required a standardized text.

A consequence of these changing perspectives, above all on the nature of Homeric poetry, its relationship to the material culture, and the material culture itself, has been that a number of scholars working across a variety of disciplines have proposed a general down-dating of the manuscript tradition of Homer. Some scholars have adopted Nagy’s crystallization model, or something like it, while others affirm the single dictation model but situate the epics in a seventh-century historical context. Adherents of both models, and even some who date epics to the eighth century or earlier, have also sought to relocate the origins of the manuscript tradition to west Ionia, specifically Euboia and Attica.

To sum up, the inherited traditions of Homeric epic most likely did not preserve a detailed memory of BA palatial architecture. It is a plausible inference that the primary sources for the Homeric palace are their visible ruins and contemporary rulers’ dwellings. Ashlar masonry thus gets combined with pitched roofs in a formulaic description that seems vivid, but is impossible to visualize, without “a series of arbitrary assumptions” by the audience. Indeed, such lacunae in the description can be understood in terms of the Panhellenizing process in that they allow the audience to project their own cultural assumptions onto the narrative. But if Panhellenism and composition by theme have conspired to produce a formulaic description of the palaces, then significant departures from the formula invite explanation, and may even be said to demand it. My suggestion, then, is that in a move conflating temporal and geographic topography, the Odyssey drew on Near Eastern palatial architecture in order to achieve an epic distancing effect in its description of Alkinoos’s palace. As noted above, an impulse to look

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50 Argued vigorously by Janko 1998.
51 Nagy 1980; 1996, 26–61; 1999; 2002; 2003, esp. 2–7, 68–71; further on Homer and the Panathenaia in Jensen 1980; Cook 1995, 128–70; van Wees 2002. Scholars have long noted that the great Panhellenic festivals are perhaps the only setting in which performance of works on the scale of the Iliad and Odyssey would have been feasible: conversely the emergence of these festivals can also account for the monumentalization of the epics, and for a broadening of their audience in geographic terms and along class lines, so that they became the common possession of the larger community and the entire Greek world. In other words, the Panhellenism that defines Homeric poetry can be understood as the direct and immediate result of tailoring its performance to the demands of an audience assembled from throughout the Greek world. Nevertheless, as Morgan has shown (1990, 1993), the festivals do not achieve true Panhellenic status before the seventh century, at earliest. On the other hand, institution of competitive performances of Homer at the Panathenaia may suggest that such performances were seen as an integral part of any festival with Panhellenic aspirations by the second half of the sixth century.


Scholars who locate Homer in the eighth or even ninth centuries but still find a West Ionia connection plausible include Whitman 1958; Powell 1991; Antonaccio 1995; Bennet 1996; Ruijgh 1997.

53 Stanford 1959, xli–xlii, criticizing the detailed house plan of Merry. The attempt of Wace (1962) to relate the palace of Odysseus to the House of Columns at Mycenae confirms Stanford’s caution.
to the east for inspiration is provided by the narrative context, though an equation of geographic with temporal remoteness is also a recurrent feature of the poem. To the extent that the poem is aiming for a narrative effect beyond simple epic distance, and that it risks losing authority if it departs significantly from the shared experience of the audience, the *Odyssey* would seem to model an audience familiar with stereotypical accounts of Near Eastern palaces (though not necessarily Assyrian). Conversely, recognition of the Near Eastern basis of the palace could further enhance the prestige of the objects described, beyond their purely material value: this would be especially significant if Homer’s implied audience was itself “orientalizing.” Finally, historically minded archaeologists and archaeologically minded Homerists cannot safely exclude seventh-century material evidence from the discussion. In the present case, the historical time frame for the Assyrian palaces and the transmission of knowledge about them covers the entire range of currently maintained dates for the textualization of the epics. This last point is of no small importance given the shallowness of historical memory in oral cultures.

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**The Palace of Alkinoos in the Odyssey**

With these considerations in mind, let us now turn to the Homeric comparanda. The palace of Alkinoos is located in the main settlement or astu. The palace is of the megaron type: Nausikaa instructs Odysseus to enter it through the courtyard, aule (*Od.* 6.303), and he later sleeps in the portico, aithousa (*Od.* 7.345). There is an outer gate, prothura, to the courtyard, and a doorway, thurai, from the courtyard into the main building (*Od.* 7.4, 88). From the courtyard, Odysseus is to proceed to the main room, megaron (*Od.* 6.304), where he will find Nausikaa’s mother seated by the central hearth, eskhare (*Od.* 6.305), and leaning against a column as she weaves by the light of the fire. The throne of Alkinoos leans against the same column, while the handmaids, dmoai, sit behind the queen. The column is thus imagined as located near the fire and at some distance from the interior walls. It may belong to an assemblage of four columns supporting a clerestory above the hearth to evacuate smoke and provide light—in which case a Mycenaean palace may be imagined (e.g., fig. 3). Homer never describes such a group, however, nor even a plurality of columns around the eskhare. Homer instead may be

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54 Cook 1995, esp. 49–92; Nakassis in press.
55 For a floor plan of the Palace of Nestor, see Blegen and Rawson 1973, 3:fig. 303.
imagining a column located along the room’s central axis (which would yield a more plausible seating arrangement). In that case, the palace begins to look less like a Mycenaean palace and more like the ruler’s residence at Lefkandi (fig. 4). Since Nausikaa is describing her mother in a “typical” pose, the megaron seems to be imagined as rather dark despite its “high roof,” hupserephes (Od. 7.85). It is apparently large enough to hold over 65 adults, including the royal family, the other rulers and counselors of Skherie, maidservants, and unexpected guests (Od. 7.103–6, 8.387–90; cf. 8.57–58 and below). Nausikaa has her own private apartment, in which her nurse lights a fire and prepares her supper (Od. 7.7–13). Presumably the sons of Alkinoos have similar chambers (Od. 7.170; cf. 1.425 and Il. 6.242–50, 316–7). Parallels to all of these architectural features are seen in the palaces of Odysseus, Nestor, and Menelaos. Hainsworth is thus at least partially justified in calling the account “generic.”

Still, a number of features set the palace of Alkinoos apart from its Homeric counterparts, or indeed from those of the Greek world at any period. When Nausikaa boasts that her father’s house is not like the homes of the other Phaiakes (Od. 6.301–2), her statement may point to a difference that is not only qualitative but of kind. When Odysseus reaches the threshold of the main building, he pauses in concerned anticipation, and in amazement. Homer then focalizes the description of Alkinoos’s palace through the eyes of someone standing at the palace doorway (though he also reports more than Odysseus could possibly see):

... Meanwhile Odysseus
was walking towards the renowned home of Alkinoos;
and his heart
was greatly stirred, as he stood there, before he came
to the brazen threshold.
For it was like the radiance of the sun and moon
throughout the lofty house of great-hearted Alkinoos.
For brazen walls stretched on either side

![Fig. 4. Axonometric drawing of ruler’s residence, Lefkandi. (From Popham et al. 1993, pl. 28; reproduced with permission of the British School at Athens)](image)

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56 Hainsworth 1988, ad Od. 6.303.
from the threshold to its innermost recess, and around them was a band of blue.
And golden doors closed off the well built house and silver columns stood upon the brazen threshold with silver lintel upon them, while the handle was of gold.
On either side were gold and silver dogs, which Hephaistos made knowing skill to guard the home of great hearted Alkinoos, being deathless and ageless for all time.
And inside were thrones leaning against the wall, everywhere from threshold to its innermost recess continuously, on which cloth, fine and well sewn was placed, the work of women.
On them, the Phalaikian leaders were accustomed to sit as they ate and drank, for they feasted continuously. And golden youths stood on well built plinths, holding blazing torches in both hands providing light for the banqueters throughout the house by night.
(\textit{Od.} 7.81–102)

The house is not simply brilliant, but effulgent. Comparison of its light to that of the sun and moon (\textit{Od.} 7.84–85) draws immediate attention to the wealth of white and yellow metals. These are not confined to precious artifacts, but the walls themselves are described as brazen from the threshold of the house to its innermost recesses (\textit{Od.} 7.87: \textit{mukhon}). We are probably to imagine bronze cladding of some sort.\textsuperscript{57} This is certainly the case for the golden doors and silver doorposts and lintel. The dark blue band, \textit{thringkos kuanoio} (\textit{Od.} 7.87) that runs around these walls is generally interpreted as referring to glass paste rendered blue with the addition of copper, although glazed brick could also be meant.\textsuperscript{58} Elsewhere in Homer, \textit{thringkos} implies the uppermost course of an external wall and has a defensive function.\textsuperscript{59} It thus seems natural to suppose that the band runs around the top of the palace walls, as a kind of ceiling entablature. Ameis and Hentze thus rightly call the \textit{thringkos} a “Mauerkranz, ein oben an der Wand herumlaufender Streifen.”\textsuperscript{60}
We could draw the images still closer if we assume that \textit{thringkos} refers to a crenellated pattern, which had protective and decorative functions on the walls of the courtyard and inside the palace respectively. The description clearly implies that Homer is attempting to describe an architectural feature for which he does not have native vocabulary.

That the dogs made by Hephaistos are immortal and guard the house is to be taken quite literally: although statues, they are thought of as animate, like the automaton helpers of Hephaistos described in the 18th book of the \textit{Iliad} (18.417–18).\textsuperscript{61} In describing the statues as gold and silver, Homer may be referring to pairs of statues in each metal, or else to metal inlay, a technique popular in Bronze Age Greece, and in the Near East from the Bronze Age onward. The golden youths in the \textit{meganon} are to be imagined as fairly substantial in size and weight in order to hold the torches. Like the dogs, the description implies that they are animate and are thus literally “life-size”; this would explain why they are standing on \textit{bomoi}, which I have rendered as “plinth,” since they are presumably imagined as stepped. These \textit{bomoi} are probably to be located against the walls and among the chairs, though nothing forbids us from imagining them as niches cut into the walls.

\textbf{The Palace Garden}

Perhaps the most striking single feature of the palace compound is its walled garden, \textit{orkhatos/ke-pon} (\textit{Od.} 7.112/129), to which Homer devotes an \textit{ekphrasis} of some 19 verses. Reference to the garden as an \textit{orkhatos} implies a formal layout with plants regimented in rows. The garden is enclosed by a \textit{herkos}, as is the space adjacent to the palace of Odysseus into which he built his marriage chamber. There, no mention is made of a garden, though Odysseus does construct his bed upon the trunk of a mature olive tree. Homer says that the garden of Alkinoos is “large,” \textit{megas}, which he then glosses with \textit{tetraguos}, the meaning of which is uncertain. The Scholia indicate that \textit{gue} designates a square with sides of two stades, estimated by Hainsworth at 365 m each.\textsuperscript{62} Hainsworth considers “more realistic” the equation of \textit{gue} with \textit{plethron} by Hesychius, which yields an orchard of 930 m\textsuperscript{2}, or a bit over 30 m on a side. A garden with such dimensions, however, would seem far too small to hold the contents Homer gives it:

Outside the courtyard is a large orchard near the doors, four measures in size, and about it a wall runs its length and width. And there grow trees, tall and flourishing pears, and pomegranates, and apple trees with glistening fruit.

\textsuperscript{57} Stanford 1959, ad \textit{Od.} 7.86.
\textsuperscript{58} Ameis-Hentze 1908; Hainsworth 1988, both ad \textit{Od.} 7.87.
\textsuperscript{59} Eumaios is said to \textit{thringkoo} his \textit{aule} with some sort of thorn bush to protect his pigs (\textit{Od.} 14.10); and the \textit{aule} of Odysseus likewise has a \textit{thrinkos}, presumably of more durable materials (\textit{Od.} 17.267)
\textsuperscript{60} Ameis-Hentze 1908, ad \textit{Od.} 7.87.
\textsuperscript{61} Faraone 1987, esp. 257–8; Ameis-Hentze 1908, ad \textit{Od.} 7.93; Stanford 1959, ad \textit{Od.} 7.100–3; contra Hainsworth 1988, ad \textit{Od.} 7.100.
\textsuperscript{62} Hainsworth 1988, ad \textit{Od.} 7.113.
and sweet figs, and flourishing olives:
of these the fruit does not perish, nor gives out,
in winter or summer, but lasts year round; and
Zephyrian
breaths are forever causing some fruit to emerge,
while they ripen others;
Pear upon pear ripens, apple upon apple,
and cluster on cluster of grapes, fig upon fig.
And there his fruitful vineyard is well rooted;
its warmest part is drying out in the sun, in a level
space,
while others they harvest, and others tread, while
before them
unripe grapes are shedding their bloom, and others
beginning to darken.
And there, the ordered leek beds, by the last row of
vines
produce vegetables of all kinds, gleaming fresh the
whole year through.
And therein two springs scatter their water, the one
up through the garden,
while from the other side the other flows beneath the
garden threshold,
to the lofty house, from whence the citizens draw
their water.
Such are the shining gifts of the gods in the home of
Alkinoos
And much enduring, brilliant Odysseus marveled as
he stood there.
(Od. 7.112–33)

The garden of Alkinoos is thus a working farm,
divided among rows of fruit trees and vines togeth-
er with a vegetable garden. The vineyard, in turn, is
articulated into separate areas by the ripeness of
the grapes. Furthest back in the vineyard is the warm-
est part of the garden, where grapes are apparently
being preserved as raisins. Next is an area in which
some grapes are being harvested, while others are
already being tread. The front bed is likewise di-
vided among grapes that are just now losing their
blooms and those that are beginning to darken. A
further spatial division between the two beds may
therefore be implied, perhaps left and right along
a central axis. A wine press is assumed, although
the lack of reference to vinification facilities may
reflect a presumption that the must would be raised
in the palace storerooms.

The trees are likewise described as bearing fruit
at different stages of ripeness. An arrangement simi-
lar to that of the vines can thus be inferred for each
of the five species named. The vegetable beds are
presumably “ordered” solely by plant species since
they are said to be productive year round. The re-
sulting arrangement is as balanced as a Geometric
vase. Our overall image is thus of a garden that is
walled, square, symmetrically arranged, irrigated,
and functional. Of the trees mentioned, only the
olive and grape vine are typically Greek, and all
would be at home in a Mesopotamian garden. Pears,
apples, pomegranates, and figs are nowhere men-
tioned in the Iliad, and in the Odyssey the first three
are confined to gardens belonging to Hades and
Odysseus. Whatever other associations they may
have carried, these trees are clearly felt to be rare
and exotic (it should also be observed that the word
for apple, melon, can also be used to designate fruit
trees generally).

PALACES OF THE NEO-ASSYRIAN EMPIRE

Above, I discussed the possibility that the palace
of Alkinoos could be based on Near Eastern, and in
particular Assyrian, palatial architecture, and the
plausibility that the Odyssey would draw on contem-
porary Near Eastern traditions in describing it.
Having established the basis of comparison in Hom-
er, I now review the Assyrian material.

The kings of the Neo-Assyrian empire built their
imperial palaces in Calah, Khorsabad, and Nineveh,
all situated in a V-shaped region created by the con-
fluence of the Upper Zab, flowing southwest into
the Tigris River, flowing southeast. We owe our
knowledge of their palatial architecture to excava-
tions that laid bare the ruins of the palaces them-
selves and, as importantly, to the royal inscriptions
in which the kings boasted of their accomplish-
ments. Both the Assyrian and Babylonian royal in-
scriptions follow traditions established by the earli-
er kings of Sumer: the Assyrian inscriptions differ,
however, in their increasingly secular emphases on
the king’s military and hunting exploits and on the
construction of his palace, which was treated as one
of his chief legacies. In this, as in much else, Tiglath-
Pileser I created a template for Assyrian royal in-
scriptions that would be followed and expanded
upon by his successors: an invocation to the gods is
followed by a chronicle of military campaigns, hunt-
ing expeditions, and construction projects, includ-
ing cult centers, fortifications, irrigation projects,
and the imperial palace and its embellishments.

The Palace of Ashurnasirpal II

Ashurnasirpal II, in turn, established new stan-
dards of palatial architecture that would be fol-
lowed for centuries to come. Shortly after com-

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63 See Stanford 1959, ad Od. 7.122ff.
64 On the organization and decorative program of the cen-
tral palace, see Mallowan 1966; Russell 1998; for Sargon’s pal-
ace, see Loud 1936, 1938; Albenda 1996; for Sennacherib’s
palace, see Russell 1991.
ing to power, Ashurnasirpal made Calah the imperial capital, enclosing it in a new city wall 7.5 km in length and constructing nine new temples to the gods. He also began work on a palace to which Shalmaneser apparently added the administrative complex. Ashurnasirpal consecrated the palace, however, in his fifth regnal year (879 B.C.E.), and boasts of having entertained 69,574 guests for 10 days of festivities, including 5,000 dignitaries from neighboring lands, among them Hatti, Tyre, and Sidon. These numbers are not as incredible as they might first appear; as Mallowan observes, such a banquet could have provided a de facto census, useful in estimating the available manpower for corvée.

The palace remained the seat of government well into the eighth century. Tiglath-Pileser III and Sargon II both administered the empire from the chancery at various points in their reigns; Sargon conducted restorations on the palace and used room U as a treasury; the harem apparently continued to serve as a royal domestic quarters through his reign or later; and other sections of the palace remained in use until the destruction of Nineveh in 612 B.C.E. Ashurnasirpal’s palace would have been legendary from the day it was consecrated to the fall of the Assyrian empire. It is thus interesting to note that letters from western governors addressed to Tiglath-Pileser were found there, as were prisms from the reign of Sargon, which record his receiving tribute from the kings of Cyprus.

By the time Tiglath-Pileser seized the throne, Ashurnasirpal’s palace was over a century old, but when he built anew at Calah he still followed Ashurnasirpal’s example in its decorative program and presumably in its general layout. Sargon relocated the capital to Khorsabad and again followed Ashurnasirpal’s lead, including the invitation of foreign dignitaries “of all lands” to the consecration. The relocation may have something to do with the manner in which he came to power, though he continued to live in Calah during the construction of his palace at Khorsabad (fig. 5). On Sargon’s death in battle, Sennacherib again relocated the capital, to Nineveh, which he rebuilt and greatly embellished, including city walls, paved roads and enlarged public squares, a network of canals of conservatism evident in the design of Sargon’s palace. For changes in the layout of Sargon’s palace, see Russell 1998, 102–8, and for the entranceway and garden, see below.

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65 Grayson 1976, 175–6 § 682.
66 Mallowan 1966, 72.
68 A similar layout is inferred from similarities in the decorative program and the inscriptive evidence, and the degree

Fig. 5. Reconstruction of Khorsabad. (From Perrot and Chipiez 1970; courtesy of Adeva)
and aqueducts that brought water from mountains 70 km distant, and finally a royal palace and palace garden (fig. 6).70 Had Ashurnasirpal been able to tour the palaces of Sargon and Sennacherib, he might well have been impressed by their opulence, but would have understood his surroundings, both in terms of architectural vocabulary and materials. A century later, Nebuchadrezzar built his own palace and gardens at Babylon on models that were then over three centuries old.

There are, then, good reasons to compare Homer's account of Alkinoos's palace to Ashurnasirpal II's own description of his palace at Calah:

I founded therein [Calah] a palace as my royal residence (and) for my lordly leisure for eternity. I decorated (it) in a splendid fashion. I surrounded it with knobbled nails of bronze. I made high doors of fir, fastened (them) with bronze bands, (and) hung (them) in its doorway. I took and put therein thrones of ebony (and) box-wood, dishes decorated with ivory, gold, silver, tin, bronze, iron, booty from the lands over which I gained dominion.71

Elsewhere he mentions monumental statues situated at the palace doorways:

[The city Calah] I took in hand for renovation. I founded therein my lordly palace. I built that palace for the gaze of rulers and princes forever (and) decorated it in a splendid fashion. I made (replicas of) all beasts of mountains and seas in white limestone and parutu-alabaster (and) stationed (them) at its doors.72

And glazed brick:

I depicted in greenish glaze on their walls my heroic praises, in that I had gone right across highlands, lands, (and) seas, (and) the conquest of all lands. I glazed bricks with lapis lazuli (and) laid (them) above their doorways.73

Near the palace, Ashurnasirpal installed an irrigated garden for his personal use:

I dug out a canal from the Upper Zab, cutting through a mountain at its peak, (and) called it Patti-hegalli [canal of abundance]. I irrigated the meadows of the Tigris (and) planted orchards with all (kinds of) fruit trees in its environs. I pressed wine (and) gave the best to Ashur my lord and the temples of my land. I dedicated that city to the god Ashur my lord. In the lands through which I marched and the highlands which I traversed, trees (and) seeds which I saw, cedar, cypress, simsalu, burasu-juniper, . . . datpranejuniper, almond, date, ebony, meskannu, olive, susaanu, oak, tamarisk, dudlu, terebinth and ash, mehru, . . . tiatu, Kanish oak, haluppua, sadanu, pomegranate, salbursu, fir, ingirasu, pear, quince, fig, grapevines, anagase-pear, sumalbu, titip, sipatu, zanzaliqu, “swamp-apple,” hambuqyu, nukurtu, uzinu, and kanaktu. The canal crashes from above into the gardens. Fragrance pervades the walkways. Streams of water (as numerous) as the stars of heaven flow in the pleasure garden. Pomegranates which like grape vines . . . in the garden . . . [f], Ashur-nasir-apli, in the delightful garden pick fruit like a mouse [. . . .].74

For the vast majority of visitors and residents of the imperial city, knowledge of the palace would have extended no further than its exterior walls, with their monumental entrance doorways and colossal guardian statues (e.g., figs. 7–8). Russell notes that the statues in particular would have created a “very high level of imagined expectation for the grandeur” of the palace interior, which “could only be known second hand, through reports and rumor, and these would inevitably be exaggerated.”75 Indeed, it is precisely in order to create exaggerated expectations that the palace entrance was constructed in such an opulent manner. The

70 The site of Nineveh, the largest in Mesopotamia, was approximately 720 ha in size with a population of perhaps 175,000 (Jonah 4.11 gives 120,000 in 612 B.C.E.) compared with perhaps 100,000 at Calah during the reign of Ashurnasirpal (Thompson and Hutchinson 1929, 125; Mallowan 1996, 71–2).
74 Even more opulent were the temples that Ashurnasirpal II built near his palace. It is worth noting in this context that Assyrian temples are based on domestic architecture: no attempt is made to distinguish temple, palace, and residence through architectural vocabulary, and frequently identical language is used to describe them in the inscriptions (Loud 1936, 67; 1938, 10–1):

I decorated them [the temples near the palace] in a splendid fashion. I installed over them cedar beams (and) made high cedar doors. I fastened (them) with bronze bands (and) hung (them) in their doorways. I stationed holy bronze images in their doorways. I made (the images of) their great divinity resplendent with red gold and sparkling stones. I gave to them gold jewelry, many possessions which I had captured. I adorned the room of the shrine of the god Ninurta, my lord, with gold (and) lapis lazuli, I stationed bronze guardian statues (e.g., figs. 7–8). Russell notes that the statues in particular would have created a “very high level of imagined expectation for the grandeur” of the palace interior, which “could only be known second hand, through reports and rumor, and these would inevitably be exaggerated.”75 Indeed, it is precisely in order to create exaggerated expectations that the palace entrance was constructed in such an opulent manner. The
rhetoric of the royal inscriptions thus reproduces the intended impact of the palace’s architectural program.

Ashurnasirpal’s Successors

Two centuries later, Sennacherib built his “Palace Without Rival” at Nineveh, in an effort to outdo his father Sargon II’s palace of the same name at Khorsabad. Construction on the palace began around 700 and was completed eight years later. The palace also remained in use through the reign of Ashurbanipal, who did restoration work on it. Ashurnasirpal would have recognized not only the general layout of Sennacherib’s palace, but also the imagery and language used to describe it:

Thereon [on the terrace] I had them build a palace of ivory, ebony (?), boxwood (?), musukannu-wood, cedar, cypress and spruce, the “Palace without a Rival,” for my royal abode. / Beams of cedar, the product of Mt. Amanus, which they dragged with difficulty out of (those) distant mountains, I stretched across their ceilings (?). / Great door-leaves of cypress, whose odour is pleasant as they are opened and closed, I bound with a band of shining copper and set up in their doors.76 / A portico, patterned after a Hittite77 palace, which they call in the Amorite tongue a biṭ-bilīnī, I constructed inside them (the doors),78 for my lordly pleasure. / Eight lions, open at the knee, advancing, constructed out of 11,400 talents of shining bronze, the workmanship of the god Nin-a-gal, and exceedingly glorious, / together with 2 colossal pillars whose copper work came to 6,000 talents, and two great cedar pillars,79 (which) I placed upon the

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76 Elsewhere (Luckenbill 1924, 119 § 24) the band is said to be of silver and copper.
77 Luckenbill (1924) remarks ad loc: “That is, a ‘western,’ Syrian, palace, as the next phrase clearly shows. For the kind of structure that is meant we must turn to the seventh chapter of I Kings.” Unsurprisingly, Tiglath-Pileser III seems to have introduced this innovation into the vocabulary of Assyrian palatial design (Tadmor 1994, 172–3 with note ad 18), and in this, Sargon II followed.
78 Luckenbill (1924) remarks ad loc: “The portico opened on the inner court.”
79 Elsewhere (Luckenbill 1924, 123 § 32) the columns are said to be cased in bronze and lead.
lions (colossi), I set up as posts to support their doors. / Four mountain-sheep, as protecting deities, of silver and copper, together with mountain-sheep, as protecting deities, of great blocks of mountain stone, I fashioned cunningly, and setting them toward the four winds, (directions) I adorned their entrances. / Great slabs of limestone, the enemy tribes, whom my hands had conquered, dragged through them (the doors), and I had them set around their walls,—I made them objects of astonishment. / A great part, like unto Mt. Amanus, wherein were set out all kinds of herbs and fruit trees,—trees, such as grow on the mountains and in Chaldea, I planted by its (the palace’s) side. / .... To increase the vegetation, from the border of the city of Kisiri to the plain about Nineveh, through mountain and lowland, with iron pick-axes I cut and directed a canal. / For (a distance) of 1 1/2 bēru⁸⁰ (double-hours) of land, the waters of the Khosr, which from of old sought too low a level (lit. place), I made to flow through those orchards in irrigation-ditches. / After I had brought to an end the work on my royal palace, had widened the squares, made bright the avenues and streets and caused them to shine like the day. / I invited Assur, the great lord, the gods and goddesses who dwell in Assyria, into its midst.⁸¹

The only features of this account that would have likely raised Ashurnasirpal’s eyebrows are the references to a portico patterned after a bīt-hilâni and to a palatial garden resembling Mount Amanus to the north of Al Mina. These were innovations Sennacherib adopted from his father, Sargon, who took his inspiration for the innovations Sennacherib adopted from his father, Sargon, who took his inspiration for the bīt-hilâni from Tiglath-Pileser III; in turn, Sennacherib’s son and successor Esarhaddon adopted them.⁸² But Ashurnasirpal would have certainly understood the point and been pleased by it: “my descendants rule Syria!”

The evidence thus justifies the claim that from the ninth through the seventh centuries, Assyrian kings employed a somewhat formulaic way of describing the construction of their palaces and palace gardens. Elements of the formula include the use of exotic woods in the structures; monumental doorways, including columns, lintels, thresholds, and door-leaves clad in a variety of metals; monumental guardian animals in metal or stone guarding the principal doorways of the palace; the use of glazed brick; and walled, irrigated gardens with a variety of exotic plant specimens. Other common motifs in the inscriptions include praise of the city walls and their gates; reference to the radiance of buildings—palaces and temples—clad in gold and other metals, and of roads built with baked bricks; and the construction of irrigation canals and the parks and orchards they fed.

**Nebuchadrezzar as Heir to the Assyrian Empire**

One century after Sennacherib, the Babylonian king Nebuchadrezzar presented himself as heir to the Assyrian empire through his manipulation of architectural conventions in the construction of his palace:

The finished palace [Nebuchadrezzar] describes as a “palace as the seat of my royal authority; a building for the admiration of my people, a place of union for the land” .... The construction was magnificent, the upper walls were decorated all round with a band of blue enamelled bricks and the doors made of cedar, Magan, sissoo or ebony-wood encased in bronze or inlaid with silver, gold and ivory. The doorway ceilings coated with lapis lazuli and the threshold, lintel and architraves ... cast in bronze. The rooms themselves were roofed with huge cedar beams from Lebanon, or with selected pine and cypress logs, some covered in gold.⁸³

As Nebuchadrezzar himself would have hoped, Odysseus pauses to admire the magnificence of Alkinoos’s palace before entering. The doorway to both palaces is covered in white and yellow metals; the walls of both were decorated with a blue band; and the interior walls were further heightened by metal cladding. Even the thresholds are bronze.⁸⁴ One could aptly say of Nebuchadrezzar’s palace that it is “like the radiance of the sun and moon.” I do not wish to argue that Homer based his description on the palace of Nebuchadrezzar, which many scholars would find too late to have influenced the Odyssey. My point is rather that Nebuchadrezzar’s palace represents an image to which Mesopotamian rulers had aspired for centuries and those of Assyria regularly attained. In fact, each of these features of Nebuchadrezzar’s palace can be directly paralleled in the palace of Ashurnasirpal II at Calah, and the Sargonid palaces at Khorsabad and Nineveh.

Next to the palace, Nebuchadrezzar is said to have built his Hanging Gardens, the most famous gardens of the ancient world.⁸⁵ Whatever their appear-

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⁸⁰Luckenbill (1924) remarks ad loc: “The Assyrian bēra, like the neo-Babylonian, was equivalent to about 3.8 miles.”

⁸¹ Luckenbill 1924, 96–8 §§ 79–92.


⁸³ Wiseman 1985, 55.

⁸⁴ Note the roughly contemporary, 600–560 B.C.E. bronze threshold from the Nabu temple at Borsippa, now in the British Museum (WA 90851).

⁸⁵ For the state of our ancient sources, see Wiseman 1983, 138–41; 1985, 55–60; see also Oppenheim 1965, 332; Stronach 1989, 480. Dalley (1993, 1994, 2002), however, argues that the “Hanging Gardens” were actually built by Sennacherib in
ance, the royal gardens were probably located between the “Western Outwork” and the Northern palace. Stronach observes that if this location, first proposed by Wiseman, is correct, then the gardens were in the immediate vicinity of the king’s own quarters. Wall mosaics of monumental date palms against a cobalt blue background brought the gardens themselves indoors as a central element of the interior decoration. There is some evidence to suggest that the gardens were planted with a wide variety of exotic trees and shrubs. More striking is a report by the third-century historian Berossos that Nebuchadrezzar built the gardens with stone terraces so that it looked like a mountain planted with trees. We can dismiss his claim that Nebuchadrezzar did so because his wife was homesick for the mountains of her homeland, and assume instead that, if the description of the garden is itself correct, Nebuchadrezzar once again took his inspiration from the palaces of Khorsabad and Nineveh.

Precedents and Legacies: Statues at the Palace Doors

Ashurnasirpal is generally credited with creating Assyrian sculpture as we know it, being the first to use carved gypsum orthostats to decorate the main rooms of the palace. The paired antithetical groupings of colossal statues guarding the entrance doorways to the palace and throne room are another legacy. An early precedent can be found in the glazed ceramic bulls and griffins dating to the 13th century B.C.E., which guarded the North East entrance to the Zigurrat in Choga Zambil and the Middle Elamite temple of Inshushinak. But it is the monumental stone statues characteristic of Hittite architecture from the Bronze Age empire to the contemporary kingdoms of Cilicia and northern Syria that likely supplied an immediate source of inspiration for the use of statuary as an integral feature of palatial design. Ashurnasirpal would have seen such statues in the course of his campaigns in Syria, as did Tiglath-Pileser I over two centuries before him.

It may be no coincidence that Tiglath-Pileser I is the first Assyrian ruler known to have installed stone guardian statues at the entrance to his palace:

I made replicas in basalt of a nahiru, which is called a sea-horse (and) which by the command of the gods Ninurta and Palil the great gods my lords I had killed with a harpoon of my own making in the [Great] Sea [of the land] Amurru, (and) of a live yak (burhis) which was brought from the mountain/land Lumash […] on the other side of the land Habhu. I stationed (them) on the right and left of my [royal entrance].

These inscriptions are also noteworthy as being the first examples of the use of palatial architecture by Assyrian kings to advertise, not only imperial wealth and power, but the geographic scope of their activities. His example was soon followed: there is no particular reason to suppose that Ashurbel-kala (1073–56) himself rode and killer a Mediterranean sea-horse, for example. His motives in erecting their statues are in part to compete with his predecessor and perhaps equally to exploit their iconographic significance:

I built the palace of cedar, box-wood, terebinth, (and) tamarisk in my city of Ashur. I made (replicas of) two nahiru, four yaks (burhis), (and) four lions in basalt, two genii in parutu-alabaster, (and) two yaks (burhis) in white limestone and stationed (them) at their doors.

Ashurnasirpal is thus operating within an established Assyrian tradition in erecting monumental stone statues to guard the doorways of his palace. He can also be seen as adopting Tiglath-Pileser I’s
use of such statues to advertise the geographic scope of Assyrian power. His boast of having made statues of “all beasts from mountains and seas” thus makes a far more sweeping claim about the extent of his influence than did the yak and sea-horse of Tiglath-Pileser.

Tiglath-Pileser III, Sargon II, and Sennacherib followed Ashurnasirpal’s practice of arranging guardian statues at the doors to his palace. Sargon’s own sculptural program in fact offers a closer parallel to the *Odyssey* than Ashurnasirpal’s, as Sargon boasts of installing pairs of bronze lions around his
doors.\(^{97}\) Whereas Sargon mentions eight lions weighing 4,610 talents, Sennacherib declares that he installed eight bronze lions weighing 11,400 talents. A still closer parallel to Alkinoos’s gold and silver dogs are the four mountain sheep of silver and copper that Sennacherib installs in the entranceway as protective deities. Elsewhere he mentions 12 lion, 12 bull, and 22 cow colossi in bronze, and others in alabaster and limestone.\(^{98}\) Esarhaddon in turn refers to bronze and silver palace doors with bronze clad columns and bronze and stone colossi; and elsewhere he boasts of erecting silver and bronze colossi by the gates to an Ishtar temple.\(^{99}\)

**Doors and Walls: Metal Plating and Glazed Bricks**

The first inscriptive evidence for the use of bronze horizontal banding on monumental doors comes from the reign of Adad-narari I (1307–1275), who records their use on the Gate of Anu and Adad at Ashur.\(^{100}\) His lead is followed by Tiglath-Pileser I, who placed bronze bands on the gate to his palace.\(^{101}\) Such banding is, in fact, a common and distinctive feature of Assyrian monumental architecture.\(^{102}\) The most famous example of bronze decorative bands is from the “Balawat Gates,” now in the British Museum, which Shalmaneser III set up in his palace in Balawat. Although material evidence is lacking, Sargon also mentions covering the doors of his palace with bronze, and official correspondence indicates that silver was also used.\(^{103}\) The royal inscriptions of Sennacherib, Esarhaddon, and Ashurbanipal indicate they continued the practice.\(^{104}\)

The columns of the Assyrian palaces were generally wooden, but they were sometimes, as for example in the case of important doorways, clad in lead, bronze, silver, or even gold—bronze being the most common metal employed. Ceiling beams of important rooms may also have been clad in precious metals, as in the palace of Nebuchadrezzar. In other cases, they were painted. Sennacherib declares that he brightened the roof timbers of his palace so they “shine like the day.” His words could refer either to paint or to metal cladding.\(^{105}\) In any event, Tiglath-Pileser III, Sargon II and Sennacherib all boast of the brilliance of the metals decorating their palaces, especially those used in constructing the doors and statues of the main entrance; and Esarhaddon repeatedly makes the same boast of the temples whose walls he clad in silver and gold.\(^{106}\)

The use of paint is well attested archaeologically. Painted plaster was found throughout Sargon’s palace at Khorsabad, where it was used to decorate the walls and ceilings: blue was by far the most common color employed.\(^{107}\) Horizontal decorative bands were painted on the wall plaster at Calah and possibly at Nineveh, and similar banding was found in Residence J at Khorsabad.\(^{108}\)

Another distinctive feature of Assyrian palatial design is the use of glazed bricks. Tiglath-Pileser I had already employed glazed bricks in the

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\(^{97}\) See infra, n. 105.

\(^{98}\) Luckenbill 1924, 108–10, 122–3.

\(^{99}\) See infra, n. 106.

\(^{100}\) Grayson 1972, 70 § 456.

\(^{101}\) Grayson 1976, 33 § 125; see infra on gardens.

\(^{102}\) Grayson 1976, 180 n. 818; catalogues other references to bronze door banding through the reign of Ashurnasirpal.

\(^{103}\) Fuchs 1994, 305, 310, 340; Loud 1936, 9, 15; 1938, 25–6, 44, 59–62. The excavators believe the use of banding was confined to temples, throne room, and doors to the terrace.

\(^{104}\) Luckenbill 1927, 322 § 837; Borger 1956, 33, 61–3, 95; see Russell 1999, and the description of Sennacherib’s palace, supra, with notes ad loc.


\(^{106}\) Borger 1956, 5, 22, 33, 59, 94.

\(^{107}\) Loud 1936, 56–71; 1938, 17, 48–9.

\(^{108}\) Loud 1938, 65; Russell 1991, 40–1.
The earliest inscriptive evidence for Assyrian gardens was recorded by Assur-uballit I (ca. 1363–28),115 who wrote that he built a “canal of abundance” leading into the royal city because a well previously in use “was not suitable for the requirements of an orchard.” In that the well was “(the source) of the pond behind the terrace,” it may be right to infer that the orchard was located in the immediate vicinity of the palace.116 Adad-narari I (1307–1275) also refers to gardens.115 In the second half of the 13th century Tukulti-Ninurta I (1244–1208) would boast: “I transformed the plains of my city into irrigated fields.”116 He also records directing a large canal into the principal cult center of the city: “I made the Pattu-meshari flow as a wide (stream) to its site. . . . Within that cult center . . . I constructed Egalmesharra, ‘House of the Universe,’ my royal dwelling.”117 Again, it is natural to suppose garden facilities located within the complex so that the palace is located near to or even within them.

Assyrian Royal Gardens

The earliest inscriptive evidence for Assyrian gardens was recorded by Assur-uballit I (ca. 1363–28),115 who wrote that he built a “canal of abundance” leading into the royal city because a well previously in use “was not suitable for the requirements of an orchard.” In that the well was “(the source) of the pond behind the terrace,” it may be right to infer that the orchard was located in the immediate vicinity of the palace.116 Adad-narari I (1307–1275) also refers to gardens.115 In the second half of the 13th century Tukulti-Ninurta I (1244–1208) would boast: “I transformed the plains of my city into irrigated fields.”116 He also records directing a large canal into the principal cult center of the city: “I made the Pattu-meshari flow as a wide (stream) to its site. . . . Within that cult center . . . I constructed Egalmesharra, ‘House of the Universe,’ my royal dwelling.”117 Again, it is natural to suppose garden facilities located within the complex so that the palace is located near to or even within them.

Tiglath-Pileser I thus continues a centuries old tradition when he boasts of having planted orchards. And again he seems to be responsible for introducing an important innovation that was subsequently adopted by Ashurnasirpal II and his successors:

I took cedar, box-tree, Kanish oak from the lands over which I had gained dominion—such trees which none among previous kings, my forefathers, had ever planted—and I planted (them) in the orchards of my land. I took rare orchard fruit which is not found in my land (and therewith) filled the orchards of Assyria.116

The utilitarian nature of Tiglath-Pileser’s orchards is obvious and should not be minimized:119 cedar and box-wood were prized building materials used in the construction of palaces, temples and their furnishings, and were doubtless singled out for mention on just these grounds. At the same time, such gardens, located throughout his kingdom, can be understood as serving the same purpose as the statues guarding the entrance to the palace—they bear witness to the ruler’s power and influence, which reaches as far west as the mountains of Lebanon.

That one of Tiglath-Pileser’s gardens was in close proximity to the main palace and was reserved for royal use can be inferred from the following, somewhat garbled and lacunose, account:

[The palace] which Ahur-resha-ishi (I), my father, vice regent of the god Ashur, had built (but) [not] completed—that palace I constructed (and) completed. I raised its walls and tower-gates and made (them), fast, like a ..., with bricks glazed (the colour of) obsidian, lapis lazuli, pappardilus-alabaster, (and) paratu-alabaster. I installed on its towers replicas in obsidian of date palms (and) surrounded (them) with knobbed nails of bronze. I made high doors of fir, made (them) fast with bronze bands, (and) hung (them) in its gateways. Beside that terrace I planted a garden for my lordly leisure. I excavated a [canal] from the River Husir (and) [directed it] into that garden. I brought up the remainder of that water to the city plain for irrigation. Within that garden I built a palace, my [lonely] . . . I portrayed therein the victory and might which the gods Ashur and Ninurta, the gods from the reign of the Babylonian kings Adad-shuma-usur (1218–1189 B.C.E.), and Nabu-apla-iddina (Wiseman 1983, 137–8; Stronach 1989, 476). Wiseman (1983) suggests there may be references to gardens in texts from the Old Babylonian period.

109 Grayson 1976, 33 § 125; see infra on gardens.
110 Loud 1938, 49 (see also Loud 1936, 3); “in some manner … in panel, frieze or narrow band, enameled bricks decorated or inscribed may have been used to brighten the interiors of certain rooms.” See also Reade 1995.
113 The earliest attested Mesopotamian gardens are those in the Sumerian city of Uruk, referred to in the Epic of Gilgamesh (XL306). The earliest reference to palace gardens are from the reign of the Babylonian kings Adad-shuma-usur (1218–1189 B.C.E.), and Nubu-apla-iddina (Wiseman 1983, 137–8; Stronach 1989, 476). Wiseman (1983) suggests there may be references to gardens in texts from the Old Babylonian period.
114 Grayson 1972, 42 § 271.
116 Grayson 1972, 120 § 777; 122 § 785.
117 Grayson 1972, 117 § 767; see also 120 § 778.
118 Grayson 1976, 17 § 47 = 1991, 27. He also created game parks (Grayson 1976, 16–7 § 46), which could have served similar functions.
119 Oppenheim 1965, 331 with n. 6.
who love my priesthood, had granted me. [. . .] the palace which is upon the terrace, which is beside [the temple of the goddess] Ishtar, my mistress—which a prince who preceded me had built [(and when) it became dilapidated M}utak}kti-Nusku, my father, vice-regent of the god Ashur, [rebuilt it . . .]—had become dilapidated. That palace,120 the . . . and the terrace [I] entirely [rebuilt]. Opposite the temple which had become dilapidated [I piled up that entire area with bricks] like an oven. [. . .] I restored. The house of the Step Gate [. . .] I constructed. The palace, my royal dwelling, [. . .] . . . I built. I constructed it from top to bottom (and) decorated (it) in a fashion more splendid than ever.121

Ashur-bel-kala also installed irrigated orchards, though he does not mention collecting rare and exotic plant specimens: “The canal which Ashur-dan (I), king of Assyria, excavated—the source of that canal had fallen in and for thirty years water had not flowed therein. I again excavated the source of that canal, directed water therein (and) planted gardens.”122

Ashurnasirpal II, by contrast, not only adopts Tiglath-Pileser I’s innovation of collecting plant specimens during his campaigns, but in what may be seen in part as a game of one-upmanship he boasts of planting no less than 39 different species, the majority of them exotic, in his “pleasure garden.” The competition did not simply consist of introducing the most plant species, however: the economic benefits of doing so would have been significant, but the sheer variety of plants introduced directly attests to the number of Ashurnasirpal’s military conquests. Many of these exotic plants doubtless also contributed to the aesthetic pleasure of the garden, and one can also imagine added amenities such as artificial waterfalls and vine covered pergolas. Although the orchard garden that Tiglath-Pileser created for his “lordly leisure,” and Ashurnasirpal’s “pleasure garden” remained working farms, even at this early date the functions of Assyrian royal gardens are not purely utilitarian.123

The first clear evidence for palatial gardens comes from the reign of Sargon II, who is credited with introducing a number of important changes in the design and function of Assyrian royal gardens (fig. 9). As we have seen, these were formal botanical preserves whose function was primarily if not exclusively utilitarian, whereas Sargon installed a landscaped garden with an artificial “mountain.”124 A foreign loan-word, kirimahu, first appears in Sargon’s inscriptions, where it is used to designate this new garden type. With the construction of Sargon’s palace, Assyrian rulers become the “undisputed masters of monumental garden construction in the Near East.”125

A relief from room 7 of Sargon’s palace may depict his garden. On it one sees a wooded hill with an altar and nearby garden pavilion. The pavilion is decorated with western inspired columns and capitals; and the annals of Sargon, Sennacherib, and Esarhaddon suggest that these garden kiosks were referred to as bitana.126 Stronach believes that the assemblage was meant to reproduce the foothills of the Taurus Mountains.127 Beneath the pavilion is a body of water with two boats at anchor. If a lake were depicted, it would be almost unparalleled in Mesopotamian or western garden design, although Ashur-uballit’s reference to a pond near his palace is a clear exception.128 Sargon’s decision to build his capital on virgin soil facilitated another innovation, for he was able to locate the garden immediately adjacent to the palace, presumably to the northwest where the terrace punctures the city walls:


Evidence indicates that Tiglath-Pileser I and Ashurnasirpal II both installed gardens near their palaces, perhaps just outside the city walls and in direct communication with them so that they would be readily available for use as a royal retreat. Locating them directly adjacent to the palace on the terrace platform would have posed practical difficulties, however, on account of space and also because after centuries of rebuilding, the city and palace terrace stood many meters above the river bed.130

120 Supplemented in Grayson 1991a, ad loc, with: “which is beside the temple of the goddess Ishtar.”
124 Discussion of the garden type and nomenclature by Oppenheim 1965, 331–2; Wiseman 1985, 137–9; Stronach 1989, 477–8; Glassner 1991, 10–2.
125 Stronach 1989, 477.
128 Ponds, however, are an essential and defining feature of Egyptian gardens belonging to the wealthy.
129 Fuchs 1994, 304; see also 309, 340, 353.
130 Margueron 1992, 52; see, however, Dalley’s (1994) reconstruction of the garden of Sennacherib.
The threshold leading to the throne room of the northwest palace of Ashurnasirpal, for example, is situated nearly 17 m above the Tigris riverbed, which the palace overlooked. Nevertheless, it should be observed that if the reference to a park “like Mount Amanus” indicates construction of an artificial hill, then Sargon reintroduced a problem that his relocation of the capital to virgin soil might have avoided.

The inspiration and motives behind Sargon’s innovations is the matter of some dispute. Oppenheim sees the adoption of a foreign term for Sargon’s garden as evidence that the garden type itself was imported directly from the west. Wiseman considers this both unnecessary and unlikely. It is certainly true, as Wiseman notes, that Sargon had the opportunity to observe royal gardens first hand on his campaigns throughout the Near East: Sargon mentions, for example, that the gardens of the Urartian capital Ulhu to the north were the “adornments of that city.” Indeed, any Assyrian king who engaged in extensive military campaigns would have seen a variety of Mesopotamian and other gardens from which he could have drawn inspiration.

Nevertheless, the western inspiration for Sargon’s garden seems indisputable. Stronach affirms the “western” and specifically Syrian character of the garden, but observes that no Syrian ruler would have felt the need to reproduce such a landscape; thus a direct borrowing from an established garden type is implausible. Stronach’s explanation is that these gardens were designed to make a political statement: “a park with this specific ‘Syrian’ character was not meant to be only a choice amenity: it was assuredly also intended to underscore—in striking visual terms—the now firm extension of Assyrian power to the west of the homeland.”

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131 Mallowan 1966, 79.
132 Luckenbill 1927, 87 § 161; see also 90–2 §§ 164–6; Wiseman 1983, 137; Stronach 1989, 477.
133 Sargon’s predecessor, Shalmaneser IV, for example, remarks of the Urartian city, Turupsa: “The trees [which were] the attraction of his royal city, I burned” (Grayson 1996, 87; note that he also boasts of having cut down the gardens of Ahunu, ruler of Bit-Adini, and of Hazael, king of Damascus [Grayson 1996, 21, 29, 48–9, 54, 77–8, 118]). Reliefs from rooms 3 and 60 of the palace of Sennacherib show the Assyrian army cutting down date palms as part of the sack of a city (Russell 1991, 65, 69–72, 75–6, 153–4). A relief dating to ca. 660–650 from the palace of Ashurbanipal in Nineveh depicts the Elamite city of Madaktu with a series of regularly ordered palm and fig trees that Kawami (1992, 86–7) identifies as a suburban garden. In the same relief series Kawami identifies a building located in a terraced grove of palms and other trees as the Ziggurat of Susa plundered by Ashurbanipal around 646 B.C.E. The importance of sacred groves in Elamite religion may explain Ashurbanipal’s boast of having desecrated “the secret groves into which no stranger (ever) penetrates” (Luckenbill 1927, 310 § 809; see Harper 1992, 139, 270–1 with illustration 189; Kawami 1992, Abb. 30; Margueron 1992, Abb. 16 (= Louvre Museum # AO19939).
sonal enjoyment, but also as an instrument of imperial propaganda. Public banqueting ceremonies were held there. Gardens that had once served as a living record of the number and extent of Ashurnasirpal’s military conquests—a sort of botanical equivalent of his annals—now takes on additional prominence as a direct assertion of imperial rule. It thus becomes no less integral to the overall conception of the palace than the animals located at the palace doors, the portico itself, modeled after a Syrian bit-hilâni, and the reliefs and inscriptions lining its walls.

Sargon’s precedent was soon followed. His son and successor, Sennacherib, boasts of planting luxurious gardens at Nineveh and at Assur with a wide variety of aromatic and fruit trees, including the olive (fig. 10). As we have seen, Sennacherib also describes his palace garden as “a great park like unto Mt. Amanus.” A relief from the palace of Ashurbanipal (BM 124939; see also 124920) may depict this very garden: a porticoed pavilion is shown atop a hill crisscrossed by irregular earth lined water courses and planted with alternating trees and vines. These water courses are fed by an arched structure resembling an aqueduct and surmounted by rows of trees in an arrangement that has been seen as a possible precursor to the Hanging Gardens. In fact, Dalley has recently argued that these are the Hanging Gardens, which were at a much later date falsely attributed to Nebuchadnezzar (figs. 10–11). In another relief (BM 124920), Ashurbanipal is seen dining on a couch in an orchard pavilion as his wife sits facing him. The head of the Elamite king Teumman, which hangs from a ring attached to a nearby tree, suggests that he just returned home from a campaign: the garden is depicted as an ideal place to relax and enjoy an intimate dinner afterward.

135 Oppenheim 1965, 331: “with the Sargonids, the royal interest in gardens definitely shifts from utilitarian to display purposes.”
136 In addition to the palace description, supra, see Wiseman 1983, 138; Margueron 1992, 71.
137 See Sennacherib’s description of his palace, quoted supra; Esarhaddon (Borger 62) repeats the boast.
The foregoing historical survey allows us to pose some concrete questions, while the archaeological survey permits us to suggest some answers. It should be conceded in advance that we will never know exactly how knowledge of Mesopotamian literature and palatial architecture could have reached the Greek world and left their imprint on Homer. I am therefore only interested in offering some plausible scenarios for how this might have happened.

The historical time frame in which knowledge of the Assyrian palaces would have most plausibly found its way into epic tradition begins with the arrival of Tiglath-Pileser III in the Levant (738), and ends approximately once century later with the death of Ashurbanipal (631). It seems legitimate to assume that the memory of the palaces and their gardens could have endured for some time afterward, since they presumably would have been famous as the finest contemporary palaces of the Near East. In fact, the palaces would have been a more inviting target of epic appropriation after the fall of Assyria (612), as they now belonged to the past and could help create a temporal as well as "exotic" distancing effect. In any event, application of the three generation rule to their memory brings us well into the sixth century and Peisistratid Athens.

The geographic framework is similarly circumscribed: by the time that Tiglath-Pileser III arrives in the Levant, the Euboians were an established presence in the region. Euboians then living at the emporion of Al Mina would be in a position to learn about the Assyrian palaces from the local governor and his administration, and from Assyrian soldiers and merchants. Euboia’s neighbor, Athens, was also active in the Levant, and may have also played an important role in the transmission of eastern culture to Greece. It may be assumed that the Phoenicians and Greeks possessed some independent knowledge of the imperial city, brought back by merchants who traveled along the same caravan route as the Assyrians, and by officials offering tribute or invited to the consecration of the palaces.140

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140 Interest in the Levant is clearly reflected in the Odyssey, but attitudes toward trade are somewhat enigmatical, and the historical realities that stand behind them are difficult to pin-point: Odysseus, in his disguise as a beggar, indicates that he lived for a time in Phoenicia as the guest of a disreputable Phoenician merchant; and Euryalos insults Odysseus on Skheria by claiming he is a merchant captain “snatching after profits” (Od. 8.164), an occupation that implicitly excludes him from elite athletic competition (Od. 14.288f.); but Athene, disguised as a Taphian prince, casually mentions that she is sail-

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**Fig. 11. Reconstruction of the Hanging Gardens. (From Dalley 2002; reproduced with permission of the author)**
Visitors to Cyprus could have met with merchants in regular contact with the Levant, and in some cases in direct contact with the Assyrian court. Phoenician commercial activities strengthened these same lines of communication, and added important new ones, above all on Crete, though other islands of the Aegean, such as Aegina, could have also played a role.

What, then, could the merchants, mercenaries, and pirates who sailed along these routes have learned about the Assyrian palaces? Access to the palace interior and the gardens was highly restricted, and only the Assyrian governor and invited dignitaries can be assumed to have seen them. It is thus important to observe that the Odyssey focalizes the description of Alkinoos’s palace through the eyes of someone standing before its entrance. No less noteworthy is that once the narrative takes us inside it reverts to a “generic” Homeric palace with a few exotic touches such as the golden youths. Such exotica, moreover, can be said to reflect the “exaggerated expectations” about the interior spaces that the Assyrian rulers hoped to raise through the opulence of the palace entrance.

The most distinctive features of Alkinoos’s palace thus belong to the palace exterior and have clear parallels in Assyrian palatial architecture: the entranceway, with its golden doors and door handle, silver columns, and brazen threshold, and the magical guardian animals of gold and silver that stand to either side of it; and the walled and irrigated garden directly adjacent. The interior features, on the other hand, are less detailed or distinctive, and more fanciful: golden statues of youths holding torches, and bronze walls with a horizontal blue band near the ceiling. The account thus reflects the knowledge and suppositions that would have been common among merchants who traveled along the caravan routes between Assyria and the Levant. The detail lavished on the garden of Alkinoos could suggest a somewhat higher level of familiarity. That the Assyrian gardens were walled and fed by irrigation canals would, however, have been obvious to the casual observer; that they were botanical preserves may have been well known if they were in fact meant for display purposes. Continuing to “men of foreign speech” in Temese in order to trade iron for bronze, a place probably to be identified as Tamassos in Cyprus (see S. West 1988, ad Od. 1.184). These comments can be reconciled by assuming an elite rhetoric of hostility toward traders—thus acknowledging them as a nonelite element of society, and perhaps as a threat to the elite ideal that wealth follows rank—and also by assuming that the elites themselves distinguished between traders and trade, thereby allowing for occasional necessary trade to dispose of surpluses and obtain needed supplies. In any case, the frequency of trade between the Levant and the Greek world should not be exaggerated, and language barriers would have certainly been a factor under the scenario I have outlined. For a detailed review of the Homeric material, which reaches different conclusions, see Tandy 1997.

Monumental Statues

A detailed consideration of some of the individual elements of the Homeric material, beginning with the statues in Alkinoos’s palace, yields further insight. The dogs guarding the palace and the torchbearing youths are the only statues mentioned in Homer except for the seated statue of Athene in her temple at Troy: the goddess may be Greek, and the passage would seem to reflect her cult at Athens, but Troy itself is ostensibly a Near Eastern city. From this one may infer that the Homeric audience was familiar with statues, and associated them with Near Eastern monumental architecture, but would have found any mention of Greek statuary anachronistic.

Heraldic flanking is a popular motif in Greek art from the Bronze Age into the Archaic period. Alkinoos’s gold and silver guard dogs thus have clear antecedents in Greece, though there is no evidence for their use at the entrances to palaces, or to important dwellings of any kind, in the Homeric period or before. Moreover, the description of the dogs as animate gives them magical properties as talismans that are alien to monumental Greek statuary. Our closest Bronze Age parallels are probably the griffins located in the throne rooms at Pylos (although one has been restored) and at Knossos, and the Lion Gate at Mycenae.

Faraone is thus surely right to seek the antecedents for Alkinoos’s dogs in the statues and figurines used to protect the doorways of Near Eastern palaces, and in particular those of the Neo-Assyrian kings. Faraone shows that the Odyssean account is one of five examples of a Greek mythological tradition in which Hephaistos makes and animates guardian animals, and that the extra-Homeric traditions seem to involve locations with easy and regular access to Anatolia and northern Syria. Among the
Greek accounts that Faraone cites, however, only Homer describes pairs of animals, or the animals as guarding a palace. During the ninth through seventh centuries, the most famous Near Eastern examples of paired animal statues in metal stationed at palace doorways as talismans would have been those erected by Ashurnasirpal and his successors. The choice of monumental dog effigies to guard the palace of Alkinoos is a Greek touch. Virtually all of the early Near Eastern examples of dogs used as guardian animals are figurines. Bronze dog figurines were deposited in a well belonging to the palace of Ashurnasirpal II; and clay dog figurines were deposited in groups of five in niches on either side of the palace door of Ashurbanipal. About a century later, another group of five was deposited beneath the floor of a palace located in the city of Ur. Some evidence exists for life-size dog statues in Egypt in the eighth and seventh centuries. Kawami, however, thinks it possible that the Achaemenid rulers of Egypt were essentially responsible for introducing the motif into Egyptian art. At any event, monumental dog statues do not seem to have become popular there until the Hellenistic period. A pair of seated dogs, dated on stylistic grounds to the late sixth or early fifth century, apparently guarded the vestibule of the Apadana erected by Darius at Persepolis. These statues are unique in Iranian art, however, and both the sculptor and his sculptural language are Greek. A roughly contemporary pair of dog statues has been found on the Athenian Acropolis (late sixth century) and a single dog originally belonging to a pair was found in the Kerameikos.

Archaeological parallels for Alkinoos’s dogs are thus rare, late, and generally unconvincing. At the same time, it is not hard to supply a motive for the innovation, assuming it is that: dogs would have been the obvious choice of anyone who wished to translate the protective functions of the Assyrian statues into the Greek cultural vocabulary, or the developed imagery of the epics. Moreover, as a display of conspicuous consumption, gold and silver dogs surpass even their Assyrian counterparts. Thus, by changing the identity of the animals, the Odyssey has preserved both of the primary functions of the statues stationed in the doorways of the Assyrian palaces: protection and display.

Equally unparalleled in a Greek context are the golden youths illuminating the megaron with torches. Freestanding male statues of this scale are essentially unattested on mainland Greece before the second half of the seventh century, and they were not used as household decorations before the Hellenistic period. Torchbearing statues are to my knowledge unattested in the Near East during this time, although household furniture is sometimes modeled on the human form, in Assyria and elsewhere (figs. 12–13). Moreover, Tiglath-Pileser III boasts of having set up a golden statue of himself in the palace at Gaza, an Assyrian emporion. Perhaps it is not entirely far-fetched to imagine reports of this statue combining with “exaggerated expectations” about the riches inside the Assyrian palaces to produce the golden youths of Alkinoos. In any event, such statues would have clearly been perceived as exotic to an Archaic Greek audience, including in the context of the “Homeric” world.

The Palace Garden

In a seminal article on Assyrian palace gardens, Oppenheim writes: “For a garden comparable in purpose and perhaps also in time with the [pre-Sargonic] kirigardens of the Assyrian kings before the west exercised its influence, see the description in the Odyssey (VII 112ff) of the garden of Alcinoos.” His intuition is sound, but the inference that historical Greek rulers incorporated walled and irrigated gardens into their “palaces” has no archaeological support whatever. In fact, gardens of any kind or size are unattested in pre-Classical Greek architecture as part of a domestic building complex. Indeed, the rise of the polis, and with it settlement nucleation and a clear division between astu and chora, meant that gardens were located outside the settlement proper. Carroll-Spillecke thus seeks to identify Alkinoos’s entire palace complex.

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142 Curtis and Read 1995, 116–7 with further bibliography; Kawami 1986, 261; Faraone 1987, esp. 266–9; Postgate 1994. For dogs on shields and keys to a temple, see Luckenbill 1927, 96 § 173. Faraone (1987, 266–7) uses a single inscription from the reign of Sennacherib (Luckenbill 1927, 190 § 454) to generalize dogs in the vocabulary of Assyrian apotropaic art, but Kawami (1986, 261 n. 18) observes that the text is uncertain. If dog(s) are even mentioned they are not freestanding.


145 Kawami 1986, 262.

146 Fisher 1980; Kawami 1986, 262–3; for a later example, see Curtis and Reade 1995, 116.


149 On the diffusion of furniture types and the messages that imported types could convey, see Paspalas 2000.


151 Oppenheim 1965, 331 n. 6.

152 Earliest reference to a private garden: Thyc. 2.62. Further ancient references gathered in Carroll-Spillecke 1989, Tabelle A.

153 Carroll-Spillecke 1992, 156.
plex as a farm, but there is no archaeological parallel for this theory either, and the identification is rendered implausible both by the Near Eastern elements of the palace architecture, and by the layout of the garden itself. There is no archaeological parallel for a walled farm from the Archaic Greek world, whether or not it is irrigated and whether or not it is attached to its owner’s house.\textsuperscript{154} Its location within the central township (\textit{astu}), which is also situated on a peninsula, is proof, if proof were needed, that the palace complex is an intrusive element that has no part in the characterization of Skherie as a colonial settlement. Stanford is thus at least partially correct to argue that the garden “is hardly paralleled in classical Greek literature. Oriental or Minoan influence is likely.”\textsuperscript{155} Again, the lack of parallel is not just literary, but also archaeological.

Attempts to draw correlations with Bronze Age palace gardens of Minoan Crete are no less problematic. A fresco painting from Amnisos supplies a possible example of a walled formal garden with Egyptian characteristics, but this could represent artistic borrowing; no material evidence for an actual garden has been found at the site.\textsuperscript{156} Shaw has recently argued for the existence of a garden at the palace of Phaistos.\textsuperscript{157} This would have been a small and unwalled rock-garden planted with flowers and representing an idealized natural landscape. Neither its function nor design bears any resemblance to the working farm attached to Alkinoos’s palace. Graham regards gardens as a characteristic feature of the Minoan palaces and has restored additional gardens at Knossos and Mallia.\textsuperscript{158} The gardens he imagines, however, are again typologically unrelated to those of Alkinoos (although if Graham is right, the "garden" at Knossos was enclosed by a low retaining wall, which is in fact his sole piece of archaeological evidence in support of restoring gardens at any location).\textsuperscript{159}

\textsuperscript{154} Caroll-Spillecke 1992, 154.
\textsuperscript{155} Stanford 1959, ad Od. 7.122ff.
\textsuperscript{157} M. Shaw 1993, 680–5.
\textsuperscript{158} Graham 1987, 87–91; see also 95, 123, 241.
\textsuperscript{159} No location is explicitly mentioned for the temenos belonging to the Pylian wanax on tablet Er 312 (or the temenos of the lawagetas listed on the same tablet), but it was probably located in \textit{sa-ra-pe-da} based on connections the tablet shares with Un 718 and Er 880. \textit{Sa-ra-pe-da} is known to be the location of the orchard of e-ke-ra2-wo, whom Palaima (1995) has recently argued should be identified with the Pylian wanax. Elsewhere (2002), Palaima notes that Er 312, Er 880, and Un 718 are all written by hand 24, and argues that the scribe is a specialist in the area called \textit{sa-ra-pe-da}. The land holdings of e-ke-ra2-wo are of particular interest as they seem to include plots of 1000+ fig trees and 1100+ vines. We do not know where \textit{sa-ra-pe-da} is located, but given the amount of land in agricultural use it cannot have been contiguous with the palace.
The garden of Alkinoos is described as a seasonless paradise, with pears, pomegranates, apples, figs, olives, and grapes at all stages of maturity so as to yield a continuous harvest of fruit. Its closest analogy in Homer is the climate on Mount Olympus and Elysium, the earthly paradise to which the fortunate few are transported at the end of their lives. Possibly its only archaeological parallel from the Greek world before the Hellenistic period is again the fresco series at Pylos, which can be understood as portraying the megaron itself as a kind of earthly paradise designed to assimilate the enthroned wanax into the land of the blessed (thereby underscoring his relationship with divinity). Here it is important to note the likelihood of Near Eastern influence on such beliefs. In the Epic of Gilgamesh, the ageless ruler Utnapishtim resides in an earthly paradise on the island of Dilmun; the epic seems to have exerted a formative influence on the Phaiakis. A parallel can also be drawn to the Biblical Garden of Eden, in which every tree is said to grow that is pleasant to the sight and good for food (Gen. 2:9). Yahweh strolls in Eden like Ashurnasirpal in his “pleasure garden,” and when he drives out Adam and Eve he stations sphinx-like cherubim to guard its eastern entrance.

In contrast to Bronze Age Greece, walled monumental gardens are an essential and distinguishing characteristic of elite residences throughout the Near East from the Bronze Age to the present. Gardens thus would have naturally been included in any generalized image that the Greeks had of the cities and palaces of Near Eastern monarchs. Nevertheless, there are significant and distinctive differences both between cultures and over time in the size, organization, and uses to which these gardens were put. I suggest that the best typological fit for the garden of Alkinoos is the royal gardens of Meopotamia in the first millennium B.C.E., the most famous examples of which were Assyrian (assuming that “Hanging Gardens” existed in Babylon, they seem to have been based on Sargonid models and are in this sense at least “Assyrian” as well).

We do not know whether Phoenician kings had palace gardens, though owing to site limitations these are apt to have been fairly modest affairs, “pleasure gardens” in the restricted sense of the term. The garden located within an open courtyard in the palace of Ugarit may be representative: again, it has little in common with the garden of Alkinoos.

The most obvious alternative source of inspiration for palatial gardens is of course Egypt, but here too the differences are striking. It is true that Egyptian gardens are walled and irrigated, as in any hot and arid land. In Egypt, however, the wall typically encloses both house and garden, so that the house is situated within the garden environment, though gardens are also sometimes located within the forecourt or another open courtyard within the building complex. As important, the central defining feature of the Egyptian garden is a rectangular or T shaped pond(s) that is the source of irrigation. Already in the New Kingdom one also observes an important shift in garden design to what has been termed “luxury gardens”: the difference with Alkinoos’s garden becomes greater still. Schäfer thus rightly denies any typological affinity between the garden of Alkinoos and the palatial gardens of Egypt or of Minoan Crete:


The garden of Alkinoos and of Ashurnasirpal II have the following points in common, which serve others it would have been small (Yon 1997, 110).

More generally, Oppenheim (1965, 332) remarks that “the peristyle garden . . . is characteristic of the civilizations on the shores of the Mediterranean wherever an atrium type house is found.” Glassner (1991, 14) draws a pointed contrast with the Assyrian gardens: “à l’opposé des jardins ouest-sémitiques où la nature était domestiquée et contrainte à l’extrême, chaque arbre étant émonde et la moindre haie ou plante taillée . . . les jardins royaux assyriens et babyloniens se voulaient, au contraire, des imitations de la nature, l’homme laissant les arbres et les fleurs coître à leur guise.”


162 The palace complex has a footprint of approximately 10,000 m², 7,000 of which were taken up by the palace itself. It was constructed in numerous phases from the 15th to the 13th centuries. The Late Bronze Age palace was walled, as was the city, although it is unclear whether the city was still protected by fortifications in its final years (Yon 1997, 41). The garden, in the center of court 3, measures approximately 12–15 × 21 m, is enclosed by a stone wall, and contains a pavilion (Yon 1997, 51–3; Margueron 1992, 72–4). Irrigation would have been provided by the system of canals that supplied the domestic needs of the palace (Yon 1997, 59). House B, 120 m² in size, also appears to have had a garden (Yon 1997, 88–92). The house of Agisphari may have had an enclosed garden, but like
to distinguish them from those of Egypt. They are not integrated into the palace as courtyard gardens, nor is the house integrated into them through its enclosure within the garden’s own perimeter wall, but rather attached to the palace or located nearby. They are also irrigated, Ashurnasirpal’s by a canal, Alkinoos’s by a spring, which also supplied water to the city. Most important is their function: although they are also a source of pleasure, the gardens of Alkinoos and of Ashurnasirpal are working farms whose owners collected a number of exotic plant specimens. Ashurnasirpal’s catalogue of plants in his Annals far outstrips, but is functionally comparable to, the Homeric catalogue in the Odyssey. In fact, each of the plants named in the Odyssey recurs in Ashurnasirpal’s own list; the delights of his well irrigated garden, which must have seemed almost miraculous in the harsh climate of Calah, can be directly compared to the Odyssean description of Alkinoos’s garden as a seasonless paradise.

As we have already seen, the Annals of Sargon provide our first clear evidence for locating the royal garden contiguous with the palace. In this respect, the gardens of the Sargonids may resemble the garden of Alkinoos more closely than those of Ashurnasirpal and his predecessors. In other respects, our picture of Assyrian royal gardens changes with Sargon in ways that may distance them from what we find in Homer. Most important, the Assyrian reliefs seem to depict the Sargonid gardens as reproducing an idealized natural environment with hill, paths, and streams. One must take into account pictorial convention, which may reproduce ideology more faithfully than appearance: whether or not we imagine these, or some of these, gardens as terraced, the fairly regular arrangement of the trees and the alternating vines shown on the reliefs do not suggest a wholly “natural” environment. Sargon and his successors continued the venerable tradition of collecting trees and other plants from throughout the empire and even beyond. Although under the Sargonid rulers they were increasingly used for display purposes, and as pleasure gardens for the king’s personal entertainment, Assyrian gardens continued to have utilitarian functions throughout their history. It thus seems entirely plausible that news of the magnificent and exotic palatial gardens designed to advertise the wealth and power of the Sargonid rulers of Assyria reached the Greek world by the end of the eighth century and throughout the seventh. Yet, as Oppenheimer recognized, the closest match for Alkinoos’s garden in the Near East may be the earlier garden of Ashurnasirpal II.

CONCLUSION

In sum, the conditions necessary for the diffusion of knowledge from Mesopotamia to the Greek-speaking world obtained throughout the century-long period from the arrival of Tiglath-Pileser III in the Levant to the death of Ashurbanipal. A century and a half before Tiglath-Pileser arrived, Ashurnasirpal II had built his palace and royal gardens at Calah. Parts of the palace remained in use throughout this period, and both it and the garden doubtless shared in the legendary status of their builder. Tiglath-Pileser began work on a new palace, but never completed it; Sargon, Sennacherib, and Ashurbanipal built other palaces, using resources and personnel imported from Syria and the Levant. Before the seventh century, the most direct route by which knowledge of these palaces could have reached mainland Greece was from Cyprus and the Levant to Euboia and Athens. Crete was also important from an early date, and the Cycladic islands must have also played a role in the early diffusion of eastern knowledge.

It bears emphasizing again that the palace of Alkinoos can be understood as reflecting contemporary Greek stereotypes of Near Eastern palatial architecture. Nevertheless, the Odyssey describes an architectural ensemble that corresponds most closely to Assyrian palaces built from the ninth through seventh centuries: this timeline is crucial because the Odyssey almost certainly drew on contemporary palaces in its description, and knowledge of the Assyrian palaces would have been available at any time currently maintained for the origins of the manuscript traditions of Homeric epic. The architectural ensemble includes a monumental entrance doorway, clad in white and yellow metals, and guarded by talismanic animal statues, which from the reign of Sargon were also in metal. A second distinctive feature of the ensemble is the contiguous, walled and irrigated garden containing exotic plant specimens. Parallels for other features, such as the blue banding on the walls, and the golden statues of youths, are found in Assyrian architecture, but these embellishments are best understood as part of a general image of Near Eastern opulence.
the Netherlands Institute at Athens 2. Amsterdam: J.C. Gieben.


The New Galleries of Ancient Art at the 
Walters Art Museum, Baltimore

ELIZABETH BARTMAN*

In a ranking of North American museum collections of ancient art, the Walters Art Museum (formerly called Gallery) in Baltimore places in the top tier. Its extensive Egyptian holdings are especially rich in Late Period stone sculptures, its Greek collection includes superb small-scale bronzes and vases, its Etruscan material is renowned for its range and quality, and in the Roman section it can boast some of the finest sarcophagi in the world. The recent reopening of the ancient collection after an extensive building renovation presents an appropriate opportunity both to assess the collection and to consider how the Walters shapes contemporary perceptions of the art of antiquity.

Unlike such peer institutions as the Metropolitan Museum of Art, Brooklyn Museum, or Museum at the University of Pennsylvania, the Walters never sponsored Old World excavations from which it received legal title to a portion of the finds. Instead its collection is largely the product of the enthusiastic and discriminating taste of museum founder Henry Walters (1848–1931)1 and the perspicacity of its long-serving (1931–1974) curator Dorothy Kent Hill. Walters and Hill bought from the market, either at auction or through dealers who on occasion acted directly as agents. Dikran Kelekian, one of the best known dealers of the time, worked for Walters in this capacity while the list of other European dealers from whom the collector bought—Ercole Canessa, Arthur Sambon, Joseph Brummer, Robert von Hirsch—reads like a “Who’s Who” of the major players in the early 20th-century antiquities market. Although Walters collected in a competitive environment—rivals included other private collectors like Carl Jacobsen in Copenhagen, whose holdings form the basis of the Ny Carlsberg Glyptothek, and institutions like the Metropolitan and Museum of Fine Arts—there are no surviving reports of scandal or double-dealing in connection with his acquisitions.

Perhaps the most consequential decision of his collecting career was Walters’s purchase of the entire Massarenti collection in 1902. Almoner of the pope, Don Marcello Massarenti amassed a substantial collection of Old Master paintings and antiquities in the last decades of the 19th century. A catalogue of the collection—its publication date just a few years before the sale makes it look suspiciously like a marketing device—lists hundreds of works, which Massarenti housed in the Palazzo Rusticucci-Accoramboni near the Vatican.2 Among the antiquities were terracotta urns from Palestrina, Greek vases from Ruvo, Taranto, and other south Italian sites, and a number of the marble sarcophagi associated with the Tomb of the Licinii at the Porta Salaria.3 Massarenti’s acquisition of this latter group, the finest of the burial chests from one of the most spectacular archaeological discoveries of the age, makes clear his dominance in the thriving market that was fed by finds made accidentally during the post-unification boom of construction in Rome and its environs. The Massarenti antiquities document not only this explosion of excavation and accompanying popular interest,4 but also, in the case of the large-scale marbles, the techniques and tastes of restoration at the time. The Massarenti collection thus forms a time capsule of late 19th-century collecting in Rome, and for this

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1 The origins of the museum actually lie in the collections assembled by Henry’s father, William (1819–1894), but Walters père did not collect antiquities. During his lifetime Henry regularly opened parts of his collection to the public; upon his death the collection was bequeathed to the City of Baltimore.

2 Esbroeck 1897; Hill (1974) discusses this little-known collection.

3 On recent doubts about whether the sarcophagi actually belonged to the Licinii, Grassi, or other prestigious families to whom they have long been linked, see Kraghund et al. 2003.

4 Much of this building activity took place on the Esquiline (Cima 1986). Beginning in 1888 and continuing for several decades, the Italian archaeologist Rodolfo Lanciani fueled this popular interest with books chronicling the new finds.
reason it is regrettable that the Walters sold off a number of Massarenti marbles in 1991.5

In the new installation unveiled in October 2001, ancient art occupies over 11,000 square feet of the second floor of the Centre Street Building, a 1974 addition to the original Beaux-Arts home of the museum. A lofty and bright stone-paved space, sparsely adorned with a few representative works of art,6 functions as a formal gateway to the major cultures of the ancient Mediterranean and Levant: Egypt and the Near East in their respective galleries and, as a unified continuum, Greece, Rome, and Etruria. My lack of expertise precludes detailed discussion of the former, but the revelation of an impressive portrait of Amenhotep II once the false nose of a granite head was removed (fig. 1) deserves mention.

5 Sotheby’s New York, 12–13 December 1991, nos. 65, 75, 76, 102, 103, 104, 105, 106, 107, 108, 109, 111, 112, 120, 240, 242, 243, 245, 246, and 249. Works acquired by Walters from other sources were also sold (see lots 61, 64, 72, 73, 74, 77, 79, 110, 114, 115, 237, 238, 239, 241, 244, 247, 248, 250).

6 There is also a small case that features short-term “mini” exhibitions drawn primarily from the museum’s own holdings. Recent subjects include Egyptian faience, south Italian painted vases, and images of the god Serapis; the show built around each presented an informative introduction and provided the opportunity to show a broader range of works than space in the permanent galleries permits.
Cleaning and conservation, in fact, was undertaken on many works while they were off display during the renovations, and this review will highlight some of the Conservation Department’s significant findings.

Greek and Roman art occupies choice gallery space along the perimeter of the building, where natural light from high clerestory windows supplemented by spotlights provides excellent viewing conditions (fig. 2). (Egypt, in contrast, evokes the mystery of the tomb by its placement in a series of interior rooms painted deep gray.) In plan the galleries consist of two expansive, high-ceilinged spaces laid out in an “L” with a series of more intimate rooms adjoining; the latter are discrete and accessible only from the primary gallery, so the visitor is offered essentially only one route, or narrative, through the collection. The curators have defined this narrative by chronology as well as culture.

We begin in the first room of the galleries with the pre-Greek cultures of the Cyclades, mainland Greece, and Crete, which segue into the Geometric and Orientalizing periods. Walls of blue-gray immediately suggest the sea-washed Greek islands, but their echo of the color used in the nearby Egyptian and Near Eastern galleries also reminds us of the interconnections that existed between the various cultures of the Mediterranean during the Bronze Age. The organizing principles adopted in the various display cases range from material and function—spectacular bronze fibulae for example—to period style such as Orientalizing. A deservedly celebrated plate by the Gorgon Painter (inv. 48.215) holds pride of place in the case devoted to the latter; to grasp the profound contribution of the Etruscans to the art of this era we will have to wait until farther along in the galleries. A small case devoted to Minoan Crete displays a chryselephantine statuette of a goddess (inv. 71.1090) whose authenticity has long been questioned. Although such issues can rarely be proven, some discussion of the debate would be both instructive and fascinating to viewers.

Two Attic black figure amphoras, standouts in a strong assemblage of vases, stand as sentries in the passage to the long gallery devoted to Archaic and Classical Greece. Archaic Greece is well represented by the Walters vases and famed small bronzes, while a fragmentary, headless kouros (inv. 23.279), a recent purchase, conveys the Greek sculptor’s early achievement in stone-carving. Like a number of other key pieces, the kouros is set off architecturally by its painted backdrop and footed pedestal. At first the beige (carpet) and mushroom (walls) colors of the decor seem an unconventional choice, but in fact these neutrals form an ideal, noncompetitive backdrop for the varied materials on display; from orange Attic clay to white marble topaginate bronze, each of the objects acquires a luminous presence in this surround.

Security concerns presumably drove the curators’ decision to display virtually all of the Walters’s ancient jewelry, whether Egyptian or Greek, ancient Near Eastern or Roman, together in an alcove-like “treasury” off the main gallery. Unlit except for the dramatic spotlights on works, which rest on velvet, the treasury is conventional in both its design and concept. Individual labels are brief, and regrettably but few visitors will read the longer discussion of the techniques of ancient jewelry printed on a wall panel. Walters himself had a particular passion for jewelry—both ancient and

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modern—and the so-called Olbia Treasure, a cache of Hellenistic gold bracelets and necklaces with inset stones, represents perhaps the most spectacular ancient jewelry in the United States.\(^8\) Also noteworthy are the three gold medallions said to be from Aboukir, Egypt. The two that represent Alexander and a woman (his mother, Olympias?) share many stylistic features, but in both style and size the third, depicting Caracalla, is so different that one must question the tradition that they share a single findspot.\(^9\)

Throughout the major gallery the displays are varied and visually stunning. In addition to the expected clusters of related objects such as Etruscan cistae or Roman portraits, there are cases that use works in different media to illustrate specific themes such as Greek women, the Dionysiac circle, and Roman religion. This is an aesthete’s exhibition, where each object is exquisitely presented. Occasionally aesthetics trumps didacticism. Fragmentary statues such as the headless wounded Amazon (inv. 23.92), for example, would benefit from explanatory drawings that show them hypothetically completed. In addition, the methodological problems raised by relying on Roman copies to reconstruct Greek “masterpieces” and to write a history of Greek art are not frankly addressed. Although the Walters is hardly alone in its interpretation of these statues as unproblematic reflections of the Greek past, scholarship today has shifted its focus to their Roman aspect. Thus in addition to being seen as possible reflections of the oeuvre of Greek sculptors such as Polyclitus and Praxiteles, the so-called Westmacott Athlete (inv. 23.24) and Pouring Satyr (inv. 23.22) are seen in modern scholarship as works carved by Roman sculptors for Roman patrons who used them to decorate their houses and public buildings. But this idea is not addressed in the Walters exhibition.

A related issue arises in the adjacent Hellenistic gallery, where the likely Roman provenance of many objects is downplayed in order to recreate the culture of Hellenistic Greece.\(^{10}\) The placement of this room at the base of the main gallery’s “L” implies the historical and artistic role of the Hellenistic period as the bridge between classical Greece and Rome, yet the notion of Hellenistic as both a Greek and a Roman phenomenon goes undeveloped. To be sure, several archaistic pieces hover on the fringes of the Roman section, but to read the nearby wall panel that introduces the art of Rome, the Romans never looked east during the eight centuries of the Republic. Had the Hellenistic display incorporated more of the Museum’s fine Ptolemaic images, the connections to Rome would have been underlined. Although the justly celebrated bronze statuettes of Alexander and a triumphant Ptolemy (inv. 54.1045 and 54.1050, respectively) do make their appearance, the absence of several choice portraits in marble and hard dark stones—displayed in the Egyptian rooms rather than here\(^11\)—means that an important source for the nascent Roman art of portraiture goes unacknowledged. In addition to linking the Ptolemies to Rome, the inclusion of realistic portraiture in the Hellenistic gallery would also have underscored the protean nature of imagery during this period, a feature that has traditionally made it difficult to comprehend. Moreover it would have provided a different effect than the other images on display, a kind of masculine counterpoint to the overt effeminacy of pastel-colored Tanagras, draped Muses, and pretty Aphrodites. The product of a vast empire that embraced diverse cultures, Hellenistic art is as much a reflection of conquest, internationalism, and politics as of the comforts of home and seductions of the boudoir that predominate here.

The gallery’s Roman installation begins formally with a cuirassed torso (inv. 23.80) set into a free-standing alcove. With its obvious reference to the Roman military, this piece is no doubt a crowd pleaser for the numerous groups of schoolchildren who tour the museum. Its fragmentary condition, however, demands a stretch of their imaginations. This did not have to be, for when acquired the torso was fully restored with an ancient head (the magnificent Marcus Aurelius [fig. 3], now separately displayed) and what look to be modern limbs, strut, and base. As in collections elsewhere, these restorations were removed in the 1970s and 1980s in an attempt to recover the “authentic.” Many museums now regret their interventions, for in removing restorations they not only destroyed what in some cases represents work done by the

\(^{8}\) For some discussion, see Reeder 1988, 234–8 nos. 131–3.
\(^{9}\) The three are inv. 59.2, 59.1, and 59.3, respectively.
\(^{10}\) An exception is marble statue of Alexander (inv. 23.121) that is clearly labeled as a Roman creation.

\(^{11}\) E.g., heads inv. 22.226 and 22.9. The artificiality of this departmental division is underscored by the absence of a legal definition of “Hellene” and “Egyptian” in Ptolemaic Egypt. See Goudriaan 1988, 119.
finest sculptors of the period, but also erased evidence of a critical episode in the history of the piece and, by extension, of the reception of the antique. In the case of the Walters torso, it should also be noted, the principle of authenticity has already been violated by the decision to leave some modern additions such as the shoulders and right hip attached. 

Certainly the head of Marcus can be better appreciated when seen as it is now at eye level, but to the extent that no ancient viewer would ever have viewed it from so close, the present display emphasizes the object’s aesthetic values over its archaeological.

The head of Marcus is but one of a number of superb Roman portraits on display. More than 20 well-selected portraits provide a full sampling of

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12 This can fairly be said of the 18th century, when such sculptors as Carlo Albacini and Bartolomeo Cavaceppi restored ancient statues. The Walters has a sarcophagus currently in storage that was restored by Cavaceppi (inv. 23.219).

13 For views of the statue in its restored state and as it would look if the still existing modern additions were removed, see Gergel 1987, figs. 3 and 4, respectively.
the various styles and genres of Roman portraiture. Republican and imperial, bronze and marble, male and female, public and private—the Roman populace reveals its polyglot character. The empire’s inclusiveness is also well conveyed by the works in the nearby case devoted to Roman religion, for here we see Mithras side by side with Venus and Isis. (Here one would like to see the painted mummy portrait of a man, inv. 32.6, and the woman’s cartonnage mask, inv. 78.2, that at present are displayed in the Egyptian gallery. Found in Egypt, they depict Romans who were buried according to the local custom; the cultural mélange they represent—so typical of the cosmopolitan lifestyle of the empire—is only fully grasped by comparison with other Roman images.) Amidst the portraits is a smattering of other works, among them a stunning bronze of a young boy (a sexy boy?14 fig. 4), who seems to be dancing. Conservation led to the conclusion that he had been posed incorrectly, and now he moves with an even jauntier step.15

Parallel to the long inside flank of the Roman gallery is a smaller space devoted to the Etruscans. A glass case filled with fine bucchero and some choice hut urns separates the two cultures, but its transparent sides and the easy access between the two spaces underscores the close geographic and artistic relationship between Etruria and Rome. It is a shame that the archaic—especially Orientalizing—Greek works to which Etruscan artists often responded could not have been displayed in closer proximity. From painted antefixes to bronze statuettes to ivory boxes, however, the wealth and range of Etruscan art is handsomely presented. The late 19th and early 20th centuries was a time of intense excavation in once-Etruscan territory, and an active buyer like Henry Walters was able to snare pieces of superb quality like the ivory pyxis carved in registers, now known to be from the celebrated Regolini-Galassi tomb at Cerveteri.16

For many visitors the highpoint of the Walters collection is the group of Roman sarcophagi found in 1884 in an underground tomb near the Porta Salaria in Rome. Of the original 12 chests, 7—arguably the finest—reside in Baltimore (fig. 5).17 Although they may belong to a single (extended) family, they range in date from ca. 130 to 220 C.E. and represent a variety of themes and types. As an ensemble they present a rare opportunity for the visitor to engage with a host of artistic and teleological

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14The description refers to a group of Roman statues, some of which represent attractive slave boys (Bartman 2002). Like some of them, he has a prepubescent body and an unusual braided hairstyle not found in contemporary portraits of youths.

15For a discussion, see Mattusch et al. 1996, 247–51 no. 28.

16Hill 1974, 11 and fig. 7.

17Inv. 23.29, 23.31, 23.32, 23.33, 23.35, 23.36, 23.37. In general they are in excellent condition, and all but one retain their original lids. (That of the sarcophagus depicting Dionysius and Ariadne has suffered damage to the heads of the major figures and has been outfitted with a lid that does not belong.)
issues: the course of stylistic change in Roman art, the Roman attitude toward myth and narrative, the meaning of death and the afterlife. The intimate and dark setting that the curators chose for these works encourages such contemplation, but it must be said that their intent to recreate the physical sensation of the tomb falls short because of the lighting: the raking light cast by the overhead lamps deadens the reliefs, whereas ancient torchlight had a shifting character that would have caused the figures to appear to move.

We return to more quotidian details in the next and last room. Against one wall, framed by a simulated second-style wall, stands a Roman couch reconstructed from ancient bronze components. While it can’t compete with the magnificent cubiculum at the Metropolitan Museum of Art, whose walls, floor, and bed are ancient, it has the advantage of permitting closer access. A reconstructed lararium with ancient statuettes from Boscoreale and cases devoted to Roman glass, silver, and small-scale sculpture round out the display. Visually and intellectually this final space is a bit of a letdown after the transcendent experience provided by the sarcophagi, but probably the curators were wise to place this child-friendly exhibit near the exit.

In its provision for viewers of disparate ages and backgrounds, the Walters reflects the sometimes conflicting demands on the public museum today to educate and entertain. It succeeds admirably in making one of the finest collections of ancient art in the United States accessible, fresh, and visually exciting. A popular guide to the collection, even if not the full scholarly catalogue that it deserves, would enrich the visitor’s experience.18

15 west 81st street
APT. 5A
NEW YORK, NEW YORK 10024
EBARTMAN@AOL.COM

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Greek Archaeology: A Survey of Recent Work

ROBIN OSBORNE

Abstract

This survey of work in Greek archaeology since ca. 1990 examines how recent excavation and analysis has related to the questions that seemed most important in Greek archaeology in the 1980s. It focuses in particular on three themes. It argues that archaeological surface survey and the analysis of its findings need to be brought into closer dialogue with the burgeoning work on regionalism in the archeological record. It notes that questions of state formation have been replaced by consideration of the articulation of communities, whatever their political form or status, and draws attention to the need for more work on the way in which individuals and groups selected material for deposition in both sanctuary and cemetery and for the need for closer attention to urban forms. It celebrates the growth of work on the iconography of painted pottery and suggests that there remains scope for further work on objects and images in their chronological context and in the contexts of their use and deposition. In conclusion it draws attention to the absence from recent work of attempts to delineate the “big picture” and of the necessity for such attempts if the full range of the subject is going to be taught effectively to the next generation of students.

This survey of Greek archaeology over the last decade or so has two aims. It attempts to look at what has been done, and to summarize the direction in which Greek archaeology has been heading. It attempts also to think about what has not been done, and to offer a view of what needs to be done in the future. Any such survey must necessarily be an individual view; that readers of AJA are being subjected to this idiosyncratic view, but not for the views expressed, the Editor must take responsibility.

The Scope and Organization of This Survey

“Greek archaeology” is, for the purposes of this article, given narrow bounds, both chronologically and geographically. The way in which we are trained in Greek archaeology itself creates the false impression of Bronze Age and Iron Age Greek archaeology being worlds apart; regrettably, however, I can claim no competence in Bronze Age archaeology, and I discuss here only the study of the material culture of the Greek mainland and Aegean islands between the Dark Age and the Roman empire. Although some comment will be passed on archaeological relations between Greece and the wider Mediterranean world, I make no attempt systematically to consider the archaeology of Greek settlements and settlers in that wider world. Such a restriction reinforces the unhelpful divisions created by modern nation states, and necessarily gives the quite inappropriate impression that such a boundary meant something in antiquity. But such a restriction was necessary in order to allow breadth in another direction: this survey does aim to consider the analysis of all material culture, including art history, and not merely its recovery in excavation or surface survey.

I begin with a retrospective look at the interests and innovations of Greek archaeology in the 1980s, and proceed to trace the fate of those themes since. I then turn to the ways in which Greek archaeologists in the last decade have made accessible new bodies of data or drawn attention to new questions. The aim of this paper is to assess the general direction and shape of recent archaeological enquiry; as a result much work is cited exempli gratia and neither the presence nor the absence of a particular study should be taken as a judgment upon its quality.

The Legacies of Greek Archaeology from the 1980s

Looking back on the 1980s, there are three particular areas around which debate centered: survey archaeology, state formation and the birth of the polis, and approaches to painted pottery.

From tentative beginnings in the 1970s, survey archaeology had become central enough to the interests of Greek archaeologists by 1981 to bring about a major conference in Athens, published in 1983. The early 1980s saw lively discussion about field methods, including questions of selection of areas for survey, and the publication of the first full...
report of a survey, that on Melos.\textsuperscript{4} By the late 1980s survey had sufficiently come of age for it to be introduced to the general reader and for some preliminary general synthetic conclusions to be drawn from the earliest published data.\textsuperscript{5}

The interest in and energies devoted to survey archaeology had various more general effects. One was to direct attention to the countryside and to issues of settlement pattern, issues which also were pertinent to the interpretation of excavated sites and were taken up and debated even for areas for which no systematic survey had been carried out or was possible (for example, the old issue of the nature of settlement in classical Attica was revived in the 1980s). Another was to direct attention to the longue durée: excavators uncover remains period by period, but surface survey collects simultaneously data from the whole range of periods from which human activity has left remains. The issues of change that can be so hard to track in excavation are literally on the surface for surveyors. One consequence of this was to encourage explanation of change in terms of long-term factors of social or economic change, rather than short-term factors of political history. Another consequence of this was to raise to greater prominence the archaeology of periods that had long been neglected. This was true above all for the late Roman period, evidence for occupation in the countryside during which was omnipresent in surveys but was taken up and debated even for areas for which no systematic survey had been carried out or was possible (for example, the old issue of the nature of settlement in classical Attica was revived in the 1980s). Another was to direct attention to the countryside and to issues of settlement pattern, issues which also were pertinent to the interpretation of excavated sites and were taken up and debated even for areas for which no systematic survey had been carried out or was possible (for example, the old issue of the nature of settlement in classical Attica was revived in the 1980s).

Part of the impetus toward surface survey came from the wider world of archaeology, and not least New World archaeology. So too, state formation was an issue that archaeologists had taken up from anthropologists. In the 1970s it had been possible for a Greek archaeologist to write about the eighth century, concerned above all with identifying artists’ hands, does not need to be stressed. The positive form was the insistence that the images on Athenian pottery should be seen as a sequence or system, with one image taking up from and talking to another, and that that conversation takes place in the context of the society that both uses those pots and is reflected in those images. The negative form was that artistic individuality is not to be looked for in these images, for they were not the product of artists but merely of image-makers, and the interest of the images precisely resides in the lack of individuality that those images display. The contrast between this and the dominant approach of the previous part of the 20th century, concerned above all with identifying artists’ hands, does not need to be stressed. The positive theme of imagery being interrelated received classical exposition in Lissarrague’s exploration of the play of images at the symposium; the negative side chimed with a separate line of argument concerned with the relationship between pottery and vessels in more expensive materials, particularly metal.\textsuperscript{10}

**SURVEY, THE COUNTRYSIDE, AND REGIONALISM IN GREEK ARCHAEOLOGY**

The surveys of the 1980s have largely received final publication in the last decade or so, often on a massive scale.\textsuperscript{11} Further projects have been undertaken, both by the anglophone archaeologists who pioneered the techniques (Nemea Valley Project, Pylos Regional Archaeological Project, Kythera Island Project, Australian Paliochora Kythera Island Survey, Eastern Korinthia Archaeological Survey, Eastern Korinthia Archaeological Survey, Eastern Korinthia Archaeological Survey).
Tanagra Survey, Alonnisos Archaeological Project, Praisos Survey) and by archaeologists from Europe adopting comparably intensive methods (Norwegian Arcadia Survey). But if the number of potsherds counted has become enormous, the early confidence that a whole new Greek world was being opened up to view, that archaeology could and should “fill in these blank spaces on the map,” has been somewhat shaken.12 In many respects data collection has outstripped data interpretation, and the situation in 2003 is very comparable to that in the early 1990s.13

Use of GIS has much improved the ability of archaeologists to map the landscape they survey and to place the assemblages that they find accurately within their geomorphological context and in relationship to one another.14 But if we can now have more confidence that the spots on the map are in the right place, the problem of what exactly the spot marks, and what one can say about it, remains.15 Uncertainty about site definition, a concern of survey archaeologists from the inception of intensive survey, has manifested itself in all sorts of euphemisms and acronyms to avoid seeming to claim that a collection of sherds was necessarily a “site.” The purist determination not to import interpretation into the data, admirable in itself, has often rendered interpretation all but impossible: if those who have seen the evidence for themselves are not prepared to declare whether a scatter of sherds is evidence for more than a casual human presence, or are not prepared to pronounce on whether three sherds datable to a particular period constitute evidence for more than in their geomorphological context and in relationship to one another.14 But if we can now have more confidence that the spots on the map are in the right place, the problem of what exactly the spot marks, and what one can say about it, remains.15 Uncertainty about site definition, a concern of survey archaeologists from the inception of intensive survey, has manifested itself in all sorts of euphemisms and acronyms to avoid seeming to claim that a collection of sherds was necessarily a “site.” The purist determination not to import interpretation into the data, admirable in itself, has often rendered interpretation all but impossible: if those who have seen the evidence for themselves are not prepared to declare whether a scatter of sherds is evidence for more than a casual human presence, or are not prepared to pronounce on whether three sherds datable to a particular period constitute evidence for more than

One welcome development is that the opposition between survey and excavation, which was in part a result of their different relationship to archaeological permits in Greece, has ceased to be so strident. Excavations have made significant contributions to our understanding of the countryside. Work on Delos has shown that in certain circumstances it is possible to recover valuable information about field systems by excavation. Excavation of rural buildings has become more common and has suggested that patterns of rapid change in the countryside, as manifested by the excavations at the Dema and Vari houses in Attica as well as by survey archaeology, may be widely found.17

There has been some impressive use of survey data, particularly in relation to Hellenistic and Roman Greece,18 but on the whole the impact of survey has been minimal. Even scholars generally sympathetic to, or indeed practitioners of, intensive survey have found few ways to integrate its findings into their accounts of Greek cultural history.19 Works concerned with the countryside have made either no use or selective and partial use of survey data.20 Among practitioners of survey, dialogue has been active and ongoing, but much more heavily focused upon theoretical problems of method and interpretation than upon bringing results of one survey into dialogue with the results of another survey or with wider archaeological and historical concerns.21

The failure of archaeologists to exploit the increasingly available results of survey archaeology is particularly disappointing in two areas: the archaeology of Roman Greece and Greek regional archaeology. Despite the alert given by survey about the quantity of (late) Roman material to be accounted for, the amount of archaeological attention devoted to Roman Greece has remain minimal. Augustan Athens, Hadrian, and Herodes Atticus have attracted some attention, with the excavation of another villa of Herodes, but otherwise work has been largely limited to particular buildings.22 This is despite the undoubted existence of an archaeological equivalent of the “second sophistic,” and despite the unceasing flow of literary treatments of that period in Greek thought.23 It is striking that recent and very

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12 For that mission for archaeology, see Snodgrass 1991, 12.
13 Much said by Cherry (1994) remains true.
14 Cf. for an earlier period, Bevan 2002.
15 Cf. Pettigrew 2002 and the responses to that paper.
16 For one archaeologist grappling with another’s data, compare Foxhall 1997, 126.
19 Survey archaeology appears only in its own ghetto in Whitley 2002, 382–9, and only fleetingly in Osborne 1996 and Morris 2000.
20 Burford 1993; Hanson 1995.
21 So the five volumes on The Archaeology of Mediterranean Landscapes of the Populus project, explicitly concerned to address methodological issues; Bintliff and Sbonias 1999; Leveau 1999; Gillings et al. 1999; Pasquinucci and Trément 2000; Francovich et al. 2000. At a conference in Ann Arbor in 2002, survey archaeologists discussed the substantive results to be had by comparing their results: Alcock and Cherry 2003.
Interesting collections of essays on Pausanias manage to discuss Archaic and Hellenistic monuments and the rediscovery of Greece in the 19th century, but have very little to say about the archaeology of Pausanias’s own time.24

Survey work has certainly brought foreign archaeologists into areas of Greece that they would not otherwise have visited, but in terms of the way in which it has presented its results survey has contributed remarkably little to the developing interest in what Gehrke has termed “Das Dritte Griechenland.”25 This developing interest has been manifested in a variety of ways: in the pattern of excavation, in work on particular types of artifact and monument, and in the interest in the political and social implications of regional archaeological patterns.

The geographical focus of recent excavations is nicely revealed in a 2002 volume, which collects papers on “recent archaeological discoveries in Greece”; no fewer than 9 of the 21 chapters by Greeks concern Thessaly, Macedonia, and northern Greece.26 But the excavations reported there very far from exhaust the newly uncovered archaeological wealth of this region. To give only a few examples, in the area of Thessaloniki we can add to the Agios Athanasios tomb excavations reported in the interest in what Gehrke has termed “Das Dritte Griechenland.”25 This developing interest has been manifested in a variety of ways: in the pattern of excavation, in work on particular types of artifact and monument, and in the interest in the political and social implications of regional archaeological patterns.

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In specialist studies of classes of artifact, we have moved from a situation where there were thorough studies available only of Athenian pottery to a situation where not only Corinthian and Laconian pottery, but also pottery from regions such as Boiotia and Elis or places such as Chios have been subject to thorough studies,30 where there is a very useful handbook for East Greek pottery, and where regional amphora styles are better and better known.31 Writing painted on pottery outside Athens is now even more completely studied than writing on pottery from Athens.32 The American School has taken the lead in promoting studies of regional schools in sculpture, with two conferences, promptly published during the 1990s.33 And when it comes to buildings, there where used only to be one old regional study, further impressive studies of regional architectural types have been added.34

Interest in regional patterns at a more general social and political level has markedly increased, in particular in examining areas in which the polis has been reckoned not to have become the dominant political form, the so-called ethnos areas, and also to areas neighboring the Greek world.35 Studies have been devoted both to individual “ethne” and to comparison of patterns across ethne.36 But survey archaeologists have hardly involved themselves in these discussions of regionalism and ethnic identity, and data from survey has not seriously entered into the discussion. It is as if, overwhelmed with the unexpected flood of late Classical and late Roman rural settlement data that the initial surveys all seemed to produce, survey archaeologists got too involved in drawing out similarities between areas to exploit the now rich body of evidence for difference. At the level of spots on the map, regional variation between survey areas sometimes looks rather slight: time after time the late Classical and late Roman periods produce a glut of such spots. But the more closely survey evidence is examined, the greater the regional variations—in what sort of material is visible on the surface, in the size, nature, spatial patterning, and plausible interpretation of the surface assemblages, and in the distribution of surface assemblages over time. Comparison of survey data with a view to enhancing our understanding of the differences between poleis and regions will surely be rewarding, but the task has not yet been begun.

26 Stamatopoulou and Yeroulanou 2002. The papers by foreign archaeologists concern Sparta, Delos, and Samos.
32 Wachter 2001 (a work on which publisher as well as author deserves congratulation); and cf. Lorber 1979; Immovox 1990 for Attic.
36 McInerney 1999; Morgan 2003. Compare also the interest in different regional patterns in Morris 1998, and, for a parallel extension of interest among historians, Brock and Hodkinson 2000.
The growing interest in areas of the Greek world not organized as poleis has had an impact on Greek archaeology’s relationship to issues of state formation. The changed agenda of questions is well indicated by comparison between Morris’s books published in 1987 and 2000. The former was subtitled The Rise of the Greek City-State, announced that it would “argue that in the eighth century the Greeks developed a radically new concept of the state, which has no parallels in any other complex society,” and framed its interpretation of the eighth-century burial archaeology in Attica very explicitly in terms of “social revolution”: the “total transformation of society and the state.”37 By contrast not only does the later book significantly alter the emphasis by insisting, as it does in the opening sentence of chapter 1, that “Archaeology is cultural history or it is nothing,” but its chapter on the eighth century, which includes further discussion of eighth-century burials in Athens, is entitled “Rethinking Time and Space.”38 This is closely parallel to de Polignac’s decision not to translate the title of his 1984 book as The Birth of the Greek City, but to signal first that it was a book about cults and territory and to suggest not a singular birth but plural origins.

The brave new world of cemetery studies, which Morris’s 1987 monograph might have been expected to herald, has not really manifested itself. Morris himself extended his studies in a general treatment of the archaeology of death rituals, there have been conferences on cemeteries, and Morris’s example encouraged some further detailed work on burial in Attica, but in general sophisticated burial analysis has been lacking.39 Such potentially rich resources as the 2,000 excavated graves at Akraiaphia remain inadequately analyzed and published.40 Archaeological DNA and a greater awareness of what can be learned about diet and health from bone analysis will surely transform the way cemeteries are excavated and analyzed, but on the Greek mainland it has yet to do so.41

Although de Polignac’s thesis has come to figure regularly in general accounts of what happened to Greek communities in the eighth century, it is notable that scholars who have taken de Polignac’s lead in looking at where sanctuaries are placed have, in general, seen that placing as particularly informative not about the origins of the polis but about its articulation. This is true not only of much work explicitly addressed to de Polignac’s ideas, but of work on the religious landscape more generally.42 Ironically, given the political thesis he advances, de Polignac’s work, like Scully’s earlier discussions of the placing of sanctuaries,43 has encouraged seeing sanctuaries against the whole landscape, rather than in relation to local patterns of settlement. Given the revelation of local cult that has been afforded by Athenian deme calendars, attention to that local aspect seems overdue. Yet sanctuaries have proved relatively hard to find in archaeological surveys, and none of those published to date have paid much attention to the religious landscape.

In years when enormous amounts of scholarly time and energy have been directed at the archaeology as well as the history of the polis by the Copenhagen Polis Centre, directed by Mogens Herman Hansen, it is perhaps ironic that the birth of the polis should largely have disappeared from the archaeological agenda. This shift has occurred mainly because hypotheses about state formation are regarded as inadequate to explain the nature and variety of the changes to be seen in the material culture. Once again, as with the interpretation of survey archaeology, early enthusiasm for detecting a single coordinated pattern has been replaced by awareness that even superficially similar patterns turn out on closer examination to be heavily contrasted. This has particularly been stressed in relation to sanctuaries.

In retrospect, the middle of the 1980s saw not just one revolution in our way of looking at sanctuaries, but two. A year after de Polignac’s book was published there appeared, hidden away in a periodical which is not widely circulated and does not declare itself to be of any interest to the Greek archaeologist, Imma Kilian-Dirlmeier’s analysis of the origin of nonlocal objects in the major sanctuaries of the late eighth and early seventh century. In a

41 For what is now possible compare the work at Metaponto (Carter 1998).
42 For the former, see the papers in Alcock and Osborne 1994. For the latter, see Schachter 1992; Schumacher 1993; Price 1999, 48–58; and the work of Jost on Arcadia, Jost 1985, 1994, 2003.
43 Scully 1979.
The consciousness that non-Greek material does not simply arrive in waves in the Greek world, but is collected by Greeks who have in mind what they will do with it, has not always been present in discussions about Greeks and the east. Much of the debate over how much of Greek civilization was “owed” to the east has been of a pantomimic sort—“oh, yes they did” on the one side and “oh, no they didn’t” on the other. There have often been political motivations to the arguments on both sides, as there have been also to the arguments derived from post-colonial theory about “hybrivity.” But there is also good archaeological support for claims about hybrid cultures, well seen now in work on the Etruscan reception of Athenian pottery. Similarly, there has been much recent insistence that Greek settlements abroad did not simply take over the material culture and practices of “mother cities” but carved out for themselves distinct identities constructed out of hybrid practices. This promises to become the beginning of a much enriched archaeological picture of communities abroad that create for themselves identities distinct both from those of their neighbors and from those of the communities from which they have come. Just what can be done by sensitive collection and analysis of material has been revealed by the case of Athens and the Persians. After a rash of collecting images of the barbarian “other” in the 1980s, Miller’s work on the whole range of Persian material adopted at Athens offers a very much enriched perspective on the ways in which Athenians came to think and express themselves with Persian material culture. It is increasingly clear that the same potential is to be found in urban archaeology. The excitement of Walker’s claims to be able to distinguish men’s and women’s space in the archaeology of houses, and of Hoepfner and Schwandner’s claims, rein-

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44 Kilian-Dirlmeier 1985.
46 Reusser 2002.
48 This has been most marked in discussions of Bernal 1987; but the terms of the discussion in Burkert 1992 are often not dissimilar (and for the opposite problem with regard to others’ use of Greek goods, cf. Boardman 1994). Although not always easy to tease out, the argument underlying Morris 1992 seems to me to lay the foundations for a more sensible discussion (cf. Osborne 1993).
forced by the seductive rhetoric of wonderful graphic illustrations, of a link between democracy and uniform forms of housing, has been succeeded by careful and detailed examination of the evidence that insists upon the complexities of Greek domestic archaeology. Domestic space allowed no easy separation of men and women, and the small finds from houses show no pattern consistent with separation of men and women being high on the agenda. The “andron” regularly appears as the only single-purpose room in houses where other rooms show changing use over time, and frequently the intermixture of domestic and craft activities. Indeed archaeologists who have gone in search of social history from houses have ended up making a more significant contribution to economic history. In the light of this recent work, indeed, we may wonder whether Young was right to dub the area to the southwest of the Athenian agora an industrial area, since the sorts of activities that he uncovered appear to be activities frequently carried on in other cities in what were certainly residential zones.

One recent striking example of industrial activity in an urban setting has been the discovery in Odos Kavafy in Argos of a building of the first century A.D. with a miscast bronze statue apparently waiting to be melted down. It is to be noted that as in the country, so in the town, occupation and use patterns changed rapidly: an elaborate oilery recently excavated on Delos proved to be extremely short-lived.

Manufacturing processes, production techniques, and the marketing of artifacts have been subject to much recent work. The history of the roof tile has been multiply illuminated, large numbers of pottery kilns have been excavated and investigated in more or less detail, and the manufacture as well as trade in painted pottery subject to close scrutiny. We are clearly moving very much closer to being able to understand the processes, and labor, required to equip Greek settlements with their material culture, and the time must soon be ripe for a comprehensive study of how a single settlement at a single period equipped itself materially.

Although recent analyses continue to be devoted largely to sites excavated some time ago, and above all to Olynthos, the body of urban space now excavated in Greece is considerable, especially for the late Classical and Hellenistic periods. This includes towns in a variety of regions. One excellent example is the modern city of Arta (ancient Ambracia), where over the last decade a large number of plots have been excavated. These have revealed houses occupied from the Archaic period onward, as well as sections of fortifications and of cemeteries. No synthetic account of the archaeology of Arta is yet available, but such a study will make an important contribution to our understanding of regional variation in the domestic settlement of Greek cities.

What has been very notably absent from recent work is analysis of the Greek city from the point of view of town planning. Town planning has continued to attract some attention from Italian archaeologists, and views of urban development in Sicily, in particular, have been substantially revised. But no substantial recent study exists, and so much further archaeological data is now available that older studies are unsatisfactory. Although a brave attempt has been made in the case of the Peiraieus, we are also lacking in any decent detailed topographies of ancient cities: Travlos’s wonderful Pictorial Dictionary was never an adequate substitute for a new edition of Judeich’s Topography, and is itself now seriously dated; the excavations in connection with the new Athens metro produced a large amount of valuable new data, and it is surely time for a synthesis. This is not a matter of simply putting names known from texts and monuments known from archaeology on the map, but of considering monuments of all sorts in their fullest local context—a context that will often involve awareness of textual as well as of archaeological material.
Although there are now welcome projects in various Greek towns to employ new technologies to make available detailed records of urban finds, both synthetic work and detailed topographical accounts of individual cities are hampered by the state of publication: much of the excavation of ancient Greek towns comes in the form of rescue excavations carried out in difficult circumstances between demolition and building work in modern Greek towns and cities. Such work receives summary publication in *Arkhaiologikon Deltion*, but frequently no further publication, and access to excavated material is not always possible. The regular provision of general town maps showing the precise locations of archaeological excavation, such as have accompanied recent accounts of excavations at Eleusis and Megara, for instance, are an important step forward. But as long as brief publication and inaccessible material remain the order of the day, tantalizing glimpses and hints of what a history of the Greek town might look like may be all we can hope for, and the day of any parallel to Bastea’s prize-winning account of the development of modern Athens will remain far off.

**ARTISTS AND ICONOGRAPHIES**

Proclamations of the death of the artist in the 1980s, like those of the death of the author, have not been fulfilled. In the field of sculpture the named artist has experienced something of a comeback. Polyclitus in particular has exercised an uncanny fascination on both sides of the Atlantic, but “personal styles,” where the person is named, have returned to fight against assumptions of period styles. The latter have, in any case, become, in the hands of their most dogged exponent, very complicated. Although significant sculptural discoveries continue to be made, the study of sculpture has become perhaps the most conservative of all branches of classical archaeology, with remarkably little interest in situating ancient sculptural monuments into either their immediate physical context or their wider social context. But the work that has been done in this area has had no trouble revealing its potential. Even issues of gender have excited relatively little attention: Hermaphrodites and the Aphrodite of Knidos have attracted extended discussion, but such obvious areas for analysis as clothing have been largely neglected, and even the debate over male nudity has been carried out by a small range of scholars and without a thorough survey of the evidence.

Recent work on painted pottery presents a very different picture. The artist has certainly not disappeared from view: a number of important monographs have been published on individual painters or groups of painters. But the iconography of painted pottery has excited a wide range of interest. The question of whether that iconography should be read in the context of the Athenian place of manufacture or the eventual place of consumption continues to provoke debate. Persuasive cases have been made for reading particular scenes in non-Athenian contexts, but evoking an Etruscan market has not proved much of a solution to thorny questions of the relationship between image and reality, and fresh arguments have been marshaled against thinking that in general the market determined the images. Issues of sex and gender have been prominent in this debate, and a large number of sophisticated studies both of the whole range and of various classes of scenes have been made. Although these studies have generally focused on images of women, important work has been done on the sexual overtones of other scenes, particularly scenes of hunting.

The greatest growth area in iconographic studies, however, has been the investigation of scenes with connections with religion. Interest in scenes showing women has undoubtedly played a part in this, with a number of studies directed at images of maenads. Similarly an interest in sex and gender sculptures in their context is vital, cf. Osborne 1994a, 1994b, 1994c, 2000.


72 Buitron-Oliver 1995; Matheson 1995; Oakley 1997; Hoffmann 1997 (rather different approach); Mannack 2001.


75 Schnapp 1997; Barringer 2001.

lies in part behind the boom in studies of satyrs. But the whole range of Dionysiac imagery has been subjected to increasingly detailed and sensitive analysis, with some scholars keen to connect with mythology, others to stress links with cult. Scenes that are explicitly scenes of cult, showing particular rituals or objects (e.g., sacrifice, altars) or (arguably) particular festivals, have been collected and the foundations laid for analysis of change over time and according to context. How in detail imagery might relate to context, particularly to political context, has been the subject of recent work that has insisted that the history of style is a political as well as a personal matter. It remains customary, however, in the style of The City of Images, to ignore, either tacitly or flagrantly, both chronology and questions of artistic personality.

Vase painting has also been at the center of discussions of the relationship between image and story in Greek art. While some scholars have shown increasing puzzlement at the very possibility that an image can tell a story in a way at all comparable to the telling of a story in words, others have continued to find the assumption that pictures “tell stories” unproblematic, and have devoted their energies to the analysis of how they do so, more or less explicitly under the influence of semiotic theories, ignoring all objections. One result of this conflict is that while some scholars have sought to elucidate relations between images and particular texts, others have become increasingly skeptical of assumptions that images illustrate stories known to us from particular texts at all. An example is the relationship between images and the theater. Here a marked split has developed between those who are easily persuaded that illustrations of myths or of satyrs are images of tragedies or satyr plays, and those who will accept allusion to the theater only if it is explicit. Particularly interesting work has been done on south Italian vase painting, both to insist that scenes of Athenian comedy are illustrated there and to trace very close allusions to Athenian texts.

The other side of the 1980s challenge to the status of the artist has also gathered little steam in the years since. The relationship between ceramics and vessels in other materials has been more widely acknowledged, but the conclusions to draw from that seem less clear, and claims about the valuelessness of ceramics in antiquity have been variously challenged. It has been something of a theme of this survey, that the bold generalizations of the 1980s have been discarded in favor of a more nuanced consideration of the variety present in the archaeological record. It is increasingly clear that, even were it possible to define what one meant by “value” in any given case, Greek pottery, like other artifacts, was variously valued in various circumstances. The archaeologist reaps a much richer reward from close analysis of pots in context (whether the context in which they are found or the context which can be more or less plausibly reconstructed for their use) than from any attempt to establish a particular pattern of value.

EPILOGUE

The above survey has, on the whole, had an optimistic tone, and in my view Greek archaeology can warmly congratulate itself on its achievements over the past decade or so. Compared with earlier work, current work is very much more self-aware, both in terms of being conscious of its assumptions and of being conscious of the history of both the discipline and of the material it studies. It is also more systematic and more sophisticated, and is more closely

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77 Walter 1993; Lissarrague 1997.
80 Neer 2002.
81 For the problem, Osborne 1991. For explicit ignoring of change over time, see Ferrari 2002, 9-10; scholars regularly include indices of ancient literary sources while indexing no artists’ names (so Schnapp 1997, Ferrari 2002; contrast Barringer 2001).
85 Taplin 1993; Giuliani 1996.
88 Work on the history of archaeology has massively increased, fuelled in part by various foreign school and excavation centenaries (cf. Picard 1992). It is a reflection of this trend, and a welcome feature, that Whitley (2001) begins with a survey of the “great traditions” of Greek archaeology. Other significant contributions to the history of the discipline include Marchand 1996; de Grummond 1996; Rouet 2001. Work on the afterlife of ancient monuments has particularly concerned the Athenian acropolis: Schneider and Höcker 1990; Yalouri 2001; Beard 2002. The role of collectors and museums in the history of archaeology still awaits investigation: for one contemporary aspect, see Chippindale and Gill 2000.
integrated with work by historians and philologists (even if the dialogue sometimes seems to be a dialogue of the deaf). It has indeed been a welcome feature of recent work that philologists as well as historians have engaged so closely and productively with material culture, particularly, but not only, in the area of visual culture.89

Inevitably, however, such a survey also highlights gaps and raises questions. One gap in particular seems to me to be gaping. This is the absence from recent work of comprehensive accounts of a whole field. General books on Greek art continue to abound, though they often have a rather restricted range of objects that they are prepared to discuss.90 But attempts to write standard treatments (i.e., not catalogues, but more or less comprehensive analyses) of particular classes of object are few and far between. There are exceptions to this: sculpture has been well served, with major works published, or thoroughly revised, in the last 20 years in French and German as well as English.91 Vase painting has seen the publication of Martin Robertson’s magisterial survey of Athenian red-figure, but for black-figure nothing exists beyond the scale of Boardman’s invaluable handbook.92 But the area where the absence of a comprehensive, up-to-date account is most sorely felt is architecture. Although some of the older treatments have been updated, there is nothing that serves in place of Dinsmoor’s Architecture of Ancient Greece. Yet this, far more than sculpture, is an area where the body of data to be discussed and our understanding has been markedly transformed by excavation and analysis.93 That absence is in part a reflection of the rather low level of activity in the study of Greek architecture: in the past decade little that has been published on architecture in the archaeological journals has been of much significance.94 The absence of standard or exemplary architectural analyses that delve into every aspect of the building, including the moldings, seriously hampers teaching the subject (it is currently effectively impossible to teach Greek theater architecture at all).95

It is not only in the field of the arts that standard treatments have been lacking. The same applies to archaeological periods. The accounts of the Greek Dark Ages by Desborough and Snodgrass are now more than 30 years old and Coldstream’s Geometric Greece also a product of the 1970s. The material base has now been so transformed—by further work at known sites, by discovery of new sites in areas known to have been occupied, and by the discovery of occupation in regions where none had been previously suspected, that it is time for a completely fresh synthesis.96 Partial syntheses have recently been attempted, but necessarily a partial synthesis is no synthesis at all.97 That even in the 1970s, no one attempted a standard treatment of the archaeology of Archaic Greece has manifestly marked and weakened historians’ attempts to write about that period. In the face of massively increased evidence there is a tendency to claim that no one could write a Geometric Greece now; but this seems to me simply defeatism. Geometric Greece and other such works never did attempt to discuss every site or list every relevant monument or artifact; they were standard because they attempted to give a picture of the whole, which had claims not to neglect any important pattern or theme. Of course, a Geometric Greece written today would have to be even more selective, but the need for greater selectivity does not justify not making the attempt.

Attempting to write a standard treatment of a broad subject area does not sit comfortably with an archaeology that has increasingly emphasized variety and local difference rather than “the big picture.” Part of the excitement of the field in recent years, however, has stemmed from the possibility of juxtaposing the bold claims of the 1980s to the closer observation of difference stressed in the 1990s. Since the pedagogical attractions of the subject are vital for the attraction of new generations of scholars, the future of the subject will depend upon bold souls being found who are still prepared to set out the bigger picture.
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These volumes present the results of excavations undertaken at the Middle Bronze Age site of I Faraglioni on the island of Ustica, 57 km north of Palermo in western Sicily. Ustica, in contrast to the Aeolian islands, has only become widely known to archaeologists in recent years. These are the first excavations to be published in monograph form, although four earlier campaigns were conducted at I Faraglioni between 1974 and 1980 by G. Mannino.1 This is an important site for the western Mediterranean Bronze Age: a large, well-preserved settlement, characterized by courtyard dwellings with rich ceramic assemblages, delimited by trackways and, more surprisingly, a monumental wall with semicircular turrets. A visitor center has been constructed and the site has been designated an archaeological park.

In the first volume, Holloway gives a succinct account of the 1990–1991 excavations, proposing four periods of building and occupation. Period 1 has scattered apsidal buildings and a sanctuary; period 2 witnessed major architectural development (defensive walls and courtyard houses); period 3 was relatively short-lived, with only partial reconstruction, although defenses were strengthened; period 4 was more ephemeral, with floor levels in a few places. The reader will notice, however, that the distinction between periods and the assignment of different contexts to the same period is not always self-evident and complicated in places by nonjoining structures and by the similarity of the pottery in all phases.

One or two trenches lack buildings, implying that certain areas within the perimeter wall may have been open spaces. Also significant is the suggestion of metalworking in area 3 and of a cult area in courtyard 4, where two stone features are reconstructed with considerable license as an altar base and a plinth for the controversial “statue” (below), which consists of two stone fragments carved in an anthropomorphic form. This find, however, was not directly associated with its putative plinth, but had been reused as masonry in a later wall. Holloway regards a nearby deposit (room 5) resembling a stone fill as sacrificial in nature (a “bothros”), although the animal bones resemble those from other contexts. Short descriptions, plans, and photographs of buildings provide basic information about household fixtures, which include large grindstones and round terracotta slabs.

Ceramic finds (storage and cooking wares, pedestal vessels, stands, spindle whorls, clay horns, counters, and net-sinkers) are discussed and quantified by Lukesh, who also considers the practical uses of vessels and their spatial and temporal distributions. A solitary Mycenaean (LH IIIB–C) sherd from topsoil and stratified sherds with incised decoration in Apennine style denote long-distance contacts, for which the evidence is otherwise sparse. Evidently Ustica lay beyond the busier sphere of maritime interaction around the Aeolian islands, Tykot has sourced 11 pieces of obsidian from an unspecified surface location outside the site to Lipari and one piece to Pantelleria, which he takes as evidence of “Late” (he surely means Middle) Bronze Age trade. However, he does not consider the possibility that this merely represents procurement or recycling of residual material from earlier prehistoric sites on Ustica (where obsidian has been found); it is surprising that no flint or obsidian blades come from stratified levels. Useful chapters follow on domestic architecture (Doonan) and the imposing landward wall (Gifford), which underwent several modifications. Shorter contributions deal with a so-called necropolis (Holloway), the sculpture (Holloway), and faunal remains (Cruz-Uribe).

A welcome list of radiocarbon dates is supplied, but with minimal comment. Holloway states (5) that they support the traditional chronology. While six of the eight samples (the material is unspecified) come from the same

room, however, none was taken from phase 4 contexts and there is only one for phase 1 (1949–1778 cal. B.C. 10), which is much earlier than the traditional dating would suggest. The calibrated ranges of four dates fall substantially within the expected chronology for the Sicilian Middle Bronze Age (dated by Mycenaean pottery imports to the 14th–13th centuries B.C.). Three others are slightly later (13th–11th centuries B.C.) and out of sequence with the proposed phasing, as two samples from phase 2 levels are later than those from phase 3. This is not a cause for undue concern, since phases are thought to follow in quick succession. However, it would have been more accurate to say that while 14C dating partially coincides with a traditional chronology, some date ranges are outside the expected time band and the late dates raise the possibility of a longer occupation than conventional dating would suggest.

The second volume includes more reconstruction drawings, which are helpful visual aids, although they exaggerate the sizes of walls and turrets (fig. 1.3–5). Period 2 is subdivided, using arguments that are not always easy to follow. Holloway regards the phase 2B settlement as a fortified citadel with only four houses, but this could be a serious underestimate, because less than a quarter of the site has been excavated. He also envisages a population consisting of a despotic “pirate king” and a small band of henchmen, likened to “wreckers who lit false lights on the pinnacles to lure unwary mariners to their doom” (8). This imaginative scenario, presented in a somewhat rhetorical style, is followed by a description of new findings: defensive seaward walls, a well, street, and several rooms, one of which suggests “a gathering place where drinking was a prominent activity” (19). Lukesh provides an illuminating account of potential activity areas based on pottery combinations.

A discussion follows under the improbable heading of “Ustica and the Mycenaeans,” which struggles to place this supposed pirates’ nest in a remote island fortress within the broader context of international relations. Holloway admits that Ustica seems far removed from the main maritime routes along the Tyrrhenian coast of Italy. Surely, then, a little honest agriculture, stock rearing, and fishing would have provided a much more reliable livelihood for its inhabitants, whom he has branded “freebooters and brigands” (12). Finally, we return to a consideration of cults and the sculpture, in which it is stated that “the sculptor was clearly aware of Aegean representational art and adapted it into a Sicilian tradition” (78).

From a technical standpoint these volumes are passable, and the standard of photographic documentation is good, although the plans are often small-scale and not very detailed, the section drawings few and schematic, and the descriptions of some contexts, especially house interiors, rather brief. More plans showing the rich ceramic assemblages in situ and numbered contexts would have been helpful, as well as a finds catalogue with line drawings, at least of the metal artifacts, molds, and the Mycenaean sherd. It is not clear whether flotation or sieving was attempted; thus information about the environment, natural vegetation, or crops is lacking. Further work could usefully illuminate the nature of the potters’ clay: is it local or imported?

New excavations have recently commenced at I Faraglioni under the direction of the Palermo Superintendency. These volumes (and Mannino’s excavations, which ought to be properly published) will obviously provide the basis for future work, although they raise several questions that need to be answered. First, the authenticity of the sculpture has been the subject of acrimonious exchanges between Mannino and Holloway since 1993, when an anonymous letter was sent to Mannino, the Mayor of Ustica, and the journal Sicilia Archeologica, declaring the object to be a fake, planted on the site as a practical joke. Photographs purporting to show the sculpture in the course of manufacture were also received. Nevertheless, the latest rebuttal by Holloway and Lukesh offers some credible arguments in favor of accepting it as genuine; notably, the observation that the existing finished artifact seems wider in one place than the “fake” in preparation, judging by the available photographs.

One certainly sympathizes with the excavators, who have either been the victims of a prank or of a more malicious attempt to discredit them and deprive everyone of a remarkable find, unique for the Italian Bronze Age. I am indeed suspicious of the claim in the anonymous letter that this “scherzo” was only intended to confuse the archaeologists “per qualche minuto.” Ten years have passed, and the controversy is still unresolved. Moreover, the fact that the fraudsters have never identified themselves gives credence to the idea that the real hoax is not the sculpture.

Not surprisingly, however, most scholars, including this reviewer (much to the irritation of Holloway and Lukesh) have been reluctant to enter the fray, unable to reach a firm conclusion on the basis of the available information. To most of us this beguiling object is known only from photographs, having been removed from display on Ustica and locked away in the Palermo museum many years ago. The Sicilian archaeological authorities have yet to express an opinion on the matter. Yet, ultimately, it will be up to the staff of the Archaeological Superintendency, who are best placed to assess all the evidence, to decide whether there are sufficient grounds to justify the sculpture’s rehabilitation. If they decide to put it back on display as a genuine find, perhaps following further examination (of the stone and the photographs), public confidence could be restored.

Divergent views have also been expressed about the original extent of the site. Mannino suggested that it originally stretched to an offshore rock pinnacle (the “colombaro,” dovecote), where contemporary surface finds have been recovered, and that there could have been up to 300 dwellings. This figure is hard to believe, however, even assuming a solid spread of buildings, an idea under-

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2 Holloway 1997; Mannino 1997b.
3 Holloway and Lukesh 2002.
4 Mannino 1997b, 19.
5 My original reporting of the putative hoax (Leighton 1999, 280 n. 11) was based on information from the Archaeological Superintendency in Palermo, not exactly “hearsay” (Holloway and Lukesh 2002, 976).
mined by recent excavations. It would also make the site far bigger than its contemporaries (though none has been fully excavated in Sicily). Nevertheless, one can see evidence of coastal erosion at several places, closely resembling the situation at the Middle Bronze Age cliff-top settlement on Panarea, where parts of dwellings have fallen into the sea. Wave action around these islands can create spectacular sea arches, prone to eventual collapse; an example at 1 Faraglioni is illustrated on the cover of the second volume. The possibility of a narrow promontory extending toward the pinnacle should perhaps not be dismissed altogether. One would like to know the opinion of geologists on this matter.

By contrast, Holloway and Lukesh do not admit of much erosion at all. They believe that the rock pinnacle was always separate, and a potential lighthouse. But what practical advantage would it offer, lying close to a little-frequented shore at about the same elevation as the adjacent coastline? The controversy, however, hinges mainly on the existence of seaward defenses, which Holloway identifies as a tract of thick walling with a narrow pas sageway, subsequently replaced by a long terrace wall. Unexcavated houses lie beneath. Yet, according to Mannino, the terrace wall is a construction of the Bourbon period, delimiting property from the coastal pathway. This part of the site, scarcely excavated so far, would repay further investigation. One would also like to know how much stonework at the back of the landward wall was added during the 1970s (1:69).

The supposed cist tombs near the cliff edge, where no human remains or artifacts have ever been found, are even more perplexing. Here too a counterclaim exists: that these human remains or artifacts have ever been found, are even added during the 1970s (1:69). This part of the site, scarcely excavated so far, would repay further investigation. One would also like to know how much stonework at the back of the landward wall was added during the 1970s (1:69).

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One characteristic of Holloway’s generally bold interpretation is the recurrent assertion of Aegean parallels for a number of the site’s features, which is not always convincing. For example, a stretch of masonry supporting a walkway is boldly stated to be “based on Minoan-Mycenaean highway engineering” (2:74), while the overall conception of the site’s internal relationships and its social structure is likened to Mycenae and Tiryns. Likewise, arguably too much is made of three flat stones, found near the terrace wall, said to imply “the stimulus of travelers who have seen cities and fortresses with dressed stone work and desired some of the same” (2:29). Yet more obvious correspondences closer to hand elicit little comment: for example, in the Aeolian islands (at least Doonan focuses attention here) and on Pantelleria. One would assume that the islanders’ main contacts were with northwestern Sicily, although the Bronze Age in this area is not well known. Preoccupied with Aegean connections, however, Holloway misses the point, in my opinion: that what is often most striking about western Mediterranean islands, especially those left to their own devices, is their capacity to surprise us with original creations and adaptations by their inhabitants. For its remarkably integrated approach to urban planning, this site is rather more impressive than its contemporaries on the Aeolian islands, despite their closer links with the outside world.

The authors refer to the site as a “fortress,” “castle,” or “citadel.” These terms have variable connotations, but generally imply a rather specialized design and function, for which the evidence here is only partial. Admittedly, the perimeter walls look defensive, and it is as well to remember that this period on the Aeolian islands seems to have ended with an invasion from the Italian peninsula, marking the start of the Ausonian period on Lipari. On Ustica, we lack evidence for a comparable phase of Late Bronze Age occupation, but Holloway is right to remind us that maritime interrelations were not necessarily pacific. On the other hand, the internal dynamics of life on Ustica deserve more consideration, and one should note that the site is conspicuously located next to a stretch of flat arable land. Although it is a small island (8.6 km²), there were probably other contemporary settlements, as suggested by surface finds. The modern town, which is beside the Hellenistic and Roman center of Ustica on the Falconiera rock, occupies a much more commanding and sheltered position overlooking a good anchorage. The Faraglioni perimeter wall might have had additional functions, aimed at impressing neighboring groups and visitors, and perhaps providing shelter from the predominant westerly and northerly winds.

In conclusion, however, apart from the regrettable controversy over the sculpture, it is not surprising to find that a complex and challenging site can give rise to opposing interpretations. More problem-oriented research could clarify several issues, and much could also be learned from other prehistoric sites on Ustica. The latest discov-

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9 Mannino 1997a, 22.
7 Mannino 1997a, 19.
10 See, e.g., Evans 1977.
11 See also Holloway and Lukesh 1997.
12 Mannino 1997a, 11.
Ery (at Spalmatore) indicates that occupation dates back to the Neolithic, and there are finds of Copper and Early Bronze Age date awaiting investigation. Reservations aside, these volumes are landmarks in the archaeological exploration of a hitherto neglected island.

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Seals of Meaning: Imprints of Past Aegean Worlds

KATERINA KOPAKA

Minoisch-Mykenische Glyptik. Stil, Ikono-
graphe, Funktion. V. internationales Siegel-
symposium. Marburg, 23–25 September 1999,
edited by Walter Müller (CMS Beiheft 6). Pp. xv +
368, b&w figs. 161, maps 7. Gebr. Mann, Berlin

Dedicated to the memory of Artemis Onassoglou and
Agnes Sakellariou, the pioneering women researchers in
Minoan and Mycenaean glyptic, this CMS Supplement vol-
ume contains the proceedings of the fifth International
Symposium, held in Marburg in 1999: the latest in a series
of specialized scientific conferences inaugurated in 1971
by F. Matz. The book is edited by Walter Müller, under the
general direction of Ingo Pini, who has also written the
introduction. Its printing quality maintains the well-known
standards of the numerous CMS publications.

It has 29 contributions in English, German, and
French, from 30 invited scholars, who include younger
colleagues as well as experienced specialists. Organized
alphabetically by author, the chapters give different em-
phases to the essential, yet complex and multifarious,
aspects of Bronze Age seals and sealings. These signifi-
cant archaeological “finds” are also considered as art ob-
jects, mainly with a view to their aesthetic-symbolic ef-
fact; as technical items with their own operational chains;
and, more and more often, as important parts of wider
technological networks communicating serious messages
on collective and individual sociocultural issues, princi-
pally within the prehistoric Aegean, but also to the world
beyond.

New finds considerably enrich past knowledge and give
fresh insights into Crete, Thera, the Peloponnesse, and
Anatolia in the third and second millennia.

Two chapters present Poros-Katsambas, the important
north Cretan harbor town, which has long been known as
a center of glyptic manufacture. N. Dimopoulou, its
evacuator, publishes 36 MM I/II late to LM IA locally
produced seals and scaraboids and an imported Egyptian
scarab. She also introduces one of the two newly found
gold signet rings (to add to the Ashmolean Museum/
Poros specimen) from high-rank burials in the town’s
Neopalatial cemetery of rock-cut chamber tombs. Then
G. Rethemiotakis expertly reads the “micro-world” en-
graved on this LM IB masterpiece. In a religious perspec-
tive, tree cult and epiphany/sacred conversation sequen-
ces are combined with floating symbols and birds that re-
call the long-discussed “Ring of Minos”—which these two
authors have recently put on exhibition in the Herak-
leion Museum. The narrow-hooped ring, which was at-
tached to the fragile skeletal remains of a woman or youth
(?), may also provide interesting hints on its “living” con-
text—and, more generally, on the eventual importance of
such signets within elite male and/or female life ritu-
als, as “eternalized” on their bezels (see also P. Rehak’s contribution).

The first known “archive” from Akrotiri, introduced by
C. Doumas, comprises a few dozen sealings, found as a
group in House Delta, Room 18b, next to the room with
the Linear A tablets. With his usual perspicacity on an-
thropocentric approaches to Aegean material culture, the
author has clear-minded suggestions about the sealings’
findspot and possible original place, their functions, and
their users’ needs. Highly significant here are these docu-
ments’ ties to central Cretan administration networks,
as shown by their non-theran clay, their quality, and the
source of the 15 motifs recognized to date. Some of them
(chariot race, bull-leaping, animal device, procession)
recall, or are even identical to, impressions already known
from Sklavokambos and Ayia Triada—a fact that opens up
an old discussion¹ and gives food for thought about the
spatial and temporal extent of LM IA–IB bureaucratic
practices.

A. Erkanal-Oktü presents 24 seals from mainly funer-
ary but also some settlement deposits in the Izmir re-
- جانب. Important new information on production and exchange
patterns includes identifying a seal workshop func-
tioning since the EBA at Liman-Tepe; the discovery of
the first well-stratified Mycenaean seal in a chamber tomb
at Bakla-Tepe; and furthermore, a new group of seals from
third- to late second-millennium Panaztepe, an ancient
Anatolian crossroads site, where tholos, pithos, and cist
burials were accompanied by seals with broad Aegean and
east Mediterranean structural and thematic affinities.

Two chapters provide precious EBA II “archival” evi-
dence, to add to the seminal, but so far unique, previous
data from Lerna. About 255 sealings bearing at least 26
different seal impressions from, mainly, room A-1 at Petri
(Nemea) are thoroughly analyzed by M. Kostoula, along
with two roll-cylinder stamped pithoi from the same room.
Seed imprints on some sealings (grape and two or three
kinds of grain) indicate agricultural goods stored in sealed
amphorae and pithos. A beautiful, and surprisingly early,
sucking scene with a horned quadruped emphasizes how
“novelties” are, as a rule, “formed” long before they ap-
ppear in secure stratigraphical/historical contexts. As J.
Weingarten reports, another set of 179 sealing fragments
was found unexpectedly on the acropolis of Geraki (La-
konia). They had perhaps fallen from above, along with
carbonized seeds, into a badly burnt room, around a large
pithos, and may be assigned by the pottery with them to
the time of the earliest Aegean sealing tradition, Lerna
IIIC, pre-House of Tiles. Four of the sealings bear rare
textile imprints, one of them probably from a linen cloth.
Almost 50 impressions come from just 6 seals, which would

¹ Betts 1967.
have been cut by 3—native, foreign, and/or itinerant—
seal makers, and have a close thematic relation with those
from Lerna. They include a swastika motif, elsewhere
discussed by the author as the insigneum of a rising elite,
and also indicating some “Anatolian connection.” Her
clever speculations on the purpose of the sealings would
make Geraki a peripheral settlement on a long-distance
linen (and metal) trade route between Anatolia and the
Peloponnese, via a central emporion at Lerna.

Analytical approaches prevail among studies of glyptic material that has already been published. Two chapters
deal with applications based on ancient and contrasting-
ly new technologies. W. Müller’s experimental contribu-
tion, making and using, successfully, a wooden fiddle-
bow supporting mechanism for piercing seals of soft and
hard stones, is most welcome. Lively photographs illus-
strate a text that is based on both documented ancient
techniques and, even more, the invaluable empirical
knowledge of H. Becker, one of the last German jewelers
to use the bow. From the Antipodes, J. Crowley presents
an advanced stage of her Microsoft FileMaker Pro 4.1
database for classifying iconographic and other glyptic
features. Her correct resolve to use a “non emotive and
non interpretative vocabulary” does not yet permit us to
“capture” fully the seals’ rich and multidimensional in-
formation, which is so difficult to put into standardized
descriptive frameworks.² Perhaps, it will become possible
with new refined semantic Web languages, such as XML
or RDF.

Stylistic and iconographic analysis still greatly preoc-
cupies specialists, often in a comparative and/or evolu-
tionary perspective, with much concentration on glyptic
distributions in time and space. While recognizing the
importance of style and iconography in tracing back LBA
glyptic processes, I. Pini nevertheless warns us about the
restrictive innate dating weaknesses of seals: minimal
knowledge of their original production, irrelevant funer-
ary contexts, wide circulation of the artifacts and/or their
themes, and temporal variations of seals and their seal-
ings. Only comparisons of specific motifs and composi-
tions can reveal chronologically pertinent or other sig-
nificant groupings. The author then focuses on the “two
couching oxen” theme, attested on 30 LBA seals, and
draws its tentative stylistic history from LM I central Cre-
te, to the LH II–IIIA1 Peloponnese and mainland, and back
to LM II (LH IIIB) Cretan sites. Observed differences in
engravers’ “hands” may suggest a common “pattern-book”
for Aegean artists. It is a bold idea: for a similar idea but
with different reasoning, see J. Younger’s chapter. In the
same vein, Müller approaches, with great—almost ana-
tomical—precision and expertise, the Aegean version of
the eastern “Master of Lions” theme through 15 seals
mainly of early LB III. He isolates, describes, and com-
pare their technical and stylistic analogies and differ-
ences, as well as their quality of manufacture and evi-
dence for dating. Finally, analyzing the seals from the
Elateia-Alonaki cemetery, W. Schiering distinguishes
three—technical? morphological?—groups (Kerbstil, Spindelstil, Stil der gepressten Glassiegel) which, he thinks, are
representative of overall stylistic patterns of LH IIIA–
IIIB glyptic production on the mainland.

In H. Hughes-Brock’s original paper, style and iconog-
raphy are called critically as witnesses to a metaphorical
juridiciary process, which comprehensively puts on trial,
and then rehabilitates or banishes, 12 “suspect” seals,
mainly among V. Renna’s gemmae dubitandae from A.
Evans’s Ashmolean collection. Among several interest-
ing observations, she stresses that, as a rule, reliable “echt
oder falsch” verdicts depend on the specialists’ intuitive
first judgment (e.g., “a good piece,” “je ne l’aime pas,” “it’s
too light”). As she suggests with reason, “authenticity
tests” should examine seriously the suggested forger’s
opportunities to know genuine artifacts, and conceive
and execute dubious versions of them.

“Style,” in its “elegant” and “refined” French connota-
tion, was apparently far from being granted in the past to
the “prehellenic” glyptic material. This is the conclusion
of O. Krzyszkowska’s fascinating archival research on the
50 seals acquired by the British Museum before 1878.
Very few connoisseurs like R. Payne Knight managed to
escape the prevalent 19th-century intellectual standards;
most were deeply conditioned by classical aesthetics and,
therefore, embarrassed by the “extreme rudeness” of the
prehistoric seals. Their official “recognition” is attribut-
ed to Sir Charles Newton who, despite his own prejudic-
es, collected them for the museum and publicized them
systematically (e.g., by circulating sets of impressions to
interested European scholars). It is a bright moral les-
son, even for today’s researchers.

The works of synthesis in the volume use typology and
style through more complex, sometimes interdisciplinary
and transcultural methodologies, to reconstruct sociocul-
tural processes, where people often become more visible
behind the glyptic production.

In J. Aruz’s eastern Mediterranean perspective, com-
bined “foreign” and “native” evidence contributes to an
understanding of artistic change and exchange of shapes,
iconographies, and styles. Carefully chosen examples from
Egypt, Syria/Levant, Mesopotamia, Anatolia, and the
Aegean include imported, imitated, and even altered piec-
es found attached to burials of culturally different peo-
ple. They apparently participated in an “international”
Bronze Age interaction network, that may well reflect
common beliefs and ideologies, but also trivial, personal
choices; for instance, as souvenirs, proofs of voyages,
exotic, and/or trendy artifacts.

“Deciphering” the constructive schemes of lion and
bull representations taken from her dissertation, J.
Wohlfeil directs her stylistic analysis toward semiotics.
She searches the tentative “language” that communicates
the artist’s encoded point of view about species, perfor-
mances, situations, or hierarchies through a wisely se-
lected set of “words,” fitting the restricted surface of the
seal, and yet ready to be easily “received” by the “read-
er”/spectator.

In the domain of the early Cretan glyptic, two chap-
ters, both related to dissertations, extract social meaning
from Prepalatial assemblages. K. Sbonias steps forward to

² Cf., also, van Effenterre and van Effenterre 1989.
catch the organization patterns of seal manufacture. He correctly defines certain quantitative and qualitative criteria of specialized production and then tests them on three groups/ phases that he observes in the relevant craft products. As a result, an EM II "incipient level" of specialization can be seen to evolve, but not until EM III–early MM IA, into a proper, albeit modest, common glyptic tradition within the larger communities. By the end of the period, fewer places of manufacture and decreased stylistic variety and spatial distribution formed a more centralized production pattern, itself probably subject to other sociopolitical changes. With the help of ethnographic analogy, A. Karytinos (re)focusses on the stylistic/iconographic evolution of the well-stratified EM IIA–MM seals from Archanes, Phourni. He too sees three glyptic tendencies that persist longer in local practices, which he “reads” separately in their contexts: within specific tholoi and funerary buildings, which perhaps hosted specific social units such as nuclear or extended families, or clans. Similar seals outside Archanes, mainly in south central Cretan tombs around the Messara, may equally point to interrelated users (sharing lineage, polity, ideology) and reveal how complex EBA organization was throughout the island.

In the subsequent palatial glyptic production in Crete, every style reflects one stage or another of social-historical evolution, E. Thomas argues with reason. Old Palace and New Palace glyptic groups express, in their materials, shapes, compositions, and iconographies, both prevailing collective trends and individual inspiration. The analogies, “transitions,” mixtures, changes, and particularities that can be attested thus pass down the “living” mentalities—whether old-fashioned or innovative, realistic or ornamental or abstract, monumental or fantastic—of their makers and users.

For Protopalatial Crete, a well-structured paper by J.-C. Poursat and E. Papatsaroucha seriously (re)questions and analyzes the major Malia assemblage of, it is finally agreed, about 500 seals, and places it in its broader diachronic and contemporary contexts: what styles came before and after, and how did it function in unison with the Hieroglyphic script system. Malioite production was apparently at the center of an engraving tradition—a certain “Malia style domain”—popular among regional, and mainly eastern/central Cretan workshops. The Quartier Mu atelier was the spur of massive related manufacture. By contrast, its very limited manpower (one seal maker and his helper) and its remarkably short production time span (at the end of MM II) show us a helpful, critical way of assessing better past human effort, which can often be overestimated.

For Neopalatial Crete, P. Rehak, loyal to his sensible, anthropocentric outlook, constructs a pertinent argument around “engraved” Aegean narratives through his new reading of an old theme: the Isopata ring scene, generally interpreted as an epiphany sequence. He “begins from the beginning,” by describing neutrally and in detail its separate components, and then compares its parts and the whole to other, not necessarily religious, small- and large-scale “women stories” in Neopalatial art. Thus the picture he studies takes its place among a familiar imagery, well established on LM IA–IB gold signets, that probably narrates “a rite exclusive to young adult women” (276).

Two authors examine the subsequent Mycenaean mainland production. R. Laffineur successfully develops his past idea of viewing glyptic iconography as a significant social indicator of hierarchically organized mainland sites. He now concentrates on seals and rings from individual burials, in order to reach, with different degrees of reliability, their respective deceased owners’ situation. Composite tables quantify the pertinent criteria for seal-to-burial associations, and the resulting ratings are carefully evaluated, revealing clusters of “central” iconographies in the (palatial) Argolid and Messenia, and more “peripheral” ones in other localities in and beyond the Peloponnese. Particularly interesting is the author’s promising, although slippery, engendering of certain engraved motifs. With thoughtful steps, J. Younger revisits the seals that he earlier defined as the “Spectacle Eye Group,” with the typically double-drill-eyed men and/or animals (no women!). This large sample (about 300 seals) is linked to an innovative LM II–LM IIIA1 Knossian glyptic craftsmanship and, must encode “emblematic” sets of messages from the then emerging Mycenaean administration at Knossos. New materials and iconographies (e.g., the minotaur) and readapted older themes, together with structural differences and unusual cuttings of look-alikes, may reflect the social identities, including class, rank, and ethnicity, and/or attributes, such as office or function, of the seal users, as individuals or as members of organized bureaucratic associations.

When the everyday functions of seals and sealings are examined, it is mainly spraconomic administration practices that enter the scene, as the last group of contributions shows.

A new impression from Psathi, Chania enriches our limited knowledge of Prepalatial seal uses and exchange networks. Its general form reminds E. Hallager of two east Cretan specimens, from Malia and Mochlos. Of imported clay, and maybe originally sitting on basketry, it has a complex swastika-like motif, with a few parallels from the Messara—perhaps another “Anatolian connection”? The author then turns to reevaluate the Petras Hieroglyphic archive in the light of recent finds. These illuminate significantly both Protopalatial sealing practices, by adding the use of the roundel, and the evolution of major types of Aegean sealed documents: the roundel and flat-based nodule were present in Linear A, while the nodule, direct sealing, and two-hole hanging nodule survived even into Linear B.

I. Godart, A. Kanta, and A. Tzigounaki debate, briefly, stratigraphic and functional aspects of the hundreds of sealing fragments from MM IIB Monastiraki, Korakies. The abundant imprints, as yet made by a limited number of seals, with some from Phaistos, point, according to the authors, to a few seal users, maybe with similar tasks to those of the much later Linear B “collectors.” An apparent continuity is, therefore, suggested from the early to the late second-millennium Aegean palatial systems; this

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3 Cf., recently, Cain 2001.
must be an open hypothesis, because Minoan and even Mycenaean sphragistic routine remains “mute” on such topics as the number(s) of seals per person (owner/user), scaling occasions/frequencies, and length of a seal’s use (one generation? more? less?).

A Foster responds indirectly to this cognitive gap by borrowing from Egyptian sealing practices and comparing the Phaistos Protopalatial evidence with two much smaller but better illustrated corpora of sealings, from the Old Kingdom Khentkaus royal funerary complex (Abusir), and the Middle Kingdom fortress at Mirgissa (Nubia). While analogy does not provide definite answers, especially in comparing such different contexts, it nevertheless broadens our interpretive arguments to know when, say, we examine the various types of pegs at Phaistos or the different seals impressed onto one sealing, that at Abusir, for instance, about 300–350 persons could be working at the same time; with some of them entering the storerooms, sometimes twice a day, to seal pegs and bolts on doors and boxes, as well as various receptacles, papyrus documents, and other items.

Ordinary Mycenaean administrative operations are elucidated by T. Palaima’s refined remarks, based on the short but paleographically significant sealing inscriptions from Pylos and Thebes. Since they can be assigned to the various writing styles of scribes working at known administrative tasks and contexts, they reveal their place within palatial and extrapalatial transactions in the macro- and microeconomic organization scale. Elaborate signs on some sealings point mainly, though, to tablets from “peripheral areas” at Pylos (e.g., rooms 6, 23, 99) and only once to the central Archives Complex and the principal scribal hand 2 (Ta, Jn series). Moreover, spelling peculiarities on a few sealings “do offer some small evidence for the existence of non centrist habits of writing and spelling among individuals (and related institutions) who only periodically came within the orbit of the central tablet-writers” (236–7).

Outside the Aegean, J.-P. Olivier and F. Vandenhabele study the apparently minor use of Cypriot scripts for sealing. They systematically present 20 cylinder seals and a few other types that show 1 to 7 signs in Cypro-Minoan (LC II–III, 15th–11th centuries), to which the first author is at present “devoted.” A greater emphasis is put on another set of 27 scarabs, scaraboids, and some cachets that bear 3 to 13 signs in the Archaic “classical” syllabary (ca. 600–475). Their inscriptions generally begin with the name of the owner, who is always a man except for one or two women (which women? we ask). Their real sealing function is confirmed by the much later sealings from Nea Paphos (second–first centuries), some of which are from inscribed seals.

The volume closes with a major new find by Palaima—once again apparently from a lonely, nocturnal context: a Linear B tablet (MA Tn 249) that happens to bear the scribe’s poetic-philosophic review of the Congress and beyond. Who cares about the tablet’s authenticity? Everyone would have missed its recto/verso taunting messages: on Aegean glyptic, sphragistic and epigraphic production; and, even more, on us today, the latecomers who produce the “readings,” religious and profane. Palaima holds up an echt clay looking-glass that reflects, critically, our vision of the prehistoric universe of the seals and sealings. A universe that has long been substantially enlightened by the huge scientific contribution of a tiny but rigorous, devoted, and ever so friendly research team that animates the CMS Institut, in Marburg Schwannallee (formerly the Renthof).

DEPARTMENT OF HISTORY AND ARCHAEOLOGY
UNIVERSITY OF CRETE
RETHIMNO, GR-71100
GREECE
KOPAKA@PHL.UOC.GR

Works Cited

This volume might be subtitled “Shaking and Baking in the Ring of Fire,” covering everything from earthquakes to hot volcanic-ash falls that have caused intense societal problems. Of the 18 chapters written by different contributors, 11 discuss locations in the Pacific Ring of Fire, five in Europe, and two provide general introductions. The book, the editors say, examines how environment affects cultural change. Given the varied human reaction to local disasters, the contents are generally interesting and some are fascinating.

S. Shimoyama sets out six criteria that define a disaster, either natural or caused by humans. This is a rational attempt to define “natural disasters”; other, similar approaches exist. The need for recognized standards about disasters among archaeologists and anthropologists is obvious.

“Bet-hedging” is the basis of K.D. Kornbacher’s argument concerning the archaeology of the north coast of Peru. The area is subject to more natural disaster than it deserves and in greater profusion than anywhere else: volcanic eruptions, earthquakes, lahars (water-soaked debris), sand-dune advance, and El Niño rainstorms and droughts. Bet-hedging, in evolutionary biological terms, examines two reproductive strategies where populations live in extreme environmental fluctuations. The first strategy maximizes birth rate, and the second diverts reproductive energy into monumental building, arts, and the like. In a constant environment, the first strategy assures maximum reproduction. But in a variable environment (especially with regard to the supply of food), the second “strategy is favored by selection, since in the long run a reproductive strategy that reduces the variance in numbers of surviving offspring will serve to increase survivorship and allow growth to occur at a faster rate.”

The author uses bet-hedging to examine the archaeology of the Moche I–V phases (the human response to environmental stress over ca. 700 years), part of a long history of severe (not catastrophic) events. The archaeological record in several places is consistent with what would be expected from the second reproductive strategy. The paleoenvironmental record combined with a characteristic style of art (“on ceramics, metalwork, and textiles”) and monumental building “make the north coast Peruvian archaeological record a promising setting in which human responses to disasters can be studied” (227).

Discussing the coasts of Papua New Guinea, H. Davies shows how tsunamis affect local communities. It is estimated that major tsunamis hit the north coast of New Guinea every 15–70 years and probably have done so for all the preceding years of human occupation. But the tsunami does not appear in local myth, and most inhabitants are not aware of them. The populace is not warned, and the wave does maximum damage. Only when a tsunami occurs within the span of a lifetime can the warning signs be communicated.

With the recent Pinatubo eruptions (1991–1995), several villages in the Philippines close to the volcano were and are subject to extreme lahar threats. K.S. Crittenden and K.S. Rudolfo describe the extraordinary measures the local populace took to save their homes. The authors say that this behavior “is a salutary lesson to all archaeological researchers that it is dangerous to assume that there is a clear correlation between threat and cultural reaction.”

The lahars, triggered by intense rainfall, put at risk the major town (Bacolor) and several outlying villages. The Philippine government built dikes to divert the flows and raised the national highway 3 m (to protect communications and to act as a dike). Many villages were lost. Bacolor itself was saved; houses were dug out and raised, as was Bacolor’s San Guillermo parish church. Other essential services—water, power, schooling—were revived through efforts of the townspeople and the government. The threat of lahars remains, but the stubborn efforts of the populace offer Bacolor a significant future.

What sort of event is required to have a significant influence on a culture? J. Grattan, M. Brayshay, and R.T.E. Schüttenhelm, in discussing the Laki Fissure eruption (Iceland, summer 1783) answer: “catastrophic events may be invisible in the archaeological record; major environmental trauma need not have a permanent impact on the cultures affected.” The Laki Fissure eruption had a major effect on most of Europe because of the gases (sulfur and fluorine compounds and ammonia) the volcano sent into the troposphere. In Iceland, no one was killed by the lava flows, yet a quarter of the human population was lost; three-quarters of the livestock was destroyed, and great losses in agriculture occurred. A “dry fog” made up of the eruption’s gases swept northern Europe and Britain down to Naples, Malta, and Tripoli. Crop destruction resulted, as well as probable human deaths. High temperatures and great storms occurred in many places. Many feared Armageddon had come. Notwithstanding all this, the authors say, “despite the continental scale of the event and the impact that the dry fog had . . . there is no evidence that this event entered folk memory to be remembered as a time of stress or hazard.” Indeed, how many today can even identify the Laki eruption?

Santorini redux 1: J. Driessen explores the long-term effect of a widely known volcanic caldera. Listing the factors of destruction on Crete, the author suggests that humans caused the LM IB destructions, possibly as revolt against elite classes; if so, a social explanation for the demise of Minoan palace culture should exist. The Santorini event (high chronology, 1628 B.C.; low chronology, 1520 B.C.) must have affected agriculture, livestock, and water supplies. In the face of disaster, human reaction first is usually “we’re all in this together”; the second reaction is to assign blame. Disasters produce “long-term...
effects which act as catalysts for political, economical, social, and psychological actions.” While changes in the archaeological record do not necessarily imply a societal crisis, Driessen lists physical changes in Cretan archaeology caused by “stress-induced phenomena.” Almost all tend to show Late Minoan IB as the climactic. Earthquakes, Santorini’s implosion, and tsunamis hit Minoan society hard, causing disintegration lasting several generations. This theory (cf. J. Driessen and C.F. Macdonald, *The Troubled Island*, Liège 1997) has always appealed to me, but I am troubled by the troubled island’s sense of time. What is the statute of limitations on natural disasters? The span between the Santorini event and the close of LM IB is 150+ years following the high chronology (as many do today). Would “stress-induced phenomena” continue that long?

Santorini redux 2: S.W. Manning and D.A. Sewell ask a pointed and interesting question: Have any major volcanic eruptions of the last 4,000 years significantly affected human civilizations? The authors examine five episodes within that period where tree-ring evidence, ice cores, and archaeological and historical data can be used. Examining these carefully, Manning and Sewell inject a healthy skepticism into the “everyone-knows-that” school. Four of the five episodes may not have been volcanic. The fifth, an event dated 1644 ± 7 B.C. by ice cores, is a “sound datum.” (Dates vary because different ice cores are used. The authors point out that the 1644/1636 date could include others of 1623, 1669, and 1695.) For the collapse of Santorini a tree-ring date of 1628/1627 B.C. is frequently used. Is this compatible with the 1644/1636 ice-core date? Manning and Sewell say the two dates likely represent different events. They argue that the 1644/1636 date is that of the Santorini event and believe the collapse of the Minoan culture was not caused by the eruption. They further conclude, “significant volcanic impacts which . . . affected broad-scale human history appear to have been very rare” (281).

The Maoris of New Zealand seem to have worked out an ideal response to the problem of volcanic eruptions. As D.J. Lowe, R.M. Newnham, and J.D. McCraw explain, the North Island has a number of active volcanic sites. The authors examine the effects of eruptions at these, emphasizing the period 1200–1300 A.D., which saw the arrival of the Maori. These people declared the most serious eruption sites taboo, so few fatalities occurred around them. More, a number of volcanic features and products (pumice and obsidian among many others) proved beneficial to the early Maori.

The southern part of the island of Kyushu, Japan, was and has been plagued by many volcanoes. H. Machida and S. Sugiyama describe a very large volcanic eruption, the Kikai-Akahoya (K-Ah), that resulted in landscape change and forced adaptation and readjustment in the local society. K-Ah occurred ca. 7500 B.P. and had a volcanic explosive index (VEI) of 7, roughly equivalent to that of Santorini. No matching VEI is known for other volcanoes in Japan. The authors “found evidence for (1) vegetation changes, (2) swarms of landslides, (3) flooding, and (4) a co-volcanic earthquake and tsunami.” The contrast between pre- and post-eruption pottery types indicates “a cultural hiatus.” Coeval with the eruption, the populace either was destroyed or migrated to the north. Permanent reoccupation did not occur for a millennium later, when different pottery styles appeared.

The book’s aim, as mentioned before, is “to critically examine the role of extreme environmental events in causing cultural change”—this through articles covering a wide range of disasters. The authors, taking “a skeptical point of view,” are mostly in agreement that natural catastrophes do not have an immediate, direct corollary with cultural change.

The book has graphic flaws. The photographs generally carry little or no information. Some of the maps, all better than the photos, often suffer from scale and confusion problems. Yet, on balance, I recommend this work.

Les Cole

756 OPAL AVENUE
VENTURA, CALIFORNIA 93004
LHCOLE@RAIN.ORG


This book emerged out of a 1997 Society for American Archaeology session, thus making it among the first to both apply and critically evaluate the concept of human agency in relationship to archaeology. The concept is narrowly construed as examining the role of either structures (cultures or institutions) or the individual and his/her actions and intentions. Thus, agency may refer to the development and acting out of individual as well as group identity. The end result comes about through the process of repetitive human actions that become the routines that individuals or groups of individuals carry out in their daily lives as well as through the choices that humans make. Monuments and social structures play a key role in both enabling and constraining those routines as well as through creating a context for choice. Archaeologists are left to reconstruct these processes from their fragmentary remains. As Ian Hodder notes in the second essay, our data “are produced by the discard from meals, the knapping of flint or the scratching on clay” and over time “the social meanings of these temples and monuments do not stay the same.” The study of these processes can be used to interpret gender relations, change in material culture, the role of the built environment in shaping identity, and power relations. This view and those espoused in many of the essays are heavily indebted to the works of British sociologist Anthony Giddens and by the French anthropologist and social theorist Pierre Bordieu.

The idea of agency brings us to the point where archaeology is confronted by philosophy, in that the debate becomes one of intentionality in human behavior versus determinism. The editors underscore this debate through their acknowledgment of earlier philosophers of individuality and free will, including Aristotle, John Locke, Adam Smith, and John Stuart Mill. However, Marx is also an important influence because of his focus on
The free will versus determinism positions also underlie the debate of the last 23 years in the approaches used in processualism/New Archaeology (focus on behaviorism and adaptation) versus postprocessualism (focus on cognitive and symbolic aspects of social life). In addition, the role of agency is examined across a wide variety of material culture remains including lithic technology, pottery, and architecture. The contributors are similarly widely dispersed among institutions in the United States and the United Kingdom. As presented in the five position statements and nine case studies, there is currently little consensus as to what “agency” really means and how to apply it to the study of the past; thus, a multiplicity of meanings have been assigned to the term. The case studies are wide ranging, from late Pleistocene hunter-gatherers in Europe to 19th-century historical archaeology in the United States. Thus, the contributions represent the diverging theoretical positions that signal a theoretical gap that is every bit as wide as the geographical gap between the two regions.

Although American archaeologists are finally beginning to leave behind the processualist approach, it continues as a point of departure in a number of the essays. For example, before concluding that the best way to understand institutional change is to consider historic human agents, John E. Clark takes us through a lengthy examination of evolutionary and Darwinian explanations for the origin and transformation of social hierarchy. In contrast, archaeologists working or trained in the United Kingdom tend to focus on social archaeology. For example, in elaborating on the complexity of “Solutrean” lithic technology, Anthony Sinclair assigns it a quality of “boldness” that takes it beyond function, that imbues it with artistry, which he finds comparable to Greek vase painting. Thus, creation of Solutrean lithics is instrumental in the creation and maintenance of individual identities. Such assertions are clearly welcome as Wobst, in his position paper, calls for more attention to prehistoric periods, lamenting that Paleolithic hunter-gatherers in Europe to 19th-century historical archaeology in the United States. Thus, the contributions represent the diverging theoretical positions that signal a theoretical gap that is every bit as wide as the geographical gap between the two regions.

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Moore nicely links the diverging strands by assessing the potential for creativity as well as acknowledging the ethical implications of such a concept; namely, the enormous responsibility of speaking for individuals, cultures, and civilizations that are long since dead as well as imbuing the past with action rather than passively describing it. Moving toward an archaeology of agency also involves confronting a number of realizations including the radical alterity of the past, the role that the present plays in shaping how we view the past, as well as our role in (re)presenting the past.

Finally, agency remains a multiscalar concept that is linked to the notion that material culture changes are the result of human action whether the motivation is structural and cultural or intrinsic and idiosyncratic. As such, it recognizes archaeology as an interpretive discipline. To this end, Matthew Johnson suggests that rather than simply quantifying a monument, one might instead write narratives of people moving through buildings and/or reconstructing their material environments. Although this book is an instructive beginning, there is still much to be worked through in terms of agency’s implications for archaeology. Such a working through in the east Mediterranean, however, will require a major shift from the still current emphasis on the minutiae of typological categories and substitution of ungrounded assumptions for evidence-linked interpretations. Instead, as John Barrett argues, we must “engage our data in a sense that confronts real conditions of history.” Such an engagement might begin by raising questions about human motivations that are represented in both the formal and spatial patterns and changes that form the archaeological record.

LOUISE A. HITCHCOCK

CENTRE FOR CLASSICS AND ARCHAEOLOGY
THE UNIVERSITY OF MELBOURNE
PARKVILLE 3010
VICTORIA, AUSTRALIA
LAH@UNIMELB.EDU.AU


This volume of papers is based on an eponymous international workshop held at the University of Wales, Lampeter, in June 1998. It consists of 12 chapters by 13 contributors (one is co-written), plus a general introduction by the three editors and shorter introductions to each of three sections by individual editors. All the contributions concern various aspects of the body and embodiment. The chapters in this work transcend typical archaeological studies of the physical anthropology of dead bodies and artistic representations of the human form to examine “the cultural meaning of the human body, as a symbol, artefact, medium, or metaphor” and to conceptualize “the past as lived, sensual experience.” Regions and periods touched upon include Epipaleolithic and Neolithic Levant, Italy, and Britain, Bronze Age Crete, prehistoric Oceania, Iron Age Scandinavia, 19th-century Britain, and 20th-century use of the Viking past, but the work stresses theoretical approaches from the humanities and social sciences, especially phenomenology, to archaeology rather than presentation of data concerning specific cultures.

The work is stimulating and proffers fresh ways of regarding archaeological material, although at times it is challenging and frustrating to follow the jargon-laden discussion. Some of the contributions are straightforward, others opaque; some authors promise much more than they deliver, others honestly admit that they present works in progress. Several authors weaken their arguments by exclusionary obfuscation, using terms and phrases such as: Fordist western bodies, a metonymic signified, sediment (as a verb), motivated inter-subjective experiences, representatist paradigm, mentalist notions, somatic
modes of attention, trans-individual social and somatic landscape, logocentric dematerialization of experience, heterotopic space, and the enduring incongruity of bodies in practice. While the concepts presented can indeed be complex, it is unfortunate that many authors celebrate their own erudition by choosing language that hinders communication.

Papers in the first section, “Bodies, Selves, and Individuals,” are introduced by Sarah Tarlow; they deal with dead bodies and are concerned with “the meaning of the body and with the exploration of its variable relationship to the self, subject, person or, particularly, individual.” After a lengthy theoretical introduction, Julian Thomas in “Archaeology’s Humanism and the Materiality of the Body” considers how we may attempt to understand personhood and “embodiment” in Neolithic Britain. Chris Fowler also looks at the “otherness” of the past in “Body Parts: Personhood and Materiality in the Earlier Manx Neolithic,” by examining unusual burials. Unfortunately, the figures in this chapter are reproduced too small with scales and keys that are unreadable. Jos Bazelmans considers adornment of the body in “Moralities of Dress and the Dress of the Dead in Early Medieval Europe,” cautioning that meanings of adornment were variable. He contrasts the “splendid” burial array of the sixth and seventh centuries with the more “sober” interment from the later seventh century onward. In the last chapter of this section, Sara Tarlow examines “The Aesthetic Corpse in Nineteeth-Century Britain.” She has the opportunity to use well-documented historical contexts to discuss how people responded to the death of a loved one and how corpses were prepared and disposed of by the survivors, whereas Thomas and Fowler can only theorize about these matters.

Yannis Hamilakis introduces the second section, “Experience and Corporeality,” concerning embodiment or sensory experiences of the body such as consumption, feelings, and gestures. Chapters 5 and 6 both deal with Bronze Age Crete. Christine Morris and Alan Peatfield, coauthors of “Feeling through the Body: Gesture in Cretan Bronze Age Religion,” and Yannis Hamilakis in his own chapter, “The Past as Oral History: Towards an Archaeology of the Senses,” both deal with Bronze Age Greece, though one would have no idea from Hamilakis’s title. These authors resist conventional interpretations of well-known material often identified as “Minoan.” Morris and Peatfield question the typological analysis and interpretation of worshipful gestures on figurines, suggesting instead postures of ecstasy possibly involving healing. Hamilakis wants to move beyond the conventional focus on the sense of sight, such as viewing architecture and paintings, to consider the role of other senses—taste, touch, and smell—in eating, drinking, and inhaling at social, ceremonial feasts. He uses “oral history” to refer to consumption into the body rather than the conventional description of unwritten histories passed from generation to generation verbally. In “Ways of Eating/Ways of Being in the Later Epipaleolithic (Natufian) Levant,” Brian Boyd also considers the “consuming body” and looks for reasons for the absence of marine resources from the diet in light of the use of marine shells for decoration of the dead. His research is a departure from conventional Natufian archaeology, traditionally a focus for studies of the origins of agriculture and cereal domestication, as he considers food resources from a phenomenological standpoint. In “Time and Biography: Osteobiography of the Italian Neolithic Lifespan,” John Robb examines how corporeal experiences and social practices—especially what he calls “social time”—can be understood through interpretation of osteoarchaeological material. This chapter is marred by repetitions and deletions of text preceding and following figure insertions. In particular, these last two chapters in this section both deal with traditional data analyses but attempt to move beyond the limitations of these methods to examine “skeletons with faces.”

The third section, “Bodies in/as Material Culture,” introduced by Mark Pluciennik, considers the representation of human bodies, discovery and re-interpretation of bodies, and relationships of artifacts and landscapes to bodies. In one of the better illustrated chapters, “(Un)masking Gender—Gold Foil (Dis)embodiments in Late Iron Age Scandinavia,” Ing Marie Danielsson re-examines artifacts that have been conveniently disregarded because they did not fit the traditional typological division of a dichotomy consisting of clearly male or female figures. She suggests that some ambiguous figures may represent gender-liminal, shamanic shape-changers. There are a few translation mistakes, in particular, a peculiar use of “unraveled” for “discovered.” Elisabeth Arwill-Nordbladh also deals with Scandinavia in “Re-arranging History: The Contested Bones of the Oseberg Grave.” She discusses the discovery and nationalistic use of the Oseberg ship burial and attempts at identification of the remains of two women in it. She contrasts the reburial of the two women together subsumed into one with the remains of a male Viking warrior discovered in another ship find at Gokstad. The Oseberg ship was excavated just as Norway gained its independence from Sweden and became a symbol of national self-esteem; however, the identification of the bodies as female colored how the reburial was commemorated as a regional rather than national event.

In “Art, Artefact, Metaphor,” Mark Pluciennik contrasts incised and painted images of humans in Epipaleolithic and Neolithic Sicily. He attempts a phenomenological interpretation of attitudes toward the body and challenges archaeologists to ask questions that concern corporeal aspects of the body.

Finally, in the last chapter of the volume, “Marking the Body, Marking the Land: Body as History, Land as History: Tattooing and Engraving in Oceania,” Paul Rainbird relates tattooing on bodies to engravings on rock surfaces; thus, as tattoos record history on the body, petroglyphs apparently record history in the landscape. He reaches beyond the visual to compare the sensation of the pain of tattooing skin to the smashing of the rock surface in the process of engraving, and also introduces the sense of hearing by comparing the sound of pounding to prepare plant materials for ingestion into the body to the sound of chipping stone to make rock carvings.

This volume seems hurriedly put together. Besides the already mentioned minuscule figures in Fowler’s contribution as well as the repetitions and deletions in Robb’s chapter, the bibliography is not in alphabetical order in the introductory chapter, and there are works mentioned...
in the text of Tarlow’s introduction (notably the key reference to Schilling 1993 for the body as “project”) and the chapter by Julian Thomas that are not included in their bibliographies. Numerous typographical and grammatical errors, and a few translation errors detract from readability (which is further impaired by the heavy use of jargon). Some very conspicuous mistakes include misspelling Arvill-Nordbladh’s name in the list of contributors and substituting “Boewulf” for “Beowulf” three times in the “notes on contributors” entry on the author Bazemans’s previous scholarship. Such sloppiness is inexcusable in such an expensive volume. Overall, there are very few figures, and some chapters truly needed illustrations (such as Morris and Peatfield’s contribution on gestures in Bronze Age figurines from Crete). Tarlow explicitly blames unreasonably high costs for use of copyright images for her lack of illustrative material, a predicament that many publications are facing. This work has many of the problems typical of edited conference anthologies, but it is an effective vehicle for bringing the contributions of several younger authors to light. The volume will force readers to think beyond familiar archaeological methodologies, but many of the innovative ideas are presented in unnecessarily mystifying ways.

Nancy L. Wicker  
DEPARTMENT OF ART  
205 BRYANT HALL  
UNIVERSITY OF MISSISSIPPI  
UNIVERSITY, MISSISSIPPI 38677  
NWICKER@OLEMISS.EDU


This volume, the publication of the author’s dissertation in anthropology for the University of Wisconsin, is both more and less than a casual reading of the title might imply. It is not, as one might suppose, a focused treatment of the thousands of stemmed cups (kylikes) found in the storerooms of the Mycenaean palace at Pylos. In fact, most of the specimens actually considered here are not even from kylikes, nor do they come from the palace itself: let the library catalogue browser be here are not even from kylikes, nor do they come from the palace itself: let the library catalogue browser be. At heart, the research presented here derives from the palace itself: let the library catalogue browser be.

A tougher editorial hand would have been welcome: some of what is provided is so basic that it will be known to practically anyone with an interest in prehistoric Greek archaeology, while some of this section (e.g., the discussions of the Neolithic and Early Bronze Age) is only tenuously connected with the issues at hand. Galaty’s review of previous scholarship on the structure and economy of the Mycenaean state at Pylos is appropriate and succinct. The author’s discussion of the Pylian state reflects the significant changes in thinking of many Aegeanists in recent years concerning how Mycenaean kingdoms operated. Under the old “top-down” model, Mycenaean states appeared to be nearly totalitarian, with palace bureaucrats seemingly authorizing the exchange of every fig and lentil between neighbors throughout the entire state. The new model sees the palace elites employing a variety of strategies beyond simple military coercion to mobilize desired resources from their territory; room is also accorded for substantial economic activity outside the purview of the palace, including entrepreneurial production and market-oriented exchanges. Galaty concludes the introductory chapters by developing theoretical criteria to distinguish between hypothetical modes of production (e.g., production by individual households, communities, or specialized regional workshops) in actual ceramic assemblages.

The core of the book is the presentation of petrographic and chemical data for samples from more than 300 sherds drawn from 18 Messenian sites; the sherds were obtained from the recent survey in Messenia conducted by the Pylos Regional Archaeological Project and from a collection employed previously by J. Carothers for her 1992 UCLA dissertation, “The Pylian Kingdom: A Case Study of an Early State.” Galaty also obtained samples from modern Messenian clay beds and performed controlled firing experiments to provide comparanda for his ancient samples; this work on Messenian ceramic ecology is among the more valuable contributions of the research. An issue that the author should have addressed in greater detail is the chronology of his samples. Although these were identified as LH IIIB (some only to the range of LH IIIA-B) by qualified specialists, no descriptive catalogue, however minimal, or profiles are provided. Since many of the samples come from cooking or other coarse vessels for which standard, chronologically sensitive typologies are not yet agreed on, some documentation of the criteria by which these samples were dated would have been useful to other researchers. In the end, his fabric groups do probably indicate different, but largely contemporary, regional entities, but in this sort of study there exists the possibility of confounding diachronic changes with synchronic groupings, especially with a period as long as LH IIIB; to be fair, the author acknowledges this as a potential difficulty.

The petrographic portion of the analysis employed the standard technique of thin sections viewed with a polarizing light microscope and point-counting of mineral inclusions. The chemical analysis employed a relatively new and controversial technique called weak acid extraction (WAE), in which a powdered sample from a sherd is bathed in a weak solution of hydrochloric acid for two weeks; the solution is then analyzed in a spectrometer, which measures the amount of 12 different elements. WAE has the advantage of being relatively low cost, unlike the competing technique of neutron activation analysis, and it
advances the dangerously corrosive acids employed in strong acid extraction. WAE is clearly not the ideal technique for all kinds of ceramics: as Galaty's data show, some Mycenaean earthenwares, which he terms "hard-fired," are resistant to good characterization by WAE; most of these samples were made of illitic clays fired to the point of near-vitrification. Galaty's discussion of the virtues and limitations of the technique is judicious, and his argument that WAE is useful for some kinds of research has merit. Galaty discovered that the fine ware sherds, which included most of the kylikes, could not be convincingly divided into fabric groupings by either petrographic or chemical analysis. After evaluating a number of possible explanations, he concludes that the bulk of the fine wares were produced at a single location with producers using a common source of clay; whether this took the form of a large workshop or a village of potters is left more open, but he prefers the model of a single workshop. The cooking and other coarsewares could be divided into three fabric groups that seem to reflect different regional origins within Messenia. The presentation of the petrographic analysis is reasonably full, but the results from the chemical analysis could use more explanation. To illustrate differences between his samples, Galaty generally employs log-log scattergrams of strontium vs. titanium. Why were these elements singled out? A quick spreadsheet analysis by the reviewer of ca. 50 of the samples suggests there is indeed a statistically significant correlation between these elements, but other element pairs seem promising as well. A table of the correlation coefficients would have helped other workers in understanding and using the data. It also appears that the chemical data could be usefully subjected to other multivariate tests in order to confirm the reality of the fabric groups as well. A real difficulty for others trying to use the results is that although the chemical composition for each sherd is given in an appendix, neither the provenance of a given sample is provided, nor the fabric class to which it belongs, nor the shape (if identifiable) from which it came. If the author builds on this study in the future, this information should be included in an obvious and readily available manner.

A general observation about the book as a whole is that the author is strongest in dealing with the scientific analysis and the construction of thoughtful theoretical models. He is not, as he admits, a typical Mycenaean pottery specialist. Some of his observations and arguments will strike such scholars as peculiar or even wrong. His skepticism concerning the abundance of kylikes, both painted and unpainted, at nonelite sites is entirely unwarranted: throughout LH IIIA–B the kylix typically constitutes at least half of the fine unpainted sherds from a domestic deposit, whether the site is as prominent as Mycenae or as small as Tsoungiza or Korakou. Kylikes were certainly employed in the context of ritual feasting, but their abundance in practically every context argues against the notion of the kylix having a restricted circulation is wrong, and if the author is right about the production of fine wares being localized to a single place, this would still seem at first glance to be a point in favor of those seeing state involvement in pottery production. Here Galaty might profitably explore parallels with the later potters of Athens and Corinth: although producing a fairly uniform product in terms of fabric, there is little question in these societies about the independence of the workshops from direct state control.

Nestor's Wine Cups exhibits some of the roughness associated with doctoral dissertations. Galaty is to be praised, however, for undertaking a study that attempts to connect his ceramic evidence to real behavior and economic activity: ceramicists all too often allow themselves to be absorbed wholly with issues of typology, chronology, or other technical studies. Those interested in Mycenaean ceramics or economy will probably find this work interesting and worth a look.

Patrick M. Thomas

DEPARTMENT OF ARCHAEOLOGY AND ART HISTORY
UNIVERSITY OF EVANSVILLE
1800 LINCOLN AVENUE
EVANSVILLE, INDIANA 47722
PT@EVANSVILLE.EDU

Despite its rather pompous-sounding but tongue-in-cheek title—a play on J.G.D. Clarke’s Prehistoric Europe: The Economic Basis (London 1952)—this is a book about current approaches to the study of prehistoric pottery in Britain. A more accurate, but less snappy title might have been “Studies Mainly on the Later Prehistoric Pottery of Southern England,” since Scottish, Welsh, and northern English ceramics are rarely mentioned, and many of the period-specific contributions focus wholly or mainly on post-1000 B.C. pottery. However, this geographical and chronological imbalance reflects the history of, and the nature of participation in, the Prehistoric Ceramics Research Group (PCRG), from which this volume emerged.

As the editors explain in their introduction, the PCRG is an independent body of around 100 ceramic specialists who meet twice a year to discuss aspects of prehistoric pottery in England. Meetings combine the practical—handling and viewing sessions, especially of large, newly discovered assemblages—with the discussion of theoretical issues and methodological approaches. Originally formed in 1988 by merging the Iron Age Pottery Research Group (established 1976 in eastern England) with the First Millennium B.C. Ceramic Research Group (established 1985 in central southern England), the PCRG expanded in scope to encompass Bronze Age and Neolithic pottery throughout England in 1994. It is one of several specialized ceramic groups in Britain; others include the Ceramic Petrology Group (incorporating the Experimental Firing Group) and period-specific groups for Roman, Saxon, Medieval, and post-Medieval pottery. The emergence of these various networks over the last 30 years largely results from the huge increase in the volume of ceramic finds, particularly from developer-funded excavations, and the concomitant need for Britain’s relatively few ceramic specialists to share their expertise and develop some consistency of approach. As self-help and information-exchanging groups they serve their purpose well. The PCRG’s Guidelines for Analysis and Publication of later prehistoric pottery (Oxford 1992, 1995, 1997) aimed to establish a common terminology and methodology, while their General Policies (Oxford 1991) defined a set of seven broader issues for consideration, relating to issues such as deposition, chronology, manufacture, and function.

The first part of Prehistoric Britain: The Ceramic Basis (chs. 2–8) is explicitly structured around those General Policies issues, while chapters 9–14 revisit those issues through a series of detailed case studies. Thus, for example, chapter 2 (by Steven Willis) discusses ways of dating later prehistoric pottery, while chapter 12 (by David Knight) presents a regional sequence for this pottery in the east of England. Overall, the contributions reflect the current preoccupations of many prehistoric ceramicists, which echo those of other artifact specialists in Britain as well. Chief among these is the desire to take ceramic studies away from the classification and typo-chro-
tentious model, which has been vigorously debated elsewhere (e.g., M. Monk, “Seeds and Soils of Discontent,” in A. Desmond et al., eds., New Agendas in Irish Prehistory [Bray 2000] 67–87).

Occasional comments or interpretations elsewhere in the volume also jarred with this reviewer, or made her feel that further discussion was necessary. For example, various sweeping statements about Late Neolithic Grooved Ware (e.g., “Repair holes are a recurrent feature,” Hamilton, 45; “The tempering agents most commonly employed are . . . shell, grog and mixture recipes involving both,” Woodward, 116) may be true of Grooved Ware in southern England but are definitely not valid for north British examples. Similarly, Andrew Sherratt’s intriguing but untested assertion that the twisted fibers of cannabis sativa may have been used to decorate some Beaker pots, and that the pots may have contained a hallucinogenic draft, is repeatedly cited, and presented with increasing conviction (e.g., Woodward, 112, 114, 116), rather than being checked out. And Alistair Barclay’s discussion of the deliberate, ritual refiring of vessels (93–5), while fascinating and stimulating, would perhaps benefit from further experimental investigation and discussion of how one tells the difference between initial overfiring, deliberate refiring, and “on-pyre firing”—given that the burial of Bronze Age vessels that are “sub-standard” in other respects is attested elsewhere.

Will this volume appeal to American readers? The question of how to extract as much meaning as possible from pottery is of universal relevance, and indeed the book has been selling well on the international market. Furthermore, the debt of British ceramic studies to their American counterparts is acknowledged in numerous citations (e.g., by Morris and Hill, chs. 6, 8)—even if, overall, the volume is slightly inward-looking in its approach, given the vast literature on ceramic analysis that exists worldwide. It is a mixed bag, thanks partly to the length of time involved in its gestation (1996–2002); one symptom of this is Alex Gibson’s frustratingly brief contribution on aspects of manufacture and technology (ch. 4), with the full story having been reserved for his 2002 volume on Prehistoric Pottery in Britain & Ireland (Stroud). Readers will gain an appreciation of the current state and likely future direction of prehistoric ceramic studies in Britain; and those with a particular interest in the types of pottery covered in the volume will not be disappointed. The final two papers on Later Iron Age and Roman pottery (by J.D. Hill and by Andrew Fitzpatrick and Jane Timby) offer a particularly interesting perspective on the social significance of pottery at a time of profound societal change.

To this reviewer, the most entertaining aspect of this volume is that it inadvertently throws down the gauntlet for those lucky few who work on Scottish (and Welsh and north English) pottery to produce their own studies of this fascinating material. The cookpot bubbles; watch this space.

Alison Sheridan

Department of Archaeology
National Museums of Scotland
Edinburgh EH1 1JF
Scotland
a.sheridan@nms.ac.uk


This volume by Jodi Magness is part of a series entitled Studies in the Dead Sea Scrolls and Related Literature, edited by Peter W. Flint, Martin G. Abegg, Jr., and Florentino García Martínez. The purpose of the series is “to make the latest and best Dead Sea Scrolls scholarship accessible to scholars, students, and the thinking public” (i). Magness has designed her book with that general readership, not the specialist in the field, in mind. It contains no footnotes, very few quotations from the scholarly literature, and its bibliography is gathered and annotated at the end of each chapter. The opening chapter, “An Introduction to the Archaeology of Qumran,” introduces the reader not only to the subject of Qumran archaeology, but contains a subsection titled “What is Archaeology, and What Excavation Methods do Archaeologists Use?” In this subsection Magness introduces her readers to the methods of archaeology (e.g., pottery chronology) and explains why archaeologists use these methods when reconstructing the history of a particular site such as Qumran. Thus, while the specialist will find the present volume useful since it collects and synthesizes the latest research, its primary audience will be found in the undergraduate classroom, the library of the archaeology buff, and, most importantly, the shelves of Dead Sea Scroll specialists who are not archaeologists and need a clear and concise guide through the sometimes tortuous pathways of Qumran archaeology.

Throughout her book Magness operates under an assumption that will cause consternation among some archaeologists but with which this reviewer wholeheartedly agrees. She assumes that the texts associated with the site of Qumran are legitimate sources of data that may be used to help interpret the site. These texts include both the scrolls discovered in the 11 caves in the vicinity of Qumran and the ancient historical sources Flavius Josephus, Philo Judaeus, and Pliny the Elder (11). This is an especially controversial position in Dead Sea Scrolls scholarship because it has been argued that the original excavator of Qumran, Father Roland de Vaux of the École Biblique et Archeologique Française in Jerusalem, allowed his knowledge of the scrolls (discovered prior to and during the excavations) to skew his interpretation of the site.

As Magness points out, however, there are good archaeological reasons for assuming a connection between the scrolls discovered in the caves and the site, the chief being that the same ceramic types were found in the caves and in the ruins (43). Further, Magness argues against those who point out that no scroll fragments were found at the site itself, that Qumran was destroyed by fire twice (in 9/8 B.C.E. and in 68 C.E.), leaving behind almost no organic materials (44). Finally, the scroll caves lie in close proximity to the site (44). Therefore, Magness chooses to use the scrolls as part of her evidence for reconstructing the site. That this is a sound decision is proved throughout the book, for, while material in the scrolls casts some light on anomalies at the site, the archaeological data also illuminate otherwise obscure pas-
The book is one that bedevils all attempts at a synthetic study of Qumran archaeology: the lack of a final publication of de Vaux’s excavations. Magness discusses this problem in her introduction, and concludes by saying “most of the interpretations and conclusions presented in this book are tentative” (4). However, it is unlikely that the broad conclusions Magness reaches will be substantially changed by the final publication. All in all, Magness has produced an excellent volume on the archaeology of Qumran, one that deserves wide consideration and readership.

Sidnie White Crawford

Classics and Religious Studies
University of Nebraska-Lincoln
Lincoln, Nebraska 68588-0337
scrawford1@unl.edu


This excavation report is the third final report of the American expedition to Tel Balatah, the ancient site of Shechem. The site was first excavated by an Austro-German team between 1913 and 1934, under the direction of Ernest Sellin, and then by the Drew-McCormick Archaeological Expedition under the direction of G. Ernest Wright between 1956 and 1973. Shechem was an important city in the western highlands of Israel during the second and first millennia B.C.E.; mentioned in several ancient texts (Egyptian, Mesopotamian, and the Hebrew Bible); it sits at the base of Mt. Gerizim at the village of Balatah just east of the modern Palestinian city of Nablus. The Drew-McCormick expedition trained a generation of biblical and Syro-Palestinian archaeologists, most of whom have gone on to other projects and are senior scholars in the field.

The publication of the site’s stratigraphy and architecture was long delayed by the deaths of G. Ernest Wright and other senior staff members. The American publications take on an even greater degree of significance because the records of the Austro-German excavation were destroyed in a bombing attack on Berlin in 1943, and Sellin died two years later. The American publication project initially envisioned 12 volumes total, but of these only two appeared prior to the present volume: D.P. Cole, *Shechem*. Vol. 1, *The Middle Bronze Age IIB Pottery* (Winona Lake 1984), and E.F. Campbell, *Shechem*. Vol. 2, *Portrait of a Hill Country Vale* (Atlanta 1991), a regional survey.

The present publication presents the architecture. In ideal circumstances, the final reports should integrate the stratigraphy with the material culture (24 strata dating from the Chacolithic/Early Bronze Age to the Hellenistic period). Not having these data available is a weakness, but, given the delays with other volumes, Campbell is to be commended for presenting the architecture.

Normally, the results of excavations are published in a final report and then the results are incorporated and...
evaluated by other scholars. The report of the Shechem excavations is unique in that several of the core staff members have already presented their analyses and general reports elsewhere, and their data have already been integrated and critiqued by other scholars. Campbell does a good job of incorporating these analyses into the narrative and responding to the critical interpretations of other scholars. Campbell’s narrative report combines and integrates all field notebooks, preliminary reports of the early excavation by Sellin and Welter, and a small corpus of original plans and sections that were recovered by the American team. Campbell’s narrative report is easily followed. He integrates the various reports into one voice that is free of jargon and avoids overly technical descriptions.

The publication is a standard archaeological excavation report with emphasis on a descriptive analysis of the stratigraphy and architectural features. The first volume discusses the various strata in chapters grouped by major archaeological periods; photographs and detailed drawings and reconstructions supplement this description. The second volume contains plans and section drawings, organized according to area. The report is designed so the reader can follow the narrative in the first volume with the plans and drawings alongside. There is no key, however, to some of the notation in the text or sections and plans, a small but initially confusing oversight in the report. One drawback to this format is that large plans must be published across two facing pages, with one-inch margins intervening. Fortunately plans on opposing pages include some overlap, which makes aligning them easy.

The first three chapters of volume 1 discuss the Middle Bronze Age period. Chapter 1 begins with a short discussion of the sparsely excavated Chalcolithic and EB I strata and then presents the MB IIA period (1900–1750 B.C.E.). Chapter 2 discusses the four strata (XX–XVII) that date to the MB IIB period (1750–1650), including the early fortifications. Chapter 3 presents the MB IIC period (strata XVI and XV).

The last three chapters discuss the Late Bronze Age to the Hellenistic period. Chapter four discusses the Late Bronze Age and Early Iron I. After a period of abandonment after MB IIC, the site is resettled along the same MB city plan, and the LB fortifications reuse and incorporate the earlier walls.

Chapter five presents the house complexes (fields I and II) and storage pits and granary (field V) of Iron Age Shechem; the IA settlement is smaller, suggesting that regional centers and capitals of the Israelite period shifted to other sites. For the sixth and fifth century the site yielded some Persian remains, imported Attic pottery, and seals and coins. The last chapter presents the architectural remains of the four disjointed Hellenistic strata (IV–I), identified on the basis of pottery, not stratigraphy.

Some chronological issues need resolution, which will no doubt come with the publication of the ceramic database, such as the division of the Middle Bronze Age in the southern Levant (e.g., MB I/II/II vs. MB IIA and B). The character of the LBA–IA I transition in the hill country of Ephraim also needs further study, because in the major regions of the southern Levant the Egyptian control apparently extended into the first half of the 12th century.

The publication of *Shechem 3* is a long awaited field report for a key site for the chronology and reconstruction of the second millennium in the southern Levant; Campbell is to be congratulated for having produced a clear and accessible volume. It is to be hoped that the other projected volumes will now appear in timely fashion.

Steven M. Ortiz

**Biblical Studies Division**

**New Orleans Baptist Theological Seminary**

**New Orleans, Louisiana 70126**

sortiz@nobts.edu


It is humbling to think that when the Swedish Cyprus Expedition (SCE) departed for Cyprus in 1927 not one of its members was beyond the age of 30. In less than four years, Einar Gjerstad and his team (Alfred Westholm, Erik Sjögquist, and John Lindros, as architect) investigated roughly 25 sites across the island. Excavations focused not only on tombs and sanctuaries (which had been traditionally lucrative for antiquarians and looters in the 19th and early 20th centuries), but also on the lesser-studied settlements and fortresses. The results were promptly published in three volumes (E. Gjerstad et al., SCE I–III [Stockholm 1934–1937]); subsequently, a fourth volume was published in six parts between 1948 and 1972 to serve as a synthesis of the archaeological and cultural history of Cyprus. Their approach combined scientific reliance on closed contexts and stratigraphy with an equally rigorous method of data collection and recording. The resultant publications established an archaeological framework for the entirety of Cypriot material culture from the Neolithic to the Roman period, and their conclusions have been the foundation of all later studies in Cypriot archaeology. The volume under review is a *catalogue raisonné* of 379 representative pieces from the Cypriot collections in the Medelhavsmuseet in Stockholm (including ceramics, stone and terracotta statuaries, bronzes, gold and ivory, faience, seals, coins, lamps, and glass). Most of the objects were brought back to Sweden by the SCE, while the others were acquired before and after the expedition. Although the finds from the expedition were exhaustively catalogued and illustrated in the volumes mentioned above, the present contribution is a noteworthy supplement since, as the authors note in their preface, they were able to take advantage of higher quality illustrations (all are in color), as well as consider more recent developments brought about by advances in scientific analyses and constantly evolving debates.
The catalogue of objects is preceded by two short essays on the background of the SCE and the history of the Cyprus collections in the Medelhavsmuseet. These essays are followed by a useful gazetteer of sites excavated by the SCE (including several sites excavated by Gjerstad from 1923–1924) and a summary list of artifact inventory numbers for the museum. The first essay by Houby-Nielsen (“The Swedish Cyprus Expedition 1927–1931 and Its Relation to Contemporary Prehistoric Archaeology in Sweden,” 1–12) presents a fresh perspective on the historical backdrop of the expedition in light of contemporary developments in Nordic archaeology. Through the pioneering work of Oscar Montelius, Swedish prehistoric archaeology had developed rapidly after the turn of the century. Montelius’s own theories of cultural diffusion and his meticulous attention to typological classification and chronological sequences were instrumental in shaping the face of archaeological methodology for students of Nordic prehistory, as well as those archaeologists working in the classical world (among the most prominent was Axel Persson, excavator of Asine). As Houby-Nielsen shows, this rich intellectual environment informed Gjerstad’s own training, and it is against this backdrop that we must evaluate his pioneering work in Cyprus. I single out this brief, but thoughtful, essay for two reasons: (1) it is an important addition to the historiography of the SCE and of Cypriot archaeology in general, and (2) to my knowledge, this is the first real attempt to address the question of why the SCE proceeded down such an admirable archaeological path at a time when many large-scale excavations throughout the Mediterranean were still dusting off their copies of Homer.

Economical is perhaps the best word to describe the division of the catalogue; separate headings include the “Stone Age,” “Early–Middle Bronze Age,” “Late Bronze Age,” and the somewhat cumbersome “Cypro-Geometric, Cypro-Archaic, and Later Periods.” While such an imprecise system is a necessity for museums whose collections primarily comprise unprovenienced artifacts, a more refined chronological division should have been possible since so much of the material published here came from systematic excavations. To the authors’ credit, the important assemblages of limestone and terracotta sculptures excavated at the sites of Ayia Irini, Kiton-Bamboulou, Vouni, and Mersinaki are arranged by site and preceded by a short summary of the excavations. This is a refreshing departure from the traditional museum catalogue; however, at the risk of sounding ungrateful, the addition of site plans would have also been welcomed. Winbladh’s summary of the sanctuary at Ayia Irini in northwest Cyprus is especially useful (151–6). The discovery of over 2,000 terracotta statues in stratified deposits at the site, coupled with the limestone and terracotta statues found at Vouni and Mersinaki, allowed Gjerstad to establish an absolute chronology for Cypriot sculpture from its earliest phases in the seventh century down to the fourth century B.C. While there has been some refinement to the absolute dates proposed by Gjerstad, his typological classifications and relative chronology essentially remain unchallenged. Furthermore, the terracotta statues were found in situ around a stone altar and thus offer a unique snapshot of an intact Cypriot sanctuary.

Although a catalogue such as this is not likely to find its way very far past the shelves of Cypriot archaeologists and major research libraries, there is much of interest to colleagues working in other parts of the Mediterranean. The collection of Mycenaean pictorial craters is noteworthy (cat. nos. 98–105); I note, for example, the painted depictions on two LC II (LH III B1) craters from Enkomoi: (1) a rather clumsy silhouette of a falling human that Karageorghis interprets as a bull-leaper (cat. no. 99), and (2) two ships represented on each side of the crater (cat. no. 105) furnished with armed warriors and apparently a crew—a scene which is especially rare before the LH IIIC period. Also of wider interest is the collection of Cypriot seals dating from the LC I to Cypro-Archaic periods (nine are unpublished). As Collon notes in her introduction, the majority are provenienced and offer important information regarding the diffusion of types and styles during the Late Bronze and Early Iron ages. Other objects worthy of mention include a Chalcolithic picrolite idol discovered in an Iron Age context (cat. no. 4), a sixth-century B.C. iron splint armor from Idalion (cat. no. 275), and a mid fifth-century B.C. limestone grave stele with a banquet scene (cat. no. 312). An up-to-date bibliography and concordance of objects, as well as a detailed index of proveniences and a general index follow the catalogue. The quality and number of photographs is exceptional.

Meaningful reviews of museum catalogues are notoriously difficult, and I have included here my own impressions from the perspective of someone actively engaged in Cypriot archaeology. The contributions of the SCE were the most influential in 20th-century Cypriot archaeology. Nonetheless, the photograph (23) of 771 crates packed with Cypriot antiquities and ready for transport from the harbor of Famagusta to Sweden is sobering. Of the 18,000 finds from the SCE excavations, two thirds (ca. 12,000) were taken to Stockholm “due to the generosity of the Cypriote authorities” (20, my emphasis—the Department of Antiquities in Cyprus was under British control at this time). Moreover, despite Gjerstad’s rather self-congratulatory claim that “the Swedish Expedition should receive one representative series of finds from all the epochs and from all kinds of objects, but the unique objects were to stay in Cyprus” (20, quoting Ages and Days [Göteborg 1980] 172), several objects in the Medelhavsmuseet are to this day exceptional (e.g., cat. no. 273: the iron splint armor mentioned above; the spherical cult stone from Ayia Irini, which curiously is not catalogued separately but illustrated on p. 154; or cat. no. 284: a well-preserved head of a female wearing a kalathos, which is distinguished by her cataloguer as the “Mona Lisa of Cyprus”). It is clear that the SCE not only took the lion’s share but also a little of the lioness’s. Hindsight is 20/20. Still the circumstances surrounding the final disposition of finds should remind us that, notwithstanding scientific methods, a true vision of the significance of cultural patrimony was still some years in the making.

Derek B. Counts

DEPARTMENT OF ART HISTORY
UNIVERSITY OF WISCONSIN-MILWAUKEE
P.O. BOX 413
MILWAUKEE, WISCONSIN 53211
DBC@UWM.EDU

Reusser’s book, a slightly revised version of the habilitation thesis presented at Bern University in 1995, is a welcome addition to the vast literature that covers the occurrence of Attic vases in Etruria. Until recently, most studies focused on the production and trade of Attic vases, disregarding the consumer end of the network. Although this trend seems now to have been reversed, Reusser is the first to undertake a systematic examination of the topic.

Reusser has wisely avoided the traditional method of using Beazley’s indices, whose inadequacy L. Hannestad has clearly demonstrated (I vasi Attici ed altre ceramiche corve in Sicilia 2 [Palermo 1996] 211–6). He has chosen instead to focus on material from systematic excavations, thus putting Attic vases into their broader context as part of a closed assemblage. It is exactly this approach that makes the strength of his study.

After a short introduction (ch. 1), where previous research is reviewed, Reusser examines the mechanisms of diffusion and the so-called trade routes (ch. 2). He defines three main regions of interest (Emilia, the Arno valley, and the Val di Chiana) and explores the possible ways that Attic vases were distributed and the routes they may have followed along the coastal cities and emporia. The relevant data are presented in volume 2, maps 1 to 3 and appendix 1.

The third chapter deals with hitherto unexplored matters, namely the diffusion and the function of Attic pottery in Etruscan houses and sanctuaries. More than 80 settlement sites are included in this careful analysis. Fine vases constitute a small part of the pottery found in domestic contexts, a pattern fitting exactly with the situation in Greece, and especially in Athens. Both poor and rich houses, in big and small centers, either in coastal or inland settlements are furnished with Attic vases, in shapes related to the symposium. Finds from more than 40 sanctuaries show that Attic vases were used in cult and in sacred banquets, but they also were dedicated as offerings. Thus, it becomes evident that they were not substitutes for metallic vases, but had a function of their own, in both secular and religious contexts. Full documentation is provided in maps 4–5, appendices 2–3, and tables 1–2.

Chapter 4 is devoted to the analysis of Attic vases found in graves. An interesting result deriving from the copious analysis of tomb groups is that the vast majority of Etruscan tombs of the sixth and fifth centuries contained Attic pottery. Again both poor and rich tombs are furnished with Attic vases, regardless of the location of the site. This is perhaps the most interesting result of the analysis, as it proves beyond reasonable doubt that Attic vases were neither luxury items, nor “status symbols” reserved to the “consumption” by the elite (119–20).

In chapter 5, Reusser examines the range of shapes of Attic vases represented in Etruria. First, he provides a useful analysis of the “Etruscan” shapes in Attic pottery. Then comes a general overview of shapes found in Etruscan tombs, settlements, and sanctuaries. The same range of shapes is encountered in all types of site. Some regional differences are detected, but they do not seem to be significant in broad terms, since a parallel phenomenon is attested in both Greece and Magna Greeca. Shape was a determining factor for the client because Attic vases in Etruria were primarily used in symposia and feasts. A clear preference for sympotic shapes is further documented by a painstaking analysis of finds from tombs at Bologna (133–6). A krater or amphora, a cup, a skyphos, and an oinochoe make an “ideal” symposium set, which is to be found in tombs of both sexes over a long period.

Chapter 6 is devoted to iconography. Reusser first examines a number of subjects allegedly designed especially for the Etruscan market. While some of them were surely more appreciated in Etruria (and Campania) than elsewhere, the great bulk of Attic vases found in Etruria bear subjects popular in other areas too: symposion and komos, warriors and battle scenes, athletics, Dionysiac thiasos, and Herakles. This result derives from the examination of 52 funerary contexts from various sites (more than half of them from Bologna). Interestingly enough, the same range of subjects encountered in tombs is also represented in sanctuaries and houses. Reusser does not support the theory of “special commissions” and rejects the idea that vases found in Etruscan tombs were especially acquired for that purpose. The inevitable conclusion is that at the other end of the network, the Athenian painters had a fair knowledge of Etruscan tastes and were able to provide what was required.

In chapter 7, Reusser undertakes an analysis of vase representations in Etruscan painted tombs (listed in appendix 4). In line with the more thorough analysis of J.R. Jannot (REA 97 [1995] 167–82), Reusser concludes that most of the vases depicted in paintings seem to be metallic, although painted vases are also present. The cup is the most prominent shape among depicted clay vases, apparently because cups are shown stored in the kylikes. As sympotic themes are prominent, it is inevitable that the shapes represented (both metal and clay) belong to the banquet service (with the exception of prize vases depicted in athletic scenes).

The last chapter provides a synthesis of the main topics discussed in the book, namely the 11 “theses” which are also translated into English and Italian at the end of the second volume (263–70). Attic vases are widely diffused in Etruria, in urban as well as rural areas, destined primarily for secular and religious use, namely public and private banquets, before being placed into the tomb. They were used by a broad range of social classes and not regarded as luxury items or surrogate ware. The quality of the drawings played little if any role, while Attic images had a symbolic role and were comprehensible to the Etruscans.

Reusser leaves no place to the “artist.” This attitude is consistent with recent developments in classical archaeology, a salutary reaction to the excesses of the neopositivist scholarship that dominated Greek pottery studies until the late 1970s. This approach, however, does not help to explain every aspect of the distribution of Attic
vases. Why, for instance, are early red-figured vases so prominent in Etruria, when in Greece debased late black-figure continues to be extremely popular till the middle of the fifth century? Why are bilingual cups not found in Athens, but are exported in great numbers to Vulci? Why are half the vases by Euphronios exported to Etruria, but only 1/30 of the vases by the Pithos Painter? Why were six signed plates by Epiktetus placed in the same tomb? (A. Merlin, in *Mélanges Félix Gat* [Paris 1946] 127–44). Were these the only vases available to the Etruscan customer, or did they appeal to him because of their form, drawing, and even the presence of the signatures? Why are plates by this painter popular in Vulci, while plates by Paseas are only found at Chiusi? Even if we reject the aesthetic approach of pottery as an explanation, there is still room to use the concept of painters and workshops in order to define meaningful patterns of diffusion of Attic vases in Etruria (as it is already demonstrated in some cases by A. Johnston, *Trademarks on Greek Vases* [Warminster 1979]).

This is indeed an extremely important and very fine book, thoroughly documented with a series of maps, tables, plates, and appendices, and useful indices and concordances. It also provides a full bibliography up to 1995 and includes the most important relevant studies up to 2000. Ironically, its main thesis, that Attic vases must be seen as just an item (and not the most important) in a closed funerary, domestic, or sacred context, may serve to undermine the role of Attic vases in Etruria, the very subject of the book. But we must not forget that in some cases, an Attic vase (or an Etruscan), used as a cinerary urn, was the only item found in a tomb (J. de la Genière, in *Tarquinia: Ricerche, scavi e prospettive* [Milan 1987] 203–7). An explanation is still wanting for this choice. After all, there is something extraordinary about the wide diffusion of Attic vases in Etruria.

**DIMITRIS PALEOTHODOROS**

DEPARTMENT OF HISTORY, ARCHAEOLOGY AND SOCIAL ANTHROPOLOGY

UNIVERSITY OF THESSALY

ARGONAFTON KAI FILELLINON ST.

38221-VOLOS

GREECE

PALE@FFHW.GR


Although the publication of archaeological sites in Turkey has improved markedly over the past several decades, comprehensive studies devoted to material from central Anatolian sites continue to remain scarce. The regions of Galatia and Pisidia in particular are underrepresented within recent scholarship; the well-published excavations at Sagalassos stand out as a laudable yet sadly isolated example of modern interdisciplinary fieldwork within those territories. True, Galatia no longer represents the "singularly obscure subject" that W.M. Ramsey, one of the pioneers of Turkish archaeology, declared it some 80 years ago (*JRS* 12 [1922] 122). However, the general advancement of research and the propagation of new field projects in central Anatolia continues to progress almost glacially in comparison to the current, swelling rate of archaeological activity along Turkey's Aegean, Pontic, and Mediterranean coasts.

Under such circumstances, the appearance of this international volume on Pisidian Antioch (modern Yalvaç) is a highly welcome addition to the relatively slim assortment of available studies devoted to Pisidian and Galatian history and archaeology. The publication is the product of the first International Congress on Pisidian Antioch, held on 2–4 July 1997 at Yalvaç, and it contains 38 of the papers presented at the conference. Ramsey himself would have doubtlessly applauded this effort, as his own excavations at the site between 1912 and 1914, as well as a succeeding effort in 1924 by D.M. Robinson and the University of Michigan, were greatly responsible for bringing this once remote, highland city to international attention. The timing of this publication is highly appropriate, given the recent, critical advances made in our understanding of Antioch and its history. Excavations and cleaning operations carried out since the mid 1980s by M. Taşhalan and the Yalvaç Museum have made substantial contributions toward our understanding of the site’s physical plan. In addition, two seasons of field survey (1982–1983) by teams under the direction of S. Mitchell and M. Waclkens, carried out together with meticulous archival research on largely unpublished material from the early excavations, have produced more accurate plans and significant reinterpretations of the site’s architectural history. Their joint volume, *Pisidian Antioch: The Site and Its Monuments* (London 1998), should be considered recommended reading for anyone interested in a comprehensive introduction to site’s history and monumental remains (reviewed in AJA 104 [2000] 399–400).

This multilingual volume (in French, Italian, English, and German) is divided into five sections: papers relating to early Christian history, epigraphic studies, archaeological reports, numismatic studies, and, rounding out the book, a mélange of unassociated offerings on Anatolian archaeology and culture. The first and longest section, edited by C.M. Thomas, contains 15 papers dealing largely with Pauline history and New Testament textual analyses. It opens with a detailed report of the recent excavations at one of the largest basilicas in Christian Anatolia, the Church of St. Paul (M. Taşhalan). While the paper presents a clear, thorough, and accessible summary, the author has avoided addressing two of the most controversial proposals surrounding this building, that the structure’s earliest phase was possibly the synagogue where St. Paul once preached, and that the later basilica was dedicated to St. Paul. Both attributions remain highly controversial: the first is based entirely on literary evidence, while the second hinges on the original location of a sixth-century font dedicated to St. Paul, no longer in situ but reported by local villagers to have been moved from the basilica site. Their discussion would have formed
a fitting segue into the variety of succeeding papers on St. Paul’s life and works. Those topics include: Paul’s speeches and social memory (A. Destro and M. Pesce), God-fearers in Paul’s first speech (G. E. Snyder), the background of Romans X 5–13 (P. Grech), the addresses of the Galatian letters (T. Witulski), the relationship between the imperial cult and early Christians (B.W. Winter), Luke’s knowledge of Pisidian Antioch (P. Pilhofer), the Acts of Paul as a source for his life (C.M. Thomas), Paul’s route from Pisidian Antioch to Troas (R. Jewett), Paul’s illness and possible Galatian connections (F. de la Vallee Poussin), resurrection of the dead in Romans 1:4 (E.R. Martinez), St. Thekla at Antioch (S. Evice), Montanism and military service (W. Tabberne), and the figure of St. Paul in St. Ambrose’s Letters (W. Turck). The final paper discusses an image of Mary Magdalene found near the basilica site and now in the Yalvaç Museum (F. Richard and M. Tashlan). While the quality of these papers varies considerably, scholars of early Church history will find some useful nuggets among them. One of the more noteworthy contributions is Witulski’s concise exegesis on the Galatian letters and his deft handling of the polemical “north Galatian” and “south Galatian” theories regarding the precise identity of Paul’s Galatian audience.

It is fitting that the second section, on recent epigraphic finds from the site and neighboring region, is edited by T. Drew-Bear, since, as stated in the preface, the papers contained within are derived from discussions at his seminar, “Epigraphie grecque et latine et géographie historique de l’Asie Mineure,” at the Centre Gustave Glotz (Sorbonne). As a result, it is not surprising that the chapters here are among the most polished in this book. This section includes four prosopographical studies (on the decurion Statius Anicius, by C. Hoet-van Cauwenberghe; a bilingual inscription of the Malii household, by E. Collas-Heddeland; a discussion of the prominent Sergii Paulii family, by M. Christol and Th. Drew-Bear; and a Latin decree of the decuriones, by M.D. Campanile) as well as analyses of building and votive inscriptions (on the date of the city gate, by M.A. Byrne, and votive inscriptions to Mên, by M.-T. le Dinahet), a funerary epi-
taph of Neroutia Matrona and her husband Quintius Kalli-neikos (V. Blondeau), and a Justinianic statue base (C. Zuckerman). Sharp, legible photographs accompany each chapter, and the entire set, published here for the first time, will be of enormous interest to historians of the Roman period in general and to those with an interest in provincial Romanization in particular.

The third section contains six archaeological studies on several of Antioch’s major religious and civic monuments. The reports have been arranged in an effective, complementary fashion: the stone votive reliefs to Mên on the Via Sacra (G. Labarre and M. Taşhan); and the Temple of Mên Askäños (S. Mitchell); the aqueduct of Antioch (J. Burdy and M. Taşhan) and the city water supply (E.J. Owens); and the Imperial plateae (M. Spanu) and a triumphal arch of Antioch (H. Bru). While much of the information presented here is new, those readers already familiar with the Pisidian Antioch volume will encounter substantial repetition in the offerings on the temple, aqueduct, and plateae. This overlap is largely the result of ill timing between the immediate post-conference publication of Pisidian Antioch in 1998 and the five-year period taken to issue this congress volume. Less forgivable is the quality of the plans and photographs in this section, several of which are barely legible. Fortunately, those contained in Pisidian Antioch are of superior quality and may be effectively consulted in lieu of those presented here.

The fourth section is devoted to numismatic studies, and although it is the shortest in the volume (containing only three papers), it is the only section that presents material from Antioch’s Hellenistic phase. The first two papers—on the circulation of Hellenistic coinage (A. Davesne) and on Antioch’s early imperial coinage (F. Rebuffat)—are analyses linked to the numismatic collections in the Yalvaç Museum, while the third is a synthetic study examining the end of Greek imperial civic minting in Pisidia and its neighboring regions (R. Cluett).

The fifth and final section contains a collection of six chapters, which although observing no overall unity in theme and having only tangential connections to the site, will be of special interest to scholars of Anatolian archaeology. The papers include studies of the Augustus Temple at Ankara (E. Varinlioğlu), the cult of the Dioskouroi in Roman Pisidia (R.A. Keasly), the excavations at Antiocheia-on-the-Cydnus (L. Zoroğlu), the development of Roman engineering in Anatolia (K. Grewe), an unpublished Middle Byzantine relief sculpture from Anatolia (A.B. Yalçın), and Pisidia during the Byzantine and Selçuk Turkish periods (J.-Cl. Cheynet). Most of the offerings here represent original contributions that target significant gaps in our present understanding of Anatolian culture and its evolution from Roman to Selçuk times. The sole exception is the Ankara temple chapter, which, while an adept summary of the structure’s controversial building history and date, presents no new evidence or theories relating to the ongoing debate. Sadly, a tremendous opportunity was missed here to explore two interrelated issues of enormous regional significance, namely the spread of the imperial cult in Galatia and the public display of Augustus’s Res Gestae in the cities of Galatia and Pisidia. The setting and focus of this conference offered an ideal venue for profitably engaging these topics, and their discussion could have provided a useful framework for tying together several of the papers on the early imperial material from the site.

One comment on the volume’s overall format must be raised, specifically the remarkably wide margins—1.5 inches—afforded to the text and illustrations. While this is good news for annotators, an enlargement of the site plans, many of which have been reduced to blurry and sometimes barely legible condition, would have been a more effective use of this blank space. Overall, however, there is a great deal here for both the generalist and specialist to enjoy, with a wide variety of offerings highlighting a region and site well deserving of our attention. One should note that a second International Congress was held at Yalvaç in 2000, organized under the topic “2000 years of religion in Anatolia (1000 B.C.–1000 A.D.).” It is to be hoped that the next set of conference proceedings will be of greater scope and range.
pap ers will be available soon and will offer the same fine quality and wide range of topics as the collection presented here.

Andrew L. Goldman

DEPARTMENT OF HISTORY
GONZAGA UNIVERSITY
BOX AD 35
SPOKANE, WASHINGTON 99258
GOLDMAN@GONZAGA.EDU


When the Byzantinist Martin Harrison died in 1992 he left behind notes concerning not only his excavations at Amorium but about the late Roman and Byzantine occupation of south central Anatolia. These notes were edited by his assistant, Wendy Young, who added the documentation and produced the present volume, by admission an eclectic mix of valuable data about the context in which Harrison spent most of his life. The importance of the book is without dispute. Harrison was a pioneer in the archaeology of Byzantine Anatolia, not only rejecting the idea that the eastern Mediterranean ceased to be of interest as Rome collapsed, but also a strong proponent of the value of settlement patterns as the key to understanding ancient culture. As early as the 1950s he was developing his lifelong commitment to the archaeology of the early Byzantine world.

In recent years, south central Anatolia, especially Lykia and Phrygia, has been the focus of an extraordinary amount of archaeological activity. This fascinating region, part of the heartland of Greco-Roman culture but until recently considered peripheral, is quickly becoming one of the best-known areas of the ancient world. Harrison laid much of the groundwork for this activity.

This volume contains a diverse amount of material that is important in understanding how the Roman world became the Byzantine world. The book begins with an introduction by the distinguished Byzantine archaeologist Stephen Hill that outlines Harrison’s career, and Harrison’s own preface from 1990 that summarizes (in great brevity) some of the demographic issues. The core of the book is three chapters that are a survey, both in the literary and archaeological sense, of the cities of Lykia and the adjoining Phrygian plateau, moving inland from the coast toward the region of Elmali. Some two dozen sites are examined.

The most detailed discussion (38–47) is about Arykanda and its little-known neighbor and successor, Arif, which replaced the Roman town in the sixth century A.D. Here the change from the more open values of the Greco-Roman world to the more threatened environment of late antiquity is especially apparent, as a reduced population moved to a more defensible location.

The fourth chapter is about Amorium, on the border between Asia and Galatia, where Harrison excavated for the last six years of his life. Although preliminary reports have appeared in AnatSt (35 [1988] 174–84; 39 [1989] 167–74; 40 [1990] 205–18; 41 [1991] 215–29; 42 [1992] 207–22; 43 [1993] 147–62), this chapter represents Harrison’s attempt to synthesize his thoughts about the site. Amorium (Amorion to Strabo), perhaps a late Hellenistic foundation on the ancient Hittite site of Aura, seems to have come into its own in the fifth century A.D., flourishing until the Arab invasions four centuries later. Harrison’s notes, although brief, assist in the understanding of this city in the last centuries of its existence.

There are two appendices. One is a brief study of St. Nicolas of Myra, clarifying the evidence for the personality who was the basis for Santa Claus. The other is a close discussion (by Michael Ballance and Charlotte Roueché) of three inscriptions from the site of Ovacık that are now in the Antalya Museum. Harrison had copied these in the 1970s but difficulty with the readings had delayed publication. The texts are probably of the late third century A.D., illuminating the realities of the rapidly changing civic world of that era.

The book is completed by two bibliographies: Harrison’s through the early 1990s and a supplementary one of works since that date. An especially important aspect of the volume is the unusually rich collection of 100 photographs, maps, plans, and pen-and-ink drawings, a number of which illustrate the now-vanishing modern environment.

The main thesis that Harrison developed (61) is that there was continuity of settlement continuing past the Roman period into Byzantine times, and at least as late as the seventh century. This may seem painfully obvious today, but was not the case when Harrison began his work. As the Roman world evolved into the Byzantine, conditions became unsettled, and population scattered and moved to more defensible sites. By the beginning of the eighth century, Arab invasions became a problem: Myra, once the home of St. Nicolas, was sacked in 809, but recovered as a place of pilgrimage. Clearly, values were changing. But Harrison was never able fully to develop these ideas of culture change and continuity, and noted the lack of data past the seventh century, where further excavation would be necessary.

His work at inland Amorium was designed to test this thesis, and indeed was somewhat successful in that respect, providing information on a site that lasted well into Medieval times (and to some extent beyond). Yet he concluded that there was need to investigate another inland site of this period (75), which he was never able to do.

The peculiar history of this book has led to some anomalies. By nature it is a catalogue, and the quality of information varies. Some sites are dismissed in a few words; others have a detailed discussion with plans and photographs. Although this is the nature of archaeological survey, it also represents the uniformed quality of much of Harrison’s material. Sometimes of greater interest than the antiquities are the vignettes about living and working in Turkey from the 1950s through the early 1990s. It
is easy to find fault in such a book, but this is probably unfair.

Distances vacillate between miles and kilometers, and there is often a casualness of time and occasional structural and factual glitches. For example, Strabo is said to have died in A.D. 19 (65) but he actually lived past the death of Julius II four years later. There is a bit of an old-fashioned flavor: the emphasis is on urban sites, not the overall view of the countryside. Yet it is an unusual work, a strange mixture of archaeological report and personal memoir, stillborn in the world of over a decade ago. This genesis does not diminish its value, however, as a source book on the important topic of the creation of the Byzantine world of south central Anatolia.

Duane W. Roller

DEPARTMENT OF GREEK AND LATIN
THE OHIO STATE UNIVERSITY
4240 CAMPUS DRIVE
LIMA, OHIO 45804
ROLLER.2@OSU.EDU


Volume nine of Acta Hyperborea offers a useful collection of 11 papers selected from a series of seven “pottery-workshops” that began in 1995. Also included is a brief survey of recent fieldwork being conducted by Danish archaeologists as well as three book reviews. The relationship of ceramics as an aspect of material culture to both the living and to the dead members of a society provides the focus for this volume. Helle Salskov Rønbeck, in the eponymous lead paper, appropriately addresses “question often discussed by classical archaeologists and perhaps all archaeologists as to ‘whether tomb gifts were purpose-made’ for the deceased “or were taken from things already available in the household” (9). Her discussion of these issues focuses on inscriptions and related evidence from a wide range of sites, but all relating to items bought for the funeral, made for the event, or taken from household goods and placed with the deceased. The textual evidence provides specific clues that can be used to apply these findings to literate societies around the world, such as the ancient Maya, as well as to our understanding of mortuary practices as revealed by the archaeology of nonliterate peoples.

Margit Von Mehren offers a lucid summary of the iconography of the Trojan Cycle as found on Tyrrhenian amphoras. She subscribes to “the commonly held view that the vases exclusively were made for export intended for Etruria” (33), while acknowledging that examples are known from several other areas in the ancient world. Unclear is how these vessels relate to Pontic pottery, nor does she note that an effort to provenance these amphoras and related wares through clay analysis appears to be the next step in this line of research.

Torben Melander’s reinterpretation of data relating to the importation of Attic pottery to Locri Epizephyrii includes essential considerations of their dates of manufacture. Some of the interpretations of scenes on the vessels found in related mortuary contexts might profit from a review of the ethnographic evidence for “bride-theft,” a marriage custom still practiced in and around Greece in the early part of the 20th century and perhaps later.

Birte Poulsen addresses some of the major questions relating to Genucilia plates, using data from “a number of fragments” recovered from the excavations at the Temple of Castor and Pollux in the Forum Romanum. Although Genucilia plates are extensively published, and the pieces presented here are beautifully illustrated (pls. 6–8), sections of each fragment as well as one or more complete profiles would have enhanced the impact of this chapter.

Of particular interest to me is the study by H.D. Andersen and Helle Horsnæs of two of the three “Terracotta House Models from Basilica” that had been “seen by Brunn in the collection of sig. Amati from Potenza” (101) and published in 1853. Their lucid and well-illustrated description includes a lovely color plate, a useful locator map, and detailed stylistic analysis. All of this information helps put the two extant examples into a cultural context. They conclude that “the models were made in western Lucania in the 6th century BC, probably in the second half of that century” (111). However, the suggestion that these models were not used as cinerary urns, based on evidence from tomb 63 at Sala Consilina (113, 119 n. 12), is not convincing. If not meant to be containers for cremated bones, what was the function of these “models”? The recent finding that the large Calabrese urn held the cremated bones of a child age 10–12 years (Becker, “The Cremations in the Calabrese Urn from Cerveteri,” Bollettino Monumenti, Musei e Gallerie Pontificiali 18 [1998] 57) should be noted as a possible indicator of function. Illustrations of some of the comparative ceramics that are discussed by Andersen and Horsnæs, such asovviles from Serra di Vaglio, would be helpful. The data in their appendix (117–8) suggest that these unusual models are not simply fakes. Also in this volume is an outstanding analysis of a modern forgery, with Schmidt and Rasmussen indicating why we should be wary of all pieces that do not derive from scholarly excavations. Regarding the problem of forgeries readers should note O.W. Muscarella’s The Lie Became Great (Groningen 2000). The analytical concerns of K. Winther Jacobsen in her chapter on Cypriot transport amphoras later in this volume can be usefully applied in the study of these “house models.”

A.M. Carstens’s “Archaic Karian Pottery—Investigating Culture?” uses this category of ceramics to formulate important questions regarding ethnicity in the ancient world. L. Leegaard examines local plain wares to understand patterns of trade from the Mediterranean into central Europe. Note also should be given here to M. Von Mehren’s useful review, appearing at the end of this volume, of the 1999 Tarquinia publication edited by C. Chi-
aramonte Treré. Von Mehren provides useful insights concerning the papers in Treré’s work on Etruscan settlement studies; a work that includes some of the best available data on domestic ceramics used by these ancient people. Carstens, as well as Leegaard and Von Mehren, poses questions essential to reconstructing culture using varieties of available evidence rather than making up stories to go with descriptions of pots. Concern with understanding cultural process also is central to the work of J. Lund, who in this volume offers another in his series of important papers relating to Cypriot sigillata.

The final chapter in this volume, listed as a “forum” presentation, is Lone Wriedt Sørensen’s examination of Ian Morris’s 1992 re-evaluation of K.F. Kinch’s study of the Archaic necropolis and settlement at Vroulia on Rhodes. I agree with her conclusion that “his interpretation of Vroulia is based on a questionable treatment of the archaeological evidence from the site” (252). I also add that modern studies of cemeteries, as well as re-examinations of old studies, that fail to incorporate a skeletal analysis appear to me as somewhat ludicrous. Evaluating grave groups without specific biological data for the sex and age of each individual does nothing to improve on the types of speculations that recall the fantasies of 19th-century connoisseurs. If the skeletal evidence has been destroyed, as is often still the case, the absence of any skeletal data should at least be noted. Essential to the reconstruction of social groups in a necropolis such as that at Vroulia is the careful recovery of the human remains and the incorporation of the skeletal analysis in the overall interpretation of the site (e.g., Bietti Sestieri, ed., La Necropoli laziale di Osteria dell’Osa [Rome 1992]).

The many chapters in this volume that incorporate the results of modern analytical methods bode well for the recognition of archaeology as a multidisciplinary enterprise. The volume itself provides another important contribution to the archaeology of the greater Mediterranean region and merits a place on the bookshelves of all scholars working in the core as well as the peripheral areas of the classical world.

MARSHALL JOSEPH BECKER
DEPARTMENT OF ANTHROPOLOGY-SOCIOLOGY
WEST CHESTER UNIVERSITY OF PENNSYLVANIA
WEST CHESTER, PENNSYLVANIA 19383
MBECKER@WCU.EDU

ANTIKE LAMPE IM LANDESMUSEUM MAINZ, by

In 1922 the German scholar Fritz Fremersdorf completed his dissertation on the Roman discus lamps and the archaeological features associated with the lamp industry unearthed at Mainz (Mogontiacum) and its environs. Römische Bildlampen (Bonn 1922)—his resulting publication of the lamps and of the Weisenauer kiln with plan and reconstruction—represents one of the earliest scientific descriptions of a Roman-period industrial complex, and continues to be an important model for understand the layout and construction of a lamp workshop.

Over the years Fremersdorf amassed a collection of over 4,020 small finds, including the lamps examined in this volume. The collection was later acquired by the city of Mainz in 1953, where it was subsequently housed in the Landesmuseum. Some 80 years later Annette Kirsch re-examines and continues Fremersdorf’s high standard of scholarly and scientific treatment of this very significant lamp corpus and production center.

Kirsch brings to light 636 previously unpublished complete lamps, lamp fragments, molds, and oil fillers. She identifies 15 major clay lamp types (e.g., the “Wart,” “Bird Head”; Imperial-Hellenistic, Loeschcke I and III–XIII; “Figure”; and “Ring” groups), and nine types of metal lamps, including bronze, lead, and iron examples (9–19). The lamps range in date from the first century B.C.E. to the fourth century C.E. The volume is divided into 10 chapters: Introduction; Typology; Production and Localization; Mainz Production Center; Lamps as Grave Goods; Summary; Catalogue; Motif Catalogue of the Image Lamps; Stamps and Inscriptions; and Finds’ Distribution.

This invaluable sourcebook provides lamp specialists (lychnologists) insight into the local and imported lamp types used by the civilian and military inhabitants of the Mainz area and their manufacture. Many of the lamps have been recovered in situ from archaeological finds associated with Roman military installations, particularly the legionary fort located today in Mainz’s inner city on the high plateau of Kästrichs, the auxiliary forts at Kastel and Weisenau, and various soldier burials in the area. That so many of these lamps come from excavated contexts makes this study indispensable for examining the purchasing “behavior” of the soldiers of the Roman army at a major legionary fort in the province of Germany Superior. For example, soldiers apparently bought locally manufactured forms as well as purchased lamps from Italy and other locations in the Roman empire, but it is more difficult to know whether the local lamp manufacturers, like the “Rhein-Main-Potter,” were civilians or members of the military (40–1).

Kirsch’s thorough burial-by-burial cataloguing of the lamp finds with their respective accompanying grave objects in chapter 5, “Lamps as Grave Goods” (55–64), allows us to learn about the funerary practices of the soldiers stationed in the area. For example, Kirsch observes that the red fabric “Wetterauer” lamps manufactured by the Rhein-Main lampmaker were particularly popular among the soldiers since this lamp type predominates in soldier burials (66).

She points out that the most productive period of lamp manufacture in the Mainz area occurred between the middle of the first and second centuries C.E., a period that corresponds to similar activity in other provinces. And although Mainz had already been settled by the first century B.C.E., only a few lamp types from this period are represented in the archaeological record: the “Wart,” “Bird Head,” and the “Imperial-Hellenistic” lamp types (65). Kirsch further reveals several noteworthy finds: a lamp of Athenian manufacture portraying the bust of Athena with helmet (cat. no. 627); a lamp mold with the signature “P. SATRIVS” (owner or maker of the lamp?) stamped on the rim of the central filling hole (no. 635);
a lamp with an image of a famished man squatting (no. 489); a motif of Victoria grasping a shield with the inscription "CLYPEVM VIRTIVTS" (no. 11); and an impressive ring lamp with attached clay busts of Juno (?), Sol/Apollo, and Mercury (no. 445).

The shortcomings of this volume are few, but they deserve mention. First, although the "Motif Catalogue of the Image Lamps" (165–92) discusses in great detail a major diagnostic of lamps belonging to this class—the discus image—the motif drawings included do not clarify with precision and accuracy those features that are inherently difficult to discern from black-and-white photographs. A stipple drawing technique would have better served this purpose (cf. Karin Goethert-Polacheck, *Katalog der römischen Lampen des Rheinischen Landesmuseums Trier* [Mainz 1985]). The Mainz volume’s large, high definition, and superbly produced lamp photographs, however, are appreciated and do ensure a reliable visual record of the artifacts.

The catalogue does not include fabric descriptions. The clay fabric of a lamp is a significant feature of the artifact’s overall describable macroscopic characteristics. Fabric qualities (e.g., color, texture, and inclusions) provide useful comparative information about the type of clay used and occasionally hint at a lamp’s possible origin. And even though the color of the clay is mentioned, it should have been determined according to an international standard like the Munsell Soil Color Charts (admittedly, recent specialists have been shying away from the Munsell charts, but they are nonetheless a standard that can still be useful).

A more thorough discussion of the geographic distribution of the lamp classes found in the Mainz area would have further strengthened Kirsch’s placement of them into the broader imperial context. She provides useful parallels for the motifs on the image lamps, but many of her catalogue descriptions lack full parallels for shape (especially the metal lamps which receive cursory attention). For example, her analysis of the Athenian lamp (no. 627) would have benefited from parallels from Judith Perlzeig’s *The Athenian Agora, Vol. 7, Lamps of the Roman Period* (Princeton 1961) and Arja Karivieri’s *The Athenian Lamp Industry in Late Antiquity* (Helsinki 1996). And although Kirsch cites Donald Bailey’s British Museum volumes on lamps from Italy and from the provinces, she neglects such useful references as Thérèse Oziol’s *Les Lampes du Musée de Chypre* (Paris 1977), Renate Rosenthal’s and Renee Sivan’s *Ancient Lamps in the Schlossinger Collection* (Jerusalem 1978), John Hayes’s *Ancient Lamps in the Royal Ontario Museum, Vol. 1, Greek and Roman Clay Lamps* (Toronto 1980), and Renate Rosenthal-Heginbottom’s *Römische Bildlampen aus östlichen Werkstätten* (Wiesbaden 1981).

Finally, in chapter 4, “Mainz Production Center,” a map or plan with several accompanying photographs showing the locations of the Mainz lamp kilns and the findspots of select lamps (43–54) would have familiarized the reader with the archaeological environs of the area and the spatial relationship between the architectural structures of Mainz’s lamp industry. Taken as a whole, Kirsch’s study, however, contributes solidly to the burgeoning field of lychnology, and will be useful to art historians and scholars of Roman frontier studies. Her command of the lamp types excavated in the Mainz area and her overall in-depth commentary on their respective motifs, signatures, findspots, and workshops, introduce a new source of lighting devices of known origin, and illuminate the archaeological intricacies of a major provincial lamp production center in Roman Germany.

Eric C. Lapp

Baltimore, Maryland

eric.lapp@verizon.net


The institutional study of Hellenistic armies languished for over 25 years after Marcel Launey’s still fundamental *Recherches sur les armées hellénistiques* (Paris 1949–1950; reprinted Paris 1987). Despite steady publication of epigraphical and papyrological texts, new works of synthesis with a sufficient documentary basis to supplement or refute the flawed and fragmentary Hellenistic worldview of Polybius and the remnants of other Greek historians seemed premature. Since 1976 scholarly confidence has returned, inspired in part by a renewed interest in military history, which has both (re-)legitimized scholarly interest in the mechanics of combat and transformed the old institutional history (a view from the top down) into a trendy war-and-society mode (a view from the bottom up). A passion for partial synthesis (“updating”), however still fragmentary, has replaced the earlier conservatism. Hence major and minor Hellenistic armies no longer lack attention in works often combining institutional and social aspects with strategic and tactical concerns: for the Seleucids, B. Bar-Kochva’s *The Seleucid Army* (Cambridge 1976) and Judas Maccabaeus: The Jewish Struggle against the Seleucids (Cambridge 1989; Hebrew version, 1980); for the Ptolemies, E. van’t Dack, *Ptolemaica Selecta: Études sur l’armée et l’administration lagides* (Louvain 1988), to which Nicholas Sekunda’s useful collection of archaeological, epigraphical, and iconographical material for Roman influence on the Seleucid and Ptolemaic armies can be added: *Hellenistic Infantry Reform in the 160’s B.C.* (LodZ 2001). Even minor powers have their own monographs: I. Shatzman, *The Armies of the Hasmonaens and Herod: From Hellenistic to Roman Frameworks* (Tübingen 1991) and M. Mielczarek, *The Army of the Bosporan Kingdom* (LodZ 1999), a noteworthy contribution to military as well as Black Sea rim studies. Yet the Macedonian army, minutely examined for the age of Philip II and Alexander the Great, has longed begged for treatment in its Antigonid form, an ineffectual tactical fossil at Cynoscephalae (197 B.C.) and Pydna (168 B.C.) in Polybius’s eyes. F.W. Walbank’s *Philipp V of Macedon* (Cambridge 1940) only partially filled this gap over 50 years ago.
Miltiades Hatzopoulos, a distinguished scholar of Macedonian epigraphy and topography, has answered this prayer in the short tome here reviewed. Its scholarly significance far outweighs its modest size. Although eschewing campaigns and battles and limiting coverage to units of Macedonian citizens (i.e., exclusion of mercenaries and allied forces), the author has keenly exploited the latest epigraphical and iconographical discoveries for an exciting new interpretation of the Antigonid army as an institution. The work divides into three parts: organization, recruitment, and training/discipline.

First, after brief notes on the navy (Diodorus 19.69.3 should not be emended; Pydna was a naval base) and garrison (a fragmentary diagram from Kynos, E. Locris, proves it was Macedonian, not Boeotian), the author systematically treats the number of soldiers, officer corps, equipment, and armament of cavalry and heavy infantry, including the thorny definitions of hypaspists, somatophilakes, peltasts, agema, leucaspides, and chalcaspides. A second section on recruitment establishes pyrokauasis (an archaism from a primitive tribal past and a rough equivalent of oikia) as the basic unit of recruitment, which functioned by territorial districts of grouped cities composed of x-number of pyrokauasis. Regulations on eligibility (age, property, number of males in a pyrokauasis), draft dodging, and misconduct by recruiting officials are interpreted from the new inscriptions from Amphipolis and Cassandreia, before examining the general process of mobilization.

A final section on training and discipline demonstrates the role of local gymnasia in military training of paides (ages 16–17) and ephebes (18–20), including (besides instruction in weapons for individuals) group drill in unit formations under a taktikos. Whether this more advanced training in groups (also attested for Hellenistic Boeotia) represents an innovation or simply a more detailed account of a traditional function of a taktikos/hoplomachos (the terms can be synonymous: cf. E. L. Wheeler, Chiron 13 [1983] 1–20) is not addressed. Group drill mattered, as males of age 15, though generally in the reserves, could be drafted for front-line action. Hatzopoulos exposes Polybius’s exaggerations of Greek anarchy vs. Roman order in discipline, although the Greek preference for pecuniary over corporal punishment raises interesting issues of Greek-Roman cultural differences.

An “Appendix Epigraphique” features improved texts of the military regulations from Drama/Amphipolis and Cassandreia (cf. Hatzopoulos, Bulletin Epigraphique [2000] 13: critiques of the editio princeps repeated here) besides the letters of Antigonas Doson to Beroea and Philip V to Archippos and the Euiestes; preliminary versions of a new diagramma from Kynos on garrison service and a new law or diagramma from Kavala on registration of citizens; and reprints of the well-known (editio princeps 1934) diagramma on garrison duty from Chalcis and the regulations for field service from Amphipolis. Photographs of these texts are provided, although (as often) not all are of sufficient clarity for critique of the readings.

This work supplements the author’s two-volume Macedonian Institutions under the Kings (Athens 1996); new discoveries spurred an immediate need for revision. Critical readers may also wish to have at hand Hatzopoulos’s text and commentary (with P. Gauthier), La loi gymnasiarchique de Béroia (Athens 1993). Indeed some readers may find themselves thrown in medias res into detailed discussions (often line-by-line translations and commentary on the new texts), which assume some prior knowledge of the author’s work and close familiarity with numerous texts. Translations of the Greek third-person imperative as the French future tense may be elegant but not quite grammatically correct. Perhaps we can look forward to a second edition of the Macedonian Institutions, where a true synthesis of the new epigraphical material can be digested. The law of the ephebarch from Amphipolis, for example, not in the appendix but often cited, awaits another scholar’s new edition. A short review precludes detailed commentary on Hatzopoulos’s views of the new texts from Amphipolis and Cassandreia (cf. SEG 49 [1999] 722, 855).

For the political and military historian, Hatzopoulos offers much of interest. The new inscriptions from Kynos and Drama/Amphipolis confirm Bradford Welles’s view (AJA 42 [1938] 245–60) that the texts on garrison duty (Chalcis) and field service (Amphipolis) represent national regulations rather than isolated ad hoc responses to specific events. The creation of a Macedonian military code may have responded, as Hatzopoulos suggests (144–5), to a dispute over distribution of booty in 219 B.C. that prompted Philip V’s peltasts and agema to mutiny. Indeed, Philip V emerges in these pages as a great reformer and legislator of a federal Macedonian state—a far cry from the despot of Polybius, whose malignity of Philip is amply attested. A federal Macedonia, however, comparable to the ethnic federal states of Thessaly and Boeotia, is not without its problems. If the absence of training at the federal level and various aspects of recruitment can be explained as the local prerogatives of cities, fines for violations are always paid to the king’s purse and terms, such as hipparchos and epistates in the documents, ambiguous whether royal or local officers, remain problematic. Here Hatzopoulos’s views are already disputed (e.g., R.M. Errington, Chiron 32 [2002] 51–63).

Similarly, the organization of cavalry remains speculative, although it is now clear that the state supplied equipment (e.g., shields), and the regulations from Cassandreia include the dokimasia of cavalry mounts, to be branded kerykeion, if approved. A case for royal stud farms—only once in evidence (Plutarch, Aratus 6.2)—rests on analogy with Ptolemaic and Seleucid practice, of which the latter chiefly derives from Poseidonius’s patriotic pride in his native city: an account of Apaneia as a Seleucid military center (Strabo 16.2.10). Yet Hatzopoulos convincingly demonstrates from iconographical evidence that Antigonid cavalry, no longer the sariusophoroi of Alexander the Great, became chiefly javelin-throwers and carried shields.

For infantry the tangled web of terminology—in some cases the result of Livy’s confusion—is in general successfully unraveled. Antigonid peltasts, unrelated to the light infantry skirmishers of the fourth century B.C., were elite heavy infantry with sarissae. Peltasts could also be termed leucaspides or chalcaspides. It does not follow, however, when Polybius (e.g., 2.65.1, 4.67.5) distinguishes Antigonid forces as peltasts and chalcaspides or pel-
tasts and phalanx units that the possibility of peltasts in its earlier sense of light infantry is excluded. Further, the *doration* (the diminutive of *dory*, the hoplite’s thrusting spear), associated with hypaspists in the Drama/Amphipolis and Cassandraea texts, need not signify the *dory*, especially as literary sources (Justin, Curtius) equate *dorion* with *lonche/lancea* (a javelin) and Cassius Dio (e.g., 38.50.1) uses *doration* for the Roman *pilum*. Some Antigonid hypaspists, particularly those serving as somatophylakes, probably had javelins, just as Alexander’s bodyguards did. A difference of opinion can also be raised about the high fine in the Amphipolis code (the highest for any infraction) for a soldier’s lack of a shield. The Macedonian shield, significantly smaller in diameter than that of the classical hoplite, did not cover a comrade to the left of the bearer as described in Thucydides’ account of Mantinea (418 B.C.). Rather than a practical tactical error endangering the group, the high fine may represent the Hellenistic continuation of a tradition about the shield’s importance from the period of hoplite warfare. Interesting, too, is that the front rank of the phalanx wore metallic (full or half) breastplates in comparison to the nonmetallic *kotthybos* of the rear ranks. This Antigonid practice anticipates the greater amount of armor for the front ranks in the Late Roman/Early Byzantine phalangical legion. Finally, the documentary evidence reconfirms the general accuracy of the organization of the Hellenistic phalanx in *Tactica* like that of Asclepiodotus, Aelian, and Arrian. Skeptical dismissal of these drillbooks (e.g., W.K. Pritchett, V.D. Hanson) as pure theory irrelevant to the reality of Greek warfare is once again shown erroneous.

Although differences on specific points of interpretation can be argued, this slim tome stimulates and rewards its readers. The book’s significance radiates into many different spheres of Macedonian and Hellenistic studies. New documentary texts are at long last dissipating the Polybian fog of malignity that has obscured Antigonid Macedonia for centuries.

**Everett L. Wheeler**

Department of Foreign Languages and Literatures
North Carolina State University
Raleigh, North Carolina 27695
ewheelers@duke.edu


In a famous story Borges tells about a map drawn at 1:1 scale, which lay directly over the empire it represented. As a result, residents were compelled to experience the cartographic drawing, not the physical reality beneath. The tale poignantly encapsulates the enduring difficulty of representing places, especially those that have been obscured or transformed over time. Too often, maps of historical environments gain a power through their visuality that minimizes or transforms the content. Aware of this phenomenon, Lothar Haselberger and a team from the University of Pennsylvania set out to document the mapping process while creating a visual synopsis of current knowledge on Augustan Rome as it appeared in A.D. 14.

Begun as a seminar in 1997, the book presents data about the physical form of the Augustan capital. Previous representations of ancient Rome, including the great plaster model by L. Gismondi at EUR (mid 1930s) or the popular *Roma urbis imperatorum aetate* map by F. Scagnetti and G. Grande (Rome 1979), opted to depict the high imperial period, a logical strategy that maximized the completeness of the urban fabric depicted. Representations of select earlier urban periods have tended to be less complete and more schematic. Haselberger earlier commented on the need for more accurate and period-specific maps of the capital in his review article, “Imaging Augustan Rome,” JRA 15 (2000) 515–28. In particular, he bemoaned the lack of critical documentation about the reasoning behind the large plaster model of the Augustan period exhibited in Berlin in 1988. In reaction, the Pennsylvania team consciously sought an interplay between word and image, image and word. The new book is composed of two chapters and an extensive catalogue of approximately 400 buildings in the Augustan city, accompanied by two separate maps: one covering 18 km² of urban development at a scale of 1:6000, and a second showing the Campus Martius area at 1:3000. Both are laid over a ghosted map of the contemporary city as a useful locational aid.

In the first chapter, Haselberger carefully articulates the challenges faced by cartographers, with special attention to the difficulties that arise regarding ancient environments. His general points regarding cartography are well taken, but do not fully integrate current research in other disciplines as, for example, the mapping of meaning and visual literacy peremptively explored by Denis Cosgrove and other geographers. Classical scholars and archaeologists have to deal with topographies and urban environments that are much transformed, and often only partially documented. For those trained in precision, the uncertainty involved in mapping is certainly unsettling. How does a mapmaker deal with buildings whose locations are unknown, or structures whose name and purpose are a mystery? How does one represent restorations as opposed to new construction? How can one convey the sense of an urban whole, while acknowledging the incompleteness of hard data? How does one counteract the power of the visual image that is, as Haselberger observes, in reality a representation of “the latest state of scholarly error” (11). Given such drawbacks, it is not surprising that ancient researchers have too often avoided holistic urban studies, preferring to examine circumscribed urban areas or descriptive literary texts about ancient cities.

The Pennsylvania team provides an example for further urban mapping experiments, carefully articulating
the strategies employed when dealing with various cartographic dilemmas. Effective representational strategies clarify the content shown on the maps. For example, symbols and architectural footprints differentiate between unspecific building locations and well documented sites; color coding distinguishes between the built up urban fabric and large gardens. The resulting maps projects a holistic impression of the Augustan urban fabric. Haselberger warns the user that the completeness of the representation may be misleading (11). More effective representational strategies could have made the same point graphically. Economics of urban mapping naturally precluded the inclusion of most detail, but the entrances to major monuments would have clarified building orientations within the city. The authors rightly note the difficulty of mapping regional divisions such as the XIV Augustan Regions, using numbers rather than lines on the maps, yet the unstable edges of the regions could have been conveyed visually as well, and the cultural meaning discussed at further length.

The body of the book is a catalogue of buildings, including Republican structures, in Rome at the death of Augustus. Drawing on widely dispersed research, the Pennsylvania team presents the current state of knowledge, in many cases incorporating work undertaken since the publication of the comprehensive and chronologically inclusive LTUR, edited by M. Steinby. The succinct analysis of complex and often conflicting scholarly interpretations establishes an extremely useful critical historiographic framework on the Augustan city in its entirety. As a result, many urban buildings usually in the scholarly shadows are brought into the sun. For example, there is a lengthy entry on the Fanum Fors Fortuna distinguishing between various temples of the same name and debates about their locations and patronage. Such architectural stars as the much analyzed Ara Pacis (Ara Pax Augusta) are succinctly presented, with references to more in-depth publications.

The pan-urban focus allows for the inclusion of invaluable entries on broad topics; particularly useful is the entry on the continenta, the built up periphery of the city outside the Republican walls. The catalogue is an important compilation in English, which will be much used by students and researchers alike, yet it could have been more. Though the authors stress process as a primary concern for the creation of the maps, using gerunds in the titles of the other chapters and the book, they do not explore “cataloguing” in the same critical way. The decision making process for evaluating references is, however, worth considering. A rethinking of the process and methods might have resulted in different engagement with the data. Obviously, the alphabetic catalogue structure is practical, but it denies geographic and chronographic linkages. A critical reevaluation might have resulted in chronological or locational orderings of building projects, or in an index incorporating concepts, patrons, and other pervasive topics.

In contrast, the chapter on mapping by David Gilman Romano, Nicholas L. Stapp, and Andrew B. Gallia carefully analyzes both the sources and the technical methods applied in creating the two major maps. The team established clear modes of operation, depicting only buildings over 4 × 4 m in size and with a relatively certain placement. “Augustan” projects are identified as belonging to the period 33 B.C.–A.D. 14, with dating based on ancient sources and archaeological research. As a rule, restorations of earlier buildings are excluded with the notable exception of those listed by Augustus himself in the famous Res Gestae. To construct the map the team selected as a base map the Carta tecnica regionale di Regione Lazio created after a survey in 1990 at a scale of 1:10,000, supplemented by a 1985 tourist map of the Forum area at 1:2000 and the photographic atlas of the city center, the 1991 Atlante di Roma, at 1:1000. The careful articulation of the steps taken to reconcile these different sources is especially informative and establishes a critical apparatus for future work as evident with the mapping of the city’s ancient topography. The team first analyzed the city’s current form, then factored in erosion, data from core samples, and documented human alterations. The results are presented in a sequence of schematic figures (3–6), and documented on the map with lines at intervals of 5 m.

The illuminating documentation of the process provokes further methodological questions. Why select a base map at such an enormous scale when more accurate sources could have been utilized, such as the cadastral maps of Rome at a scale of 1:500? Why not include a large-scale map of the Forum Romanum, site of much Augustan intervention? The reliance on secondary source data presents certain problems; for example, can the reader believe that the various scholars cited on the depth of the ancient city all used the same criteria (35)? For the topography the Pennsylvania team employed 2,476 data points taken from the source maps based on aerial surveys, a relatively small number for a large and complex urban area. Undoubtedly economies of cost determined the reliance on published research, but the validation of data points in the field would have enhanced the project. In particular, one wonders why the team did not exploit global positioning systems (GPS), a worldwide radio-navigation network, to verify levels and locals, especially since calibrated differential GPS is known to be accurate within 2 cm.

Mapping is learning. The Pennsylvania project is a successful experiment, confirming the value of comprehensive analysis of an entire city at a specific historical moment. In the first chapter Haselberger succinctly identifies the team’s significant urban findings. These range from the princeps’ concentration of his own patronage within the city walls, to regional variations in water distribution, patrician housing, and commercial activity. Collectively these various insights give structure and nuance to the urban fabric of Augustan Rome. All these points are embedded in the catalogue and maps, but are difficult to grasp without separate representations.

Overall, the relentless two-dimensionality of the maps detracts from important aspects of urban design. Looking at the map or perusing the catalogue, the reader gains only a limited understanding of the cityscape or its evolution. Sporadic comments hint at the richness of the urban experience during this period, but such issues as materiality, viewing, and circulation are outside the domain of this project. The authors could have leveraged their valuable work by more comprehensive referencing
of perceptive work on ancient literary presentations of Rome, as well as that on visual literacy and viewing orientation. Similarly, the project would have been enriched by a greater concern with the phasing of projects during the lengthy Augustan period, including sequential maps. Such urban design issues, however, are left for others.

As the “mapping” title indicates, the Pennsylvania team conceptualized this project as a starting point for continued work on the Augustan city, both analytical and archaeological. The work is useful and provocative. Surprisingly, after carefully describing the difficulties faced in acquiring and calibrating earlier textual and visual materials, the authors do not take obvious steps to facilitate future research. No provisions are articulated for the project’s afterlife. Will the catalogue and maps be updated? Will the digital cartographic data be made available to other scholars? The mapping experiment is, indeed, at the beginning of an exciting process of reasoned visualization and of technological innovation. One hopes that open access to the data of the Pennsylvania project will inspire progressive moves to more full-bodied interpretative presentations of urban information with textual, pictorial, topographical, and other data linked in a multidimensional digital structure. Clearly, we have no realistic hope of reconstructing a map of Augustan Rome with the 1:1 accuracy advocated in Borges’ charming vignette, yet as the reasoned visualization demonstrated in this work affirms, each step brings us closer to understanding the physical reality that once was.

Diane Favro

ARCHITECTURE AND URBAN DESIGN
UNIVERSITY OF CALIFORNIA-LOS ANGELES
BOX 951467
LOS ANGELES, CALIFORNIA 90095-1467
DFAVRO@UCLA.EDU


Blackman and Hodge, the editors of Frontinus’ Legacy, say they hope to address “questions that lie between the lines” of Frontinus’s text, de Aquibus Urbis Romae. How large a work force was required to build an aqueduct, and how did they go about doing it? What did such an undertaking cost, and who was responsible for paying? Who decided the route to be followed? Why did Frontinus feel a need to write his discourse? And for what audience was it originally intended? Blackman and Hodge appear to be the perfect pair to tackle such queries. Hodge, one of the world’s foremost authorities on Roman aqueducts (author of Roman Aqueducts and Water Supply [London 1992] and editor of Future Currents in Aqueduct Studies [Leeds 1991]), is a professor of Classics at Carleton University in Ottawa. Blackman is an associate professor of mechanical engineering at Monash University in Australia. Together they have produced an interdisciplinary volume with help from Klaus Grewe, Ph. Leveau, and N.A.F. Smith. Frontinus serves as the springboard for questions about the archaeology, hydraulic engineering, surveying, and financing of Roman aqueducts, and about the processes by which calcium carbonate deposits were formed in their water conduits. Most of the book is exclusively for experts in water supply. The prose is generally lucid (no easy task with such scientific material), but sometimes the narrative slips into an almost flippant tone that seems to be trying too hard to make its weighty content accessible to an audience other than the experts. The end result is somewhat frustrating for the reader.

Frontinus composed his great handbook after he was appointed to the post of water commissioner in the year 97 C.E. In addition to providing us with a vast repository of information concerning the aqueducts, Frontinus paints a picture of himself as a faithful, responsible servant called to an office long wretchedly mismanaged and tainted. At the same time, he claimed to administer his charge with scrupulous accuracy and of technological innovation. One hopes that open access to the data of the Pennsylvania project will inspire progressive moves to more full-bodied interpretative presentations of urban information with textual, pictorial, topographical, and other data linked in a multidimensional digital structure. Clearly, we have no realistic hope of reconstructing a map of Augustan Rome with the 1:1 accuracy advocated in Borges’ charming vignette, yet as the reasoned visualization demonstrated in this work affirms, each step brings us closer to understanding the physical reality that once was.

Chapter 4 through 10, those under the heading of “Engineering Practice,” take up the bulk of the book. Here we find rather cursory discussion of wide-ranging issues: the planning of the aqueducts, leveling, project resources and management, estimates about financing and costs, maintenance, including matters of water theft and breakage of the mains, an excursus on cairns—the in-crustation that plagued the aqueducts—and finally, an excursion on the urban distribution of the aqueducts in Rome. The book does not by any means exhaust its subject and shows too many signs of rushing to press too quickly.

Frequently, intriguing questions are raised, but dismissed after only very superficial treatment. For example, the editors note in a section of chapter 2, “Talking about Roman Hydraulics,” (16) that “a Roman’s view of his physical world . . . has no counterpart for us.” The point is well taken indeed, but what does it mean? Further along in this same section we learn that Frontinus would have viewed the “scientific” and “engineering aspects of his aqueducts quite differently from us. Without elaboration, however (and none comes), we are left wondering how did Frontinus view his aqueducts? At the very least, we might be told more about the modern misconceptions that cloud our vision of the aqueducts.

Omissions of another kind are particularly noticeable in the notes and bibliography, which are woefully slim, miss much new work, and sometimes do not give suffi-
cient credit to older studies on Frontinus and the aqueducts. "Reappraising Frontinus" claims that "Sextus Julius Frontinus has, until recently, been accorded by modern scholarship a reverence verging on adulation" (137). The main points of this chapter are certainly valid: Frontinus's text must be read with a certain skepticism; interpretations of his text can be diametrically opposed; he was not, after all, modest in his intentions. None of these points, however, is original to Blackman and Hodge. The editors do not give enough emphasis to this fact in their own account. More than a decade ago Christer Bruun wrestled with these same problems (The Water Supply of Ancient Rome: A Study in Roman Imperial Administration [Helsinki 1991] 1–19). While Blackman and Hodge cite Bruun (137, n. 375), unfortunately, they dismiss his detailed consideration of Frontinus's legacy merely as "a good survey of the question." Rabun Taylor's magisterial study, Public Needs and Private Pleasures: Water Distribution, The Tiber River, and the Urban Development of Ancient Rome (Rome 2000), seems neither to have been consulted nor cited. The bibliography consists only of sources quoted in more than one chapter, which leaves the reader with eight items, including Frontinus and Hodge.

Frontinus' Legacy was written for historians of science and technology, engineers interested in ancient water supply, and classicists drawn to problems raised by Frontinus's treatise on the aqueducts of Rome, but each one of these diverse audiences will find something wanting. Despite the book's important contributions to our understanding of Frontinus the man and his treatise, the complexity of issues is often oversimplified.

Blackman and Hodge stress that classical archaeologists need to be conversant with the mathematical thinking and interpretation of Roman measurements that they lay out, and this is very true. We can be grateful for their useful outline of the considerable "cultural disconnects" between the Roman world and our own in matters of public administration and the construction of large-scale projects. Frontinus' Legacy will certainly be fundamental to furthering the debate. Nevertheless, the careful reader will recognize that the book is something of a missed opportunity. While it strives to be a valuable tool for grappling with the history of water technology and its role in ancient Roman society, readers instead must confront Blackman and Hodge with more "questions that lie between the lines."

Ann Olga Koloski-Ostrow
CLASSICAL STUDIES, M.S. 016
BRANDEIS UNIVERSITY
WALTHAM, MASSACHUSETTS 02454-9110
AOKO@BRANDEIS.EDU


The Natural History of Pompeii is a remarkably thorough interdisciplinary volume combining studies of the Vesuvian environment, landscape, geology, flora, fauna, and human remains, and drawing on the talents of specialists from more than a dozen scientific disciplines. Never before has the archaeological community seen such extensive treatment of the natural history of a regional environment, gathering evidence from art, literature, and archaeology into one eminently useful volume. As indicated in the "Introduction" (3), this work began as a collaboration of specialists at a 1986 Dumbarton Oaks symposium in Washington D.C., but it serves as a natural continuation of Jashemski and Jashemski’s Gardens of Pompeii, Herculaneum and the Villas Destroyed by Vesuvius, vols. 1 and 2 (New Rochelle 1979 and 1993), and represents the result of many decades of painstaking and creative work to the delight of archaeologists, art historians, and Pompeii enthusiasts everywhere.

Inspired by the work of Pliny the Elder (476), this encyclopedic volume is clearly presented, well organized, and beautifully illustrated. Each of the 19 chapters (with the exception of the "Introduction" and "Conclusion") begins with a preface presenting its thesis and organizational style, which, for most chapters, conforms to catalogue style format. The chapters vary greatly in length, from the 4-page dendrochronological analysis to the longest and most comprehensive section, the 100-page treatment of plants. Virtually every aspect of the natural history of the Vesuvian sites is analyzed in exhaustive detail, including sediments, palynology, plants and woods, animals, and human health/nutrition.

The volume opens with a discussion of the archaeological, literary, and epigraphical evidence of the Vesuvian sites before the disaster of A.D. 79 (Jashemski), and continues with a more detailed description of Mount Vesuvius (Sigurdsson) and the eruption (Sigurdsson and Carey). Foss, Timpson, Ammons, and Lee discuss the paleosols of the Pompeii area, and Dimbleby and Gruber present a palynological analysis based on material recovered from terrestrial garden soils, an unexpected surprise because fertile soils are generally not conducive to the preservation of pollen. Several samples yielded pollen preserved well enough to make inferences regarding general ecological conditions. While the authors were unable to determine with any certainty what species were grown in individual gardens (189), they succeeded in identifying plants that likely grew in the area surrounding the gardens.

The chapter on the plant evidence (Jashemski, Meyer, and Ricciardi) purveys a daunting volume of information, supplementing the descriptions with exceptional photographs and including data from wall paintings, mosaics, sculpture, graffiti, inscriptions, ancient authors, and the preserved plant remains. The material, while organized alphabetically by genus name rather than by family as is the standard (the chapter on mammals is organized in the same fashion), represents one of the most thorough treatments of the evidence for ancient plants in the classical world, and is a must for paleoethnobotanists who work in the Mediterranean. Woods are discussed separately, with a chapter on carbonized specimens (Hatche), another on woods used in furniture (Mols), and a third on dendrochronology (Kuniholm).

Animals are presented in a series of chapters, each, like the plant chapter, drawing on art, literature, and physical remains. Reese’s section on marine invertebrates, freshwater shells, and land snails points out the orna-
mental as well as the practical (e.g., food) uses of mollusks. His chapter on fish includes the sparse data from early excavations as well as the preliminary findings from more recently excavated material from the House of Amaranthus (274). Bodson and Orr’s discussion of amphibians and reptiles represents the first detailed, systematic attempt to identify the herpetological imagery of the Vesuvian sites (327), and opens with a discussion of the problems associated with proper identification of amphibians and reptiles. They observe that many images of amphibians and reptiles occur in highly symbolic or religious contexts (328), an important consideration in understanding the life of the Vesuvian people at the end of the first century A.D. Larew, in his analysis of the insects, indicates that, even though representations and descriptions are somewhat rare, those that exist reveal an unexpectedly thorough and early understanding of insect morphology and behavior, especially given that the probable mode of observation was likely unaided by magnifying lenses (316, 325). The colorful and lively representations of birds are, in some cases, so detailed that they may be considered portraits (357), and Watson’s presentation of the material exhibits the Pompeians’ love of nature as well as their passion for the exotic (e.g., peacock and parrot). King’s chapter on mammals is, as one might expect, replete with images and descriptions of a wide variety of animals, from the mundane (several species of mouse) to the exotic (e.g., giraffe, cheetah). Each of these sections is well documented, with excellent black/white and color photographs, but since not every species discussed is illustrated (in part because of the fact that some images have faded or are lost entirely, preserved only in an earlier description or drawing, and perhaps also because of the cost of production), the vivid descriptions of animals not pictured sometimes leave the reader wanting more. Another volume dedicated to images only, in the style of Christos Doumas’s The Wall Paintings of Thera (Athens 1992) and including artistic representations as well as physical remains, would be a welcome supplement.

A real highlight of this text is Bisel and Bisel’s chapter on human health and nutrition based on skeletal remains. While there have been a number of texts available that illustrate images of human skeletal remains from Pompeii and Herculaneum, Bisel and Bisel, after discussing analytical techniques and presenting quandaries related to reduced fertility rates, compare growth rates of the Herculaneum population to modern Americans. Afterwards, they apply a sociocultural analysis based on bone pathology and associated artifacts such as jewelry. They describe a probable paterfamilias, a wealthy matron, a slave and her master’s child, two pregnant women, a fisherman, prostitutes, and several other individuals from various facets of society, giving new life to these long-forgotten Herculaneans. This fascinating chapter has applications for archaeology, history, anthropology, sociology, and ancient economies, and should be considered essential for anyone interested in ancient life and culture.

The Natural History of Pompeii sets a new standard of excellence for interdisciplinary studies of ancient ecology. This ambitious catalogue successfully combines aesthetic with practicality, resulting in an exceedingly useful reference that is a pleasure to read. Its clear presentation, abundant tables, and beautiful photographs serve to make it an excellent user-friendly resource, rendering it invaluable for scholars of the ancient world, particularly archaeobotanists, zooarchaeologists, and art historians. Future generations of scholars can continue to build on this extraordinary foundation. While clearly not designed for the casual reader, advanced undergraduates, graduate students, and specialists will find it indispensable. Indeed, anyone interested in the ancient world is sure to be captivated. This superb volume is a vital resource, and deserves to find its way onto the shelves of every university and college library.

Kimberly Flinthamilton

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY
STETSON UNIVERSITY
421 N. WOODLAND BLVD., UNIT 8387
DELAND, FLORIDA 32723
KFLINTHA@STETSON.EDU


This, the fifth volume to be published by the Deutsches Archäologisches Institut on their Resafa project, is concerned mainly with military sites in the vicinity of Resafa-Sergiopolis and as such the volume is a major contribution to the study of the Roman limes in Syria. The team surveyed and excavated, in many cases for the first time, sites known to scholars of the Roman eastern frontier mainly through the pioneering work of A. Poidebard (La trace de Rome dans le désert de Syrie [Paris 1954]). The sites, which are clearly marked on a relief map (3), stretch from the Euphrates to Palmyra along a Roman line of communication that became known as the Strata Diocletiana in its late Roman and southern extension.

The results of the excavations and surveys are meticulously recorded and superbly presented. Of particular importance to the Roman historian is the material on Sura (Suriya), which was an important legionary camp in the Late Empire (the headquarters for Legio XVI Flavia Firma). A significant change since Poidebard is the relationship of the site of Sura to the Euphrates. The site no longer overlooks the river (see map [7] and pls. 1 and 2). The former course now appears from the aerial photograph taken in 1964 (pl. 2) to be a dry bed.

Sura had long been seen as a frontier post between the Roman and Persian spheres of influence, and it is interesting that according to the Sibylline Oracles, the Antiochenic traitor Mariades tried to flee to the Iranians via Sura (XII.97 in D.S. Potter, ed., Prophecy and History in the Crisis of the Roman Empire [Oxford 1990] 172)—an interesting source overlooked by the otherwise well-informed author(s) of the volume. An inscription from the
Julio-Claudian period suggests an early date for the castellum, and in fact there is scattered but important evidence to support the hypothesis that the region was already fortified under the High Empire, perhaps under the direction of Corbulon.

Judging from the material remains of the sites excavated, the fortresses of Euphratensis were not as poorly built (of unbaked brick!) as Procopius (ad. I.8.4–7) would have his readers believe. The information provided by the volume on sites like Tetrapyrgium (Qusair as-Saila) and Cholle (al-Qudair) is entirely new and deserves close study by students of Roman military architecture as it will add a great deal to the complicative work of Sheila Gregory (Roman Military Architecture on the Eastern Frontier, 3 vols., Amsterdam 1995–1997). On a visit to the area in 2000, the present reviewer was informed by his Syrian guide that the site of al-Kum, the next stop on the Roman road to the south of al-Qudair, had been used as a training dig by Syrian archaeological students, and the site had yielded material back to pre-Hellenistic times. There is therefore good reason for the German team to extend the area to be excavated farther south to include al-Kum even though it is not listed as a Roman military site by the Notitia Dignitatum.

Uniform with other volumes of this excellent series is the high quality of the illustrations (both plans and photographs), and the team must be congratulated for their decision to extend their work outside Resafa-Sergiopolis since the whole region is of great importance to our knowledge of the development of the Syrian limes. Libraries should be encouraged to purchase not just this volume but also the earlier and equally important, but hugely expensive, four volumes.

Sam Lieu

DEPARTMENT OF ANCIENT HISTORY
MACQUARIE UNIVERSITY
NORTH RYDE
SYDNEY, NEW SOUTH WALES 2109
AUSTRALIA
slieu@hmn.mq.edu.au


Of our life passages, death is the most private, undignified, and annihilating. All the more reason to examine the ways in which Romans dealt with death: given the means, Romans persistently and characteristically defied these certainties. Two handsome books recently published in Madrid address Romans and death at different levels. Arce’s monograph examines the laudatio funebris (funeral laudation), known best in its use by Rome’s elite families during the last three centuries of the republic and the first century of the empire. The second book presents interrelated investigations, by Jonathan Edmondson, Trinidad Nogales Basarrate, and Walter Trillmich, of a corpus of funerary monuments with portraits from Colonia Augusta Emerita (once the capital of Roman Lusitania, and now Mérida in southwestern Spain). As Arce’s work is broadly sociological and anthropological in aim, he pays as much attention to possible origins and likely comparanda from the ancient Mediterranean world as he does to Greek and Latin descriptions and discussions of Rome’s funeral laudations. The corpus from Augusta Emerita may seem more circumscribed, as Augustus founded the veteran colony only in 25 B.C., but its publication is wide ranging. Chapters by Nogales Basarrate and Edmondson on the monuments’ reuse and discovery, for instance, incidentally illuminate Spanish history from the Renaissance through Franco’s civil war, and all the authors frequently refer to evidence from elsewhere in Roman Spain and the empire. Both books have much to offer. I begin my review with the more unfamiliar material from Emerita, which is almost unrecognized in the English-speaking world. (According to Edmondson’s catalogue entries, just one piece, his cat. no. 11 portraying Juventia Urbica, has been published in English: E.S. Strong, “The Exhibition Illustrative of the Provinces of the Roman Empire, at the Baths of Diocletian, Rome,” JRS 1 (1911) pl. VIII and p. 37.)

Colonia Augusta Emerita and its territorium provide 41 funerary monuments with portrait busts or portraits to the waist (one novel piece, cat. no. 10, presents a full-body portrait of the baby Iulianus as a small Cupid, and uniquely uses both Greek and Latin in its epitaph). Usually slightly less than 1 m tall and 0.5 m wide, most date to the period from ca. A.D. 120 until 250, with a few later pieces. They commemorate citizens and inhabitants of this Roman provincial capital, and are the only such funerary monuments from Spain. Most take the form of funerary altars, with many even retaining at their top a focus (a small, flattish brazier for sacrifices, carved in relief); others, lacking the focus and less deep overall, appear more as aedicula, small tabernacles. The monuments are carved from a compact white marble, presumably from nearby quarries at Estremoz-Borba, Portugal. Single portraits were featured on 34 of the 41 monuments; couples appeared on six others; and one lost one apparently displayed three figures. Many pieces seem familiar, but many, such as the 16-year old Lutatia Lupata strumming her “guitar” (cat. no. 12), are extraordinary.

The fascination of this material extends beyond the generally high quality of its sculpted relief and the complex information of its inscriptions, for the three investigators exemplarily publish the collection. Every aspect receives attention, and is discussed in its immediate context of Emerita, the wider context of Roman Spain, and the widest one of the Roman empire. Trillmich’s opening chapter on typology elucidates Roman funerary prac-
tices and cult as well as the forms and probable functions of the pieces. He additionally introduces the theme that those in the new capital Emerita first imported, but then creatively developed in their own ways, models from Rome. Nogales Basarrate surveys all types of sculptural portraiture in Emerita, tracing a change from freestanding portrait statues commissioned by the new colonial elite to the funerary monuments with portraits that were raised for and by a more humble group. In one lucid chapter Edmondson explicitly sets out his epigraphic dating criteria (which he helpfully reiterates in the catalogue as needed); in another he thoroughly explores the social context of those dedicating, and commemorated by, the funerary monuments. A meticulous catalogue by Edmondson concludes the text. The 14-page comprehensive bibliography is up-to-date, and the multiple indices are useful. Everything other than the English catalogue is written in (Castilian) Spanish.

The contributions of all three authors are concise, complementary without repetition, and illuminating. Although most monuments were not found in situ or in controlled excavations, attention to detail animates the pieces and their patrons. For example, the small lead-lined holes noted at the tops of some monuments are explained as once holding wooden pegs from which actual garlands were suspended; this then is related to the monuments’ frequent embellishment, on sides and back, by sculpted garlands depicted as wreaths or as “cluster-garlands,” ribbons with bunched flowers. Edmondson’s commentaries on oddities in the epitaphs, such as the two instances in which a daughter uses her mother’s gentilicium rather than her father’s (cat. nos. 2, 16), provide memorable social histories of Roman families and groups. The authors wisely leave open some questions, such as the apparent restriction of this type of monument to Emerita and its immediate environs. The only topics I wanted explored more are the unusual depiction of women with scrolls (in cat. nos. 13 and 15) and the anomaly of the triple portrait (cat. no. 24), but these are minor details in a richly rewarding book.

Arce’s Memoria de los antepasados has a different tone; although similarly presented as a series of discrete but interrelated investigations, at times it approaches rumination. Arce, well respected for his work on imperial funerals, late Roman Spain, and other topics, opens with a striking mise-en-scène (17–8): the speech of Halide Edib at Constantinople on 6 June 1919, denouncing the agreement of Great Britain and France to “give away” Smyrna to the Greeks. Arce stresses Edib’s invocation of the Ottonian Turks’ common ancestors, whom she called upon as actually present in the great square at the mosque of Sultan Ahmed; he points out that this is but one of many dramatic invocations of ancestors throughout history and cultures. It is odd, however, that this example is not a funeral oration, the topic of his book. Analogously, Memoria de los antepasados, although filled with erudition and interesting observations, can seem out of focus. This may be a result of Arce’s aim of providing the broadest possible exploration of the Roman funeral laudation, one that will unite but surpass more particular studies like J. Engels, Funerum sepulcorumque magnificentia (Stuttgart 1998) and others I note below.

In eight chapters and four appendices Arce analyzes the laudatio funebris and related funerary customs. Among other topics, he addresses the problematic location and number of Rostra in the Roman Forum, where most laudations were staged. Of the 46 laudations he collects from literature, inscriptions, and a papyrus mentioned below, 18 date before 27 B.C., 11 relate to Augustus (who was personally involved in five different ones, besides his own) and/or the Julio-Claudians; only 10 date after A.D. 100 (see chart, 78). His scope encompasses the last conceivable Roman funeral laudation, that of Theodosius I in 395, to reject it as a proper laudatio funebris on the double grounds that it was spoken not by a relative or a political peer but rather the bishop Ambrose, and that it was held not in a city’s forum or rostra but in a basilica. Arce discusses in detail the appropriate literary material, including Polybius (6.53–55). Dionysius of Halicarnassus (5.17–3–6), many other authors, and the unique papyrological fragment of Augustus’s laudatio funebris for Agrippa (P.Köl1 10). With his deliberately wide approach, Arce strives to transcend the intensely competitive sociopolitical context of republican Rome (that of H.I. Flower’s related Ancestor Masks and Aristocratic Power in Roman Culture (Oxford 1996)). As he compares Rome’s laudatio funebris to other funerary rituals, his earlier and later comparative material stresses the deep human need for lament.

In his discussion of Greek mourning and the Greek epitaphios Arce turns to M. Alexiou, The Ritual Lament in Greek Tradition (Cambridge 1974) and N. Loraux, L’Invention d’Athènes: Histoire de l’oraison funèbre dans la “cité classique” (Paris 1981), underlining the differences of Greek and Roman customs. The Greek epitaphios was more “democratic,” memorializing a collective (usually those who had fallen in a year of fighting for their polis) and spoken by an eminent man chosen by the people. In contrast, the Roman laudatio funebris exalted an individual of the political and social elite both for his/her own virtues and deeds, and within the context of his/her family and that family’s meritoriously claimed standing in the Roman state. The ceremony, replete with a public procession in which individuals wore masks of their ancestors, had to have the approval of the senate or at least a political peer but rather the bishop Ambrose, to the Greeks. Arce stresses Edib’s invocation of the Ottonian Turks’ common ancestors, whom she called upon as actually present in the great square at the mosque of Sultan Ahmed; he points out that this is but one of many dramatic invocations of ancestors throughout history and cultures. It is odd, however, that this example is not a funeral oration, the topic of his book. Analogously, Memoria de los antepasados, although filled with erudition and interesting observations, can seem out of focus. This may be a result of Arce’s aim of providing the broadest possible exploration of the Roman funeral laudation, one that will unite but surpass more particular studies like J. Engels, Funerum sepulcorumque magnificentia (Stuttgart 1998) and others I note below.
Perhaps because these have been examined by G. Weisch-Klein, *Funus publicum* (Stuttgart 1995) and we know neither their contents nor their speakers, Arce simply notes the laudationes of Roman Spain as an anomaly. Such parallels are intriguing, but unsatisfactory since they are not fully investigated.

Because Arce sets out to explore all possible aspects of a Roman funerary ritual that took various forms over time, his goal is elusive. We are left without a clear explanation of the laudatio funebris, its developments, and its evident limitation to Rome; further, the end of the book unfortunately has a few typos, repetitions, a bibliography that is less than full, and some unclear illustrations. But in thinking broadly Arce frequently opens us to new information and insights, and both his thorough compilation of known laudationes funebres and his detailed analysis of individual matters, such as the Arch of Portogallo reliefs, are very useful. Edmondson, Nogales Basarrate, and Trillmich bring three different specializations to the publication of a significant corpus. Their detailed analyses elucidate those inhabitants of Emerita who chose to have themselves and/or their intimates commemorated for all time by image and text. As Paul Zanker has argued for comparable grave stones in Rome and Italy, most persons attested on Emerita’s funerary monuments with portraits were only on the edge of acceptability in the steep Roman social hierarchies (see Edmondson et al., esp. 93). Yet Emerita’s immigrants, slaves, freed men and women, and *alumni* resolutely asserted their “Roman-ness” on their funerary monuments, through textual avowals of familial piety, portraits featuring togas and imperial hairstyles, and decorative elements depicting ritual objects. As was true for those celebrated by the funeral laudations Arce examines, this small group in provincial Emerita were dignified as part of a much larger Roman community. In the end, the Roman way of life seems defined by the means individual Romans used to defy death.

**Mary T. Boatwright**

Department of Classical Studies
Duke University
Durham, North Carolina 27708-0103
Tboat@duke.edu


This volume contains 22 papers from a five-day conference convened at the University of Marburg by Guntram Koch, dean of *Sarcothaph-Studien*, in collaboration with François Baratte of the Sorbonne and Thilo Ulbert of the Deutsches Archäologisches Institut. In the brief preface Koch expresses satisfaction that “nearly all the well-known scholars in the field of late antique sculpture from 10 European countries, the United States, Tunisia, and Japan were in attendance. To an American reader it is striking how few of this number (two) are compatriots. There is surely a larger pool of U.S. scholars who might have something of interest to say about early Christian sarcophagi, but it may be true that none of those can be called specialists in sarcophagi. Marion Lawrence is perhaps the last of whom one would have said that.

The papers are democratically presented in alphabetical order by author, but they are not equal. Content, format, style, and length vary considerably. There is no attempt to frame or connect the contributions, no editorial introduction or conclusion. Nor is there an index. Anyone truly interested in sarcophagi is evidently expected to read every word. This is a punishing task. Some of the papers consist almost entirely of description or other such documentation, and might better have been posted on a website. Others are more discursive, however, and more rewarding for scholars outside the specialized circle of *Sarkophagforschung*. At least six essays treat the semiotics of early Christian sarcophagi: that is, how their imagery conveyed meaning. One offers an explanation for why Christian sarcophagi died out in Rome in the fifth century; two discuss the influence of patrons; one presents evidence of color; one argues against the existence of the “running drill”; and two discuss the Medieval emulation of sixth-century models. Since any selection would be arbitrary, I will follow my own interests and focus on the semiotic contributions.

Theun-Mathias Schmidt and Sabine Schrenk study specific instances of the creation of Christian signifiers in a Roman matrix, and Bruno Klein offers a larger view of the same development. Klein focuses on the relation between message and image—signified and signifier—observing at the outset that representing the new themes imagined by Christian patrons in the early fourth century posed a “virulent” problem for craftsmen, who were trained in the visual language of late Roman paganism. A particular challenge was visualizing the thematic coherence of episodes from unrelated narratives. Klein argues that over several decades, sarcophagus makers successfully met this challenge by adapting older visual techniques to the representation of Christian models that had been laid down verbally by patrons or “programmers” right after 313. A new Christian language began to emerge around mid-century, and the “*Repräsentationsbilder*” of around 400 were already structurally Medieval. Whether or not he is aware of it (the footnotes suggest not), Klein’s essay retraces ground already staked out for anglophone readers in publications like Jas Elsner’s *Imperial Rome and Christian Triumph* (Oxford 1998). Klein’s fine-grained analysis offers a welcome refinement of more broad-brushed accounts of the origin of Christian visual communication.

Schmidt and Schrenk both appeal to Roman sources to decode unexpected Christian adaptations. Schrenk argues that the earliest representations of the offering of Cain and Abel on sarcophagi were modeled on the iconography of Months and Seasons, and so express a different understanding of the episode than that suggested by the Biblical narrative and by the alternative visualization used elsewhere. Presenting the brothers in a formula denoting homage, these images decontextualize Cain and Abel from the narrative of the first murder,
allowing them to function equally as models of reverence. Schmidt traces the significance in Roman imagery of the gesture and pose of an enigmatic female figure shown on the lid of a sarcophagus in Boville Ernica, seated with hands crossed over her knee by Christ’s crib. He concludes that she is a unique fourth-century representation of the doubting midwife, who reappears with a different gesture in Byzantine iconography two centuries later.

Moving to the level of allegory or metonymy (“iconology”), two elder statesmen, Josef Engemann and Hans Georg Thümmel, invoke rules for contextual interpretation. Acknowledging that this might seem old-fashioned (“Nein, nicht schon wieder Interpretationsmethodik!”), Engemann insists on the principle that signs are a limited system: signifieds do not exceed their signifiers, or in his terms (adopted from Kirschbaum), “das Denkmal selbst” delimits its correct interpretation. Using the example of Shadrach, Meshach, and Abednego in the furnace, he concludes that she is a unique fourth-century representation of the doubting midwife, who reappears with a different gesture in Byzantine iconography two centuries later.

Thümmel is not so parsimonious. He allows that images on sarcophagi might have political connotations and biographical significance for the prospective deceased. He poses the question whether the many new scenes added to the image-store of Christian sarcophagi in the time of Constantine have a common denominator, or pattern of interpretation (Erklärungsmuster), and is attracted to the “Deutungssystem” proposed for pagan mythological sarcophagi by Dagmar Grassinger in her Habilitationschrift (Marburg 1999). He summarizes her model as a reduction to exempla, regardless of their meaning in the context of literature, on sarcophagi scenes from myth exemplify moral or physical virtues, or death. In this role they are often redundant; thus Medea sarcophagi contain one emblem of fortunate marriage and three of terrible death. The seemingly unrelated scenes juxtaposed on early fourth-century Christian sarcophagi (here we are back to the same development studied by Bruno Klein) could also be redundant exempla.

P.C. Finney takes on an entirely different issue and a different approach, focusing on signifieds rather than signifiers and on reception rather than intention. He aims to debunk a chapter in Thomas Mathew’s The Clash of Gods (Princeton 1993, reprinted 1999), a book unnoticed by all but Finney in this volume, though it raised a clamor when it appeared in the United States. Appealing to social and cultural factors and pseudo-psychology, Finney argues against Mathew’s “The Magician” that representations of Christ performing miracles could not have been seen by fourth- and fifth-century viewers of sarcophagi as acts of magic, because their “public brain” had been too adversely conditioned to magic to make the connection. The argument is unfair to Mathews, who anticipated these objections with good patristic sources. It also ignores the first rule of “Iconography 101” (explain the conventions), as well as Engemann’s injunction to notice discrepancies between an image and its textual source. The wand held by Christ in certain miracle scenes is not in the New Testament. Mathews explained it as the magic staff (virga) given to Moses (Exodus 4), and argued that the wand denotes Christ as the new Moses, invested with “good magic” by God. I still find his argument convincing.

It is only the reviewer’s predilection for Interpretationsmethodik that dictated the selection of essays discussed here; the contributions by Hugo Brandenburg, Jean-Pierre Caillet, Johannes Deckers, Bente Kiilerich, and Rainer Warland in particular invite equally extended consideration and response. The gathering of such luminaries in Marburg must have made for many stimulating exchanges, and it is a tribute to Professor Koch that, even without a virga, he brought it about.

DEPARTMENT OF HISTORY OF ART
BRYN MAWR COLLEGE
101 NORTH MERION AVENUE
BRYN MAWR, PENNSYLVANIA 19010
DKinney@Brynmawr.edu


This book presents a preliminary history of ancient Abila, one of the cities in the Decapolis of northern Jordan. The author utilizes the following sources: ancient texts, both Semitic and Classical, as well as Medieval Arabic; the reports of 19th- and early 20th-century explorers; the survey conducted of Jordan by Nelson Glueck in the 1930s and 1940s; and excavations after World War II. The bulk of the excavation data comes from the American excavations conducted since 1980 under the direction of W. Harold Mare of the Covenant Theological Seminary in Saint Louis, Missouri. The text is divided into seven chapters, including an introduction. Chapter two covers early exploration and excavation at the site, and chapter 3 provides a concise and selective summary of the results of the American excavations. Chapter 4 is devoted to early texts related to Abila. The Greek texts are quoted in the original language, with English translations, while the Semitic texts are given primarily in translation. Chapter 5 presents the inscriptions and graffiti found in the American excavations. Chapter 6 is devoted to numismatic and iconographical evidence (i.e., gems, painting, sculpture, etc.) from the site, and chapter 7 offers a historical overview. There are useful tables of coins found at the site, and of tombs by type and date.

The book, though oddly conceived and in some ways poorly executed, does provide a useful summary of the history of the site and of some of the results of recent excavations. In some respects the most important result is the demonstration that the site does go back to the Bronze Age, as Glueck had hypothesized. Bronze Age
sherds and other remains rarely appeared in survey material, so only deep excavations revealed the early layers. The most flourishing periods of Abila, as of other cities of the Decapolis, were the Roman and Byzantine eras, with at least five churches revealed, and the city continued to thrive after the Arab conquest. The excavations at Abila confirm evidence from other sites in Syria and Jordan that Christian churches remained standing and active after the Umayyad conquest. As is normal in these cities, the Roman monuments have largely obscured the Hellenistic remains. The author argues for a clan structure during the Roman period, on the basis of ethnographic evidence and the placement of tombs, with larger and smaller ones commingled.

The author’s presentation of the results of seven seasons of American excavations is quite selective, but does give an overview of the architectural and other remains, with references to detailed publications. The strategy of the excavation was first to carry out a surface survey of the site and to map the important remains. Once the urban boundaries were established, four transects 100 m wide and 2.5 km long were laid out along the cardinal points, and surveys were conducted along these transects. The selection of areas within the city for excavation appears to have been based principally on the presence of architectural remains. The American team also excavated a number of tombs. The bones found in the unrobbed tombs shed light on burial practices, and the limited osteological sample suggests a high rate of death by the age of 16.

The style is anecdotal. The structure of the book leads to a considerable amount of repetition; in particular, much of chapter 7 repeats almost verbatim material included in earlier chapters. In a commendable desire to give credit to other members of the expedition, the author sometimes discusses preliminary ideas, later proved incorrect, that might have been better omitted or relegated to a footnote. Oddities that would seem to call out for discussion pass unremarked. For example, the author discusses two tombs that might have been Nabataean, based on the plans (42). The presence of Nabataeans in the Decapolis is controversial, yet the plans of the tombs are not included. The churches uncovered by the excavators had elaborate architectural decoration: columns, capitals, floors in cut stone and mosaic. These are discussed in considerable detail but with few illustrations. Yet nine plates are devoted to drawings of tombs reproduced from Alx Barbet and Claude Vibert-Guigue’s 1994 publication, Les peintures des nécropoles romaines d’Abila et du Nord de la Jordanie (Beyrouk), which the reader could easily consult.

The proofreading was exceptionally careless. Singular verbs used with plural subjects are frequent, and errors such as “point to the possible that it was a small Byzantine church” (23) and “In squares 2 and 3 partial exposed the apse” (25) abound. One of the most useful sections of the book is the collection and discussion of ancient sources that might refer to Abila. (ch. 4. 47–69) The name Abila, in various forms, is common in the ancient Near East, and the author carefully analyzes the texts as to whether they are likely to refer to this city or another of similar name. This section is marred, however, by appalling carelessness in the printing of the Greek. The rough and smooth breathings are routinely placed, not at the beginning of the word, but after the first vowel or vowels. The production values speak very poorly for the BAR International Series.

Susan B. Downey

Department of Art History
University of California-Los Angeles
Los Angeles, California 90095-1417
downey@humnet.ucla.edu


Readers of AJA will find the broad chronological spectrum of these essays attractive. In the words of this book’s editors, late antiquity now spans from ca. 250 to ca. 800 C.E., embracing a huge variety of cultures, textual and material. While this definition may be open to debate, all the contributors made a commendable effort to convey the senses of both continuity and change as the vast expanses of the Roman empire and its neighbors underwent far-reaching transformations.

Perhaps the most striking omission of this volume is a contribution by its editors, each a leading luminary in the field. In the introduction they state that “the essays are meant to provoke thought so as to encourage readers to travel further in new directions” (xii). The essays’ authors have been judicially chosen from among well established as well as younger scholars, a melange which reflects the dynamics of this burgeoning field of antiquity. In its original guise the volume appeared as a series of introductory essays to the editors’ Dictionary of Late Antiquity (1999). The decision to reprint the articles as an

Of this wealth of information, reflection, and interpretation, two articles are of special relevance to readers of AJA, namely Hirschfeld’s “Habitat” and Caseau’s Sacred Landscapes.” Both attempt to come to terms with the form and meaning of public and private architecture as an expression of collective and individual worldviews.

Hirschfeld guides readers through a representative typology of private dwellings, urban and rural, each type providing a lively illustration of the complexity of the social, economic, and cultural interaction that characterized the daily life of the “Romans” of late antiquity. His analysis of the countryside, by far the larger portion of the provincial terrain, reveals intense cultivation characterized by fortified manors of different sizes and proportion, all, however, hinting at similar underlying needs and desires under a veneer of tastes catered to suit individual pockets and ambitions. In North Africa, for example, fabulously rich magnates lived on estates which, for all intents and purposes, were “states” within a state. Both structures and their lavish decor reflect a microcosm built around a social pyramid headed by owners-patrons of the property who had absolute control over the lives of numerous dependents. In less affluent surroundings, such as those of coastal Palestine, owners of fortified villas still aspired to command magnificent views, on a considerably smaller scale. Hirschfeld’s own excavation, at Ramat Hanadiv near Caesarea Maritima (Israel), combined the habitual amenities that the rich expected with marvelous vistas of the Mediterranean.

Demographic changes as well as transformation of lifestyles in late antiquity are seen in the emergence of a unique type of tower-like farmhouse (gusur, 266), which sprouted in the semiarid periphery of the empire. Defying climatic and human hostility, these structures attest a movement from nomadic lifestyle to a more permanent use of the land in areas that had not known permanent habitat for centuries.

According to Hirschfeld, the most significant distinction between eastern and western habitat is the prevalence of the farm in the west and of the village in the east (268). He believes that the village further denotes a “homogeneous rural society without distinctive class difference,” although such a generalization is perhaps too sweeping. In all the provinces the aristocracy, with its rural and urban dwellings, maintained an intimate bond between city and countryside. In general, the demographic explosion of the fifth and sixth centuries in the eastern parts of the empire is mostly reflected in the conversion of public and private space to accommodate both private dwellings and commercial enterprises. In Scythopolis (Beit Shean), capital of Palestina Secunda, houses and shops were planted on the once wide pave-
their own traditions, Palestine provides an instructive example of how the intertwining of “public” (ecclesiastical, governmental) and “private” (individual bishops, monks) coalesced to transform the territory into an exclusively Christian holy land. Even in cities like Gaza, a lively center of proud paganism with a faint biblical past, an enterprising bishop marshaled an emperor in a campaign to destroy temples as early as 400. To symbolize the marginalization and decimation of the Samaritans the emperor Zeno ordered the construction of a church at the top of Mount Gerizim, the holiest spot for the Samaritans.

Hagith Sivan
DEPARTMENT OF HISTORY
1445 JAYHAWK BLVD.
UNIVERSITY OF KANSAS
LAWRENCE, KANSAS 66045
HSIVAN@KU.EDU

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