

## URBANISM BEYOND THE ACROPOLIS The Tayinat Lower Town Project Surface Survey, 2014-2015

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### *Abstract*

*Although the capital cities of the Syro-Anatolian city-states (also known as Syro-Hittite, Neo-Hittite, Luwian, and Aramaean) have been excavated for generations, archaeologists have only rarely investigated their large lower settlements beyond the monumental buildings in the acropolis. The Tayinat Lower Town Project began in 2014 with the explicit goal of conducting systematic fieldwork in the lower settlement of Tell Tayinat, ancient Kunulua, the Iron Age capital of the kingdom of Patina. The first two seasons were dedicated to an intensive surface survey of the entire lower town, roughly 16 ha in size, in order to obtain as holistic a picture of the ancient city as possible before planned excavation takes place. This article presents the findings of this research, which complement and expand our understanding of urbanism in Iron Age Anatolia.*

### INTRODUCTION AND RESEARCH QUESTIONS

The Tayinat Lower Town Project (TLTP) began in the summer of 2014 as part of a long-term effort to understand the archaeological remains of the large lower settlement of Tell Tayinat, located in the Amuq Valley of southeastern Turkey (Fig. 1). Tayinat consists of two major morphological units: a low-lying tell roughly 20 hectares in size, and an additional 16 hectare lower town that extends around the eastern half of the site. Today the lower town lies under the floor of the valley due to the accumulation of alluvium from the Orontes River, located 700 m south of the site. This morphological feature has rendered systematic exploration of this quarter of the site a major logistical challenge, and as a result we know little about the nature of settlement in this area. This article presents the results of two seasons of systematic surface survey of Tayinat's lower town, aimed explicitly at providing an understanding of the socioeconomic processes of the ancient city as a holistic entity instead of the piecemeal picture provided by limited, opportunistic excavations.

Tell Tayinat was the focus of large-scale excavations in the 1930s by the Syrian-Hittite Expedition of the University of Chicago's Oriental Institute, who focused primarily on the acropolis and its monumental remains of the early first millennium BCE, or Iron Age II and III (ca. 925-600 BCE); only the architectural remains from these levels have so far been published. (Haines 1971). A number of small soundings also revealed Early Bronze Age levels contemporary with excavations conducted at other sites in the valley, and this material contributed to Braid-

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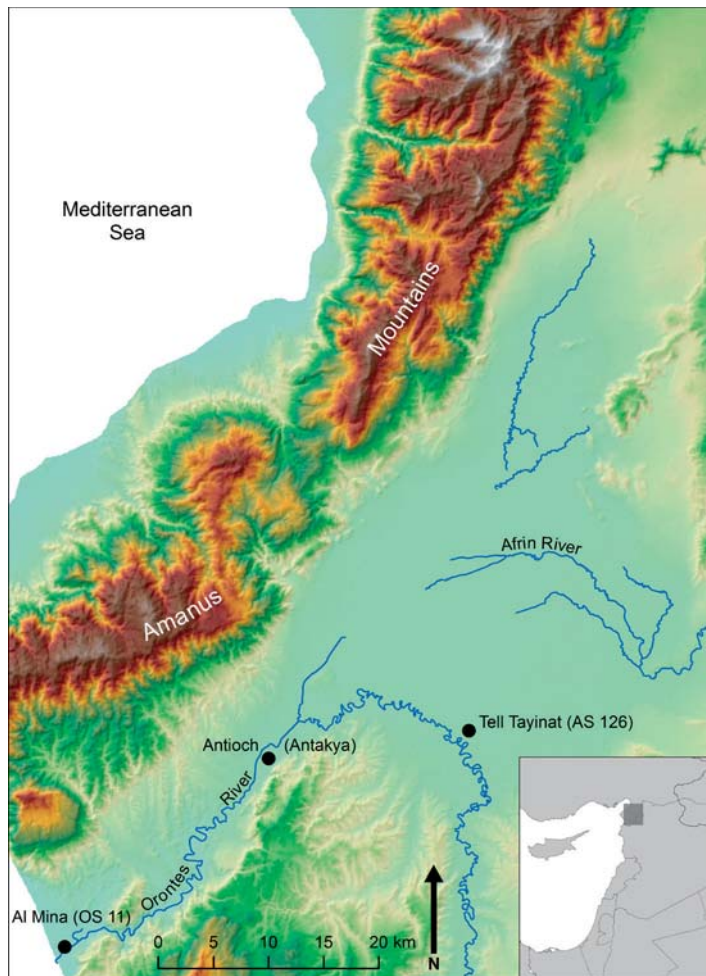


Fig. 1. Map of the Amuq Valley in southeastern Anatolia with the location of Tell Tayinat.

wood's prehistoric ceramic sequence of the Amuq, especially Phases H-K (Braidwood & Braidwood 1960). Excavations at Tell Tayinat resumed in 2004 under the auspices of the University of Toronto's Tayinat Archaeological Project, directed by Timothy Harrison. In addition to the discovery of an additional monumental building dating to the Iron Age II and III period, these excavations have documented several earlier phases of occupation undetected by the previous expedition.

Cumulatively, the Syrian-Hittite Expedition and Tayinat Archaeological Project have created a robust archaeological and historical sequence. The tell was occupied during the Early Bronze Age, ending with a large structure dated late in the third millennium BCE, or Phase J in Braidwood's Amuq ceramic sequence (Welton *et al.* 2011). Following the

Middle and Late Bronze Ages, during which Tayinat was uninhabited, the site was reoccupied during the Iron Age I period, roughly 1200-925 BCE, at which time its material culture is partially characterized by locally made Mycenaean IIIC pottery and other aspects of Aegean-style material culture such as unbaked clay loom weights (Harrison 2009; Janeway 2017). At this time Tayinat was likely the capital of the kingdom of Walistin/Palistin as indicated by Luwian inscriptions found at the site and in a number of monuments from other sites including Aleppo, Arsuz, Meharde, and Sheizar (Weeden 2013). The subsequent Iron Age II is the best attested period archaeologically and historically. Large-scale horizontal excavations made in the acropolis discovered a series of monumental buildings including temples (Harrison & Osborne 2012) and *bit-hilani* palaces, the diagnostic architectural form of the Syro-Anatolian city-states (Haines 1971; Osborne 2012). Scholars have long assumed that Tell Tayinat was the ancient

city of Kunulua, capital of Patina, a later etymological derivation of Walistin/Palistin. The identification of Tayinat as Kunulua was confirmed recently by the discovery of a large tablet bearing a succession treaty between Esarhaddon and an unnamed local ruler that names the city as such (Lauinger 2012). Patina was one of roughly a dozen Syro-Anatolian (also referred to in scholarship as Neo-Hittite, Luwian, Aramaean, or Syro-Hittite) city-states in northern Mesopotamia and southeastern Anatolia including Carchemish, Sam'al, and Hamath, among others (Osborne 2014; Harmanşah 2013; Hawkins 2000). As part of a region-wide process in which the Syro-Anatolian city-state system was subsumed by the Neo-Assyrian Empire, Tayinat was conquered by Tiglath-pileser III in 738 BCE, converted into an Assyrian province, and reoccupied by the Assyrians who built a governor's residency on the south edge of the city (Harrison 2005). The late 8<sup>th</sup>-7<sup>th</sup> C Neo-Assyrian settlement marks the last phase of the site's occupation.

Yet despite this relative wealth of information about the sequence of occupation and the historical significance of Tayinat, our knowledge of the settlement has remained almost entirely restricted to the tell itself, meaning that just under half of the city has barely been systematically investigated. In addition, this portion of the site is very likely the residential area of non-elite individuals, such that our understanding of the ancient city is also badly skewed in favor of elites. For these reasons the Tayinat Lower Town Project was begun in 2014. TLTP is a long-term initiative with several related research objectives: (1) characterizing the archaeological signature of non-elite residential households in a major Syro-Anatolian urban center; (2) understanding the Syro-Anatolian specialization in metal and ivory craft production that is often presumed to have taken place in these large cities' lower towns; and (3) given Tayinat's status as a city whose population was deported and then resettled with refugees from elsewhere (Tadmor & Yamada 2011), exploring the cultural interactions set in motion by the Neo-Assyrian forced migration event, which to date has been studied only through historical documents (Oded 1979).

All of these research questions are best approached by means of an overarching strategy that involves an understanding of the nature of settlement across the entire lower town as determined through surface survey and remote sensing on the one hand, combined with focused analysis of material cultural attained through targeted excavations on the other. The excavation stage of the project is planned for the near future. This article presents the first stage of TLTP's field research, a high-resolution intensive surface survey of the entire 16 ha lower settlement. The results of this survey have generated a great deal of information about Tayinat's lower town, especially with regard to its density of occupation across the site, differences in the functional use of space, and possibly even the locations of specialized craft production areas.

#### PREVIOUS WORK IN TELL TAYINAT'S LOWER TOWN

As described above, the Syrian-Hittite Expedition excavations concentrated almost exclusively on the acropolis. The main exception was a gateway, labeled Gateway XI, that the Chicago excavators exposed on the eastern edge of the lower settlement two hundred meters east of the tell (Haines 1971: 59). Since Gateway XI lay due east of Gateway VII, a gate located on the east edge of the acropolis, two test probes were placed along the east-west line between

the two structures in which an 8.8 m wide paved road was discovered (Haines 1971: 60). (The location of these two probes is indicated in the Haines volume's overall excavation plan Plate 93, though illustrations of the street itself are not provided.) Together, Gateway XI and the highly restricted exposure of this east-west street were the extent of the Syrian-Hittite Expedition's efforts in this area.

Prior to the University of Toronto's resumption of excavations, a brief survey of the lower town was conducted in 1999 in part as preparatory research in anticipation of long-term fieldwork at the site. By this time the extent of the lower town was indicated in declassified CORONA satellite imagery that not only documented the size of this area but even illustrated part of its fortification system (Fig. 2). The 1999 surface survey of Tell Tayinat, which included both the tell and the lower town, was primarily interested in dating the occupational history of the site. Results indicated the site's Early Bronze Age occupation stretched across the entirety of the tell, including Red Black Burnished Ware sherds related to the Early Transcaucasian Culture phenomenon, in this region introduced during Amuq phase H. The lower town, meanwhile, was determined only to have been occupied during the early first millennium BCE, or Amuq phase O, as characterized predominantly by Red Slipped Burnished Ware. This finding was accomplished by means of fifteen radial pedestrian transects surrounding the east side of the tell, with ceramics collected every ten meters by the surveyor. At the same time, a geomagnetic survey documented the existence of magnetic anomalies beneath the valley surface in this area, in possible rectilinear formation, suggesting the presence of non-monumental architecture (Batiuk *et al.* 2005: 175-7, Figs. 7.6, 7.11). An expanded geomagnetic survey was undertaken in 2010 by Charly Bank, this time demonstrating areas of magnetic anomalies that align in what appear to be street networks (Osborne 2017: Fig. 5), including an east-west line running between the areas of Gateways VII and XI, that is, the same location where test trenches in the 1930s found the stone-paved street.

In sum, our knowledge of this half of the site is highly restricted in comparison with the amount of information that excavation has brought to light in the acropolis. Earlier efforts have demonstrated conclusively that settlement existed in a large lower town, and that it dates predominantly to the city's height during the Iron Age II and III. TAP has long sought to return to the lower town to complement its



Fig. 2. CORONA satellite image of Tell Tayinat illustrating the lower town. Note the lines of the city wall, especially in the northeast portion of the fortification system.

excavation efforts on the tell, but the logistical problems presented by the alluvium combined with the need to attend to pressing discoveries on the acropolis itself have precluded this from happening. In order to improve our understanding of this huge portion of the ancient city, to devise a methodology that might compensate for the hurdles posed by site morphology, and to begin addressing the three research questions outlined earlier regarding social and economic lifeways during the early first millennium BCE, TLTP developed a highly intensive program of surface survey that was implemented in the 2014 and 2015 field seasons.

## SURVEY METHODS

Tell Tayinat's lower town is covered with such a vast amount of material culture that a sampling strategy was necessary for reasons of practicality. As with any sampling strategy, the challenge was to arrive at a balance between resolution and intensity on the one hand, and areal coverage and time on the other. The site was already divided into a grid for the purposes of excavation using the Universal Transverse Mercator WGS 1984 projection; this grid separates the site into  $10 \times 10$  m units with their own unique designation in the recording system. TLTP expanded this grid across the lower town and treated each square as a separate collection unit. We adopted a probabilistic sampling strategy, collecting materials from units spaced every other twenty meters. This results in 25 survey units collected per hectare, or 25% coverage across the lower town (Osborne in press-a). Survey units were located on the ground using handheld Garmin GPS 62s devices, which consistently provided accuracy of under half a meter, or less than a single stride on the part of a surveyor.

Complete recovery of the ceramics within each  $10 \times 10$  m unit would be excessively cumbersome. TLTP thus employed the survey methodology developed by Tell Brak Suburban Survey (Ur *et al.* 2011), according to which each survey unit was divided into two separate collections. The first consists of the entire  $10 \times 10$  m square, from which all diagnostic sherds (rims, bases, handles, and decorated sherds) and all objects were collected. The second was a  $2 \times 2$  m square in each survey unit's southwest corner, from which all objects and sherds were collected, including non-diagnostics. This method is well suited to providing data that address the nature of settlement across a large spatial area. Diagnostic pottery collected from the total survey unit can be used to detect different functional areas across space, such as areas with disproportionately high frequencies of storage jar rims that might be a product of centralized storage. The recovery of all sherds from the smaller sub-section of the survey unit, on the other hand, while not providing a sense of the functional distribution of space, can nevertheless serve as evidence for the density of settlement across the lower town. To the extent that sherd counts and weights – both were measured from the  $2 \times 2$  m collection sub-units – act as proxies for the quantity and density of ancient settlement, this data can be mapped across the survey universe to provide a sense of which neighborhoods had the densest settlement, and which areas were comparatively less occupied.

Tayinat's lower town is today divided into three fields that create discrete survey regions. The first is a field to the north of the tell that at the time of survey (July 2014) was occupied by full grown corn plants that made for challenging survey conditions, but that coun-



terintuitively provided excellent visibility at ground level. The second was a field south of the modern Antakya-Reyhanlı highway that at the time of survey (June 2014) was fallow. Of the three, this field overlies the smallest portion of Tayinat's lower town. However, it also afforded TLTP an excellent opportunity to extend the survey beyond the presumed limits of the city to confirm its boundary and to assess the distribution of ceramics beyond the projected limits of settlement. The third is a large field to the east of the tell that at the time of survey (June-July 2015) was growing cotton plants. Early in the life cycle of the plant, cotton fields are excellent survey terrain; we surveyed in this field before the cotton grew to ground-obscuring heights. Here, too, survey extended to the north of the presumed location of the city's fortification wall as indicated by CORONA imagery in order to confirm the areal extent of the city.

During our survey of the large cotton field agricultural workers flooded the rows of cotton with water, which subsequently resulted in a 1-2 cm thick layer of sediment present on the ground after the water had sunk or dried. To test whether this flooding had an adverse effect on the quality of the data, we collected 16 test units measuring  $2 \times 2$  m in both the northern and southern portions of the east cotton field, units that were adjacent to those collected prior to the flooding event. A comparison indicates that in the post-flood units there was a slightly higher number of sherds collected with a lower total weight. This would suggest that the flood resulted in a preferential selection of small sherds. Although the impact of flooding must be kept in mind when interpreting the data, the differences between pre- and post-flood data are relatively minor and do not greatly alter the larger conclusions.

## RESULTS

In total, TLTP surveyed 456 units across Tayinat's lower town, plus the 16 additional test units, accounting for just over 4.5 ha of land coverage. Of these, approximately 120 units are located beyond the edge of the ancient city as defined by satellite imagery. Roughly 1.5 ha of the lower town remains unsurveyed; the outer point of the east side of the lower town – including the location of Gateway XI – lies in a fourth field that was not available for survey. The survey recovered a total of 29,667 sherds; this figure includes all sherds from both the  $10 \times 10$  m units from which only diagnostics were kept as well as the smaller  $2 \times 2$  m sub-units from which all sherds were kept regardless of diagnostic status. In addition to these ceramic counts, a total of 304 objects were collected.

The most immediately striking results are provided by the distribution of sherd counts and weights. These are illustrated here using a kernel density extrapolation that calculates the expected figures in the areas between survey units based on the figures provided by the survey units themselves (Fig. 3). It is apparent, first, that the two bodies of data correspond closely to one another. There is no radical difference between the distributions of counts and weights. The one exception is a large area in the northern part of the east field. Here the sherd count is relatively high compared to weight, suggesting the increased collection of small sherds. This area was surveyed following the flooding of the field, and it may be this taphonomic factor that accounts for the difference. The larger pattern in the data, which shows clear similarities between count and density, suggests that the two variables are for the most part interchangeable in this context.

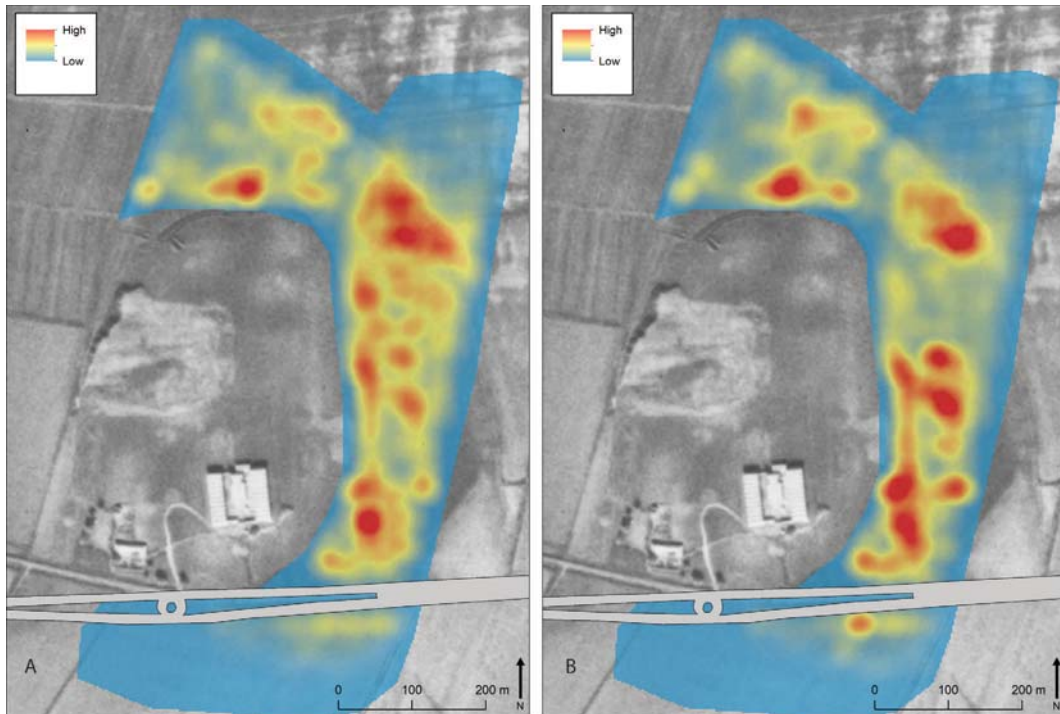


Fig. 3. Extrapolated density maps of ceramics collected by TLTP. *a)* sherds/sq m; *b)* grams/sq m.

Second, it is clear that in both sherd counts and weights there is a striking lack of uniformity across Tayinat's lower town. Clear clusters of density are present to the north, north-east, and east of the acropolis, and likewise there are three major areas – at the northwest corner of the site, a corridor running southwest/northeast from the northeast corner of the tell, and an area in the southern portion of the east field – where it is apparent that very few sherds were collected. In both cases, positive and negative, these distributions of counts and weights very likely correspond to the ancient density of settlement across the city. If that is the case, then TLTP has discovered an intriguing, and perhaps counterintuitive, scenario in which the lower town was occupied unevenly, and was characterized by a number of densely occupied neighborhoods adjacent to large open spaces.

Third, and perhaps most obvious, TLTP's survey has confirmed the areal extent of the city already indicated by CORONA imagery and the preliminary 1999 ceramic survey. In both the southern and northern edges of the site ceramic distribution stopped abruptly along the border of the site as predicted by the imagery. This finding confirms the size of the lower settlement as approximately 16 ha and the total size of Tell Tayinat as roughly 35 ha. It also serves as another indication of the power of CORONA imagery to provide accurate site size data in alluvial environments. Finally, the lack of ceramics beyond the edges of the ancient settlement confirm that the ceramic pieces themselves have not traveled great distances in the intervening millennia, such that their current spatial contexts are highly likely to be closely representative of their original places of use, at least at the moment they entered the archaeological record. (The significance of these findings to our understanding of urbanism in the capital cities of the Syro-Anatolian city-state system is presented in Osborne 2017.)

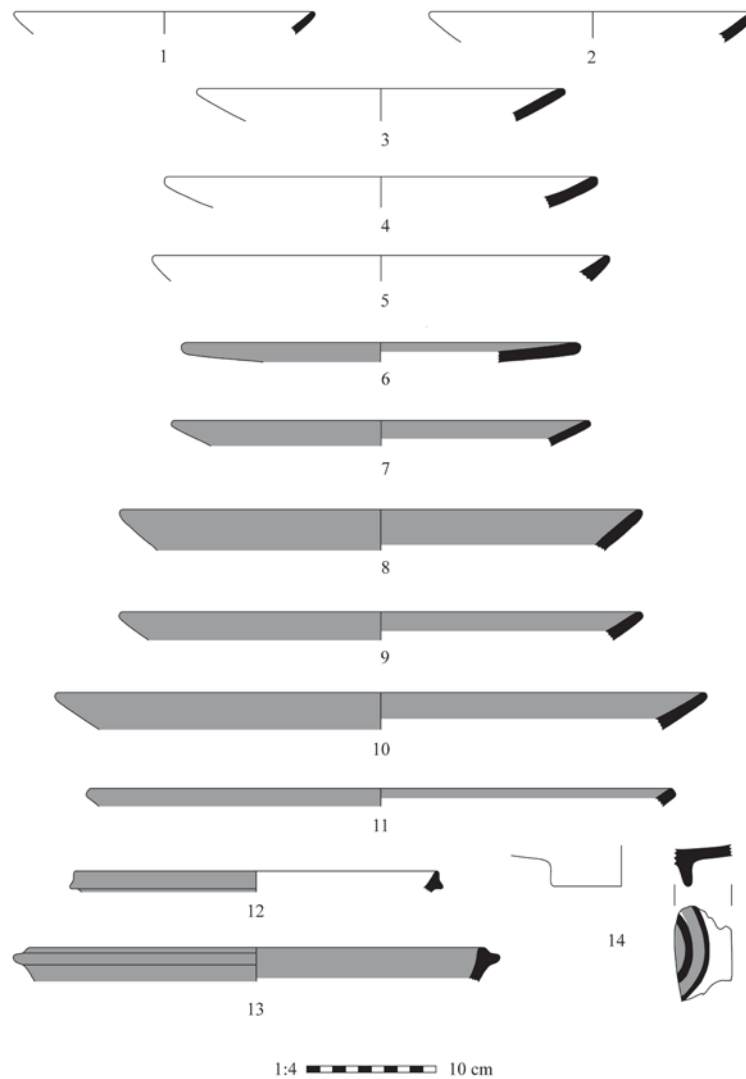


Fig. 4. Platters.

- 1.** AS126.14.H6.99.30, Common Ware platter with rounded rim; **2.** AS126.14.H6.99.27, Common Ware platter with rounded rim; **3.** AS126.15.G7.71.1, Common Ware platter with rounded rim; **4.** AS126.14.J6.39.2, Common Ware platter with rounded rim; **5.** AS126.14.J6.97.28, Common Ware platter with rounded rim; **6.** AS126.14.J7.51.4, Red Slipped Burnished Ware platter with rounded rim; **7.** AS126.15.H7.11.48, Red Slipped Burnished Ware platter with rounded rim; **8.** AS126.14.J6.57.40, Red Slipped Burnished Ware platter with rounded rim; **9.** AS126.14.H6.79.11, Red Slipped Burnished Ware platter with rounded rim; **10.** AS126.14.H7.91.4, Red Slipped Burnished Ware platter with rounded rim; **11.** AS126.14.J6.53.30, Red Slipped Burnished Ware platter with squared rim; **12.** AS126.14.C5.59.38, Red Slipped Burnished Ware platter with flanged rim; **13.** AS126.14.H6.79.6, Red Slipped Burnished Ware platter with flanged rim; **14.** AS126.14.K6.51.22, Local Bichrome Ware platter.



## Ceramics

Excluding ceramics from the test units, which were collected only as a methodological confirmation of the appropriateness of our survey methods both before and after the watering of one of the fields, TLTP produced a total of 9773 diagnostic sherds. 121 of the diagnostic sherds, or 1.2 %, date to the Early Bronze Age III and IV, or late third millennium BCE, and represent a large range of EB wares found at the site to date, including Red Black Burnished Ware, Simple Ware, Painted Simple Ware, Plain Simple Ware, and Smeared Washed Ware (see Braidwood & Braidwood 1960; Welton *et al.* 2011). Of these wares, Simple Ware was the most common, followed by Red Black Burnished Ware; the remainder are represented by a handful of sherds each. It is possible that EB pottery is comparatively rare due to its far greater depth under the alluvium (see *Spatial Distribution* below). A further 74 sherds are Roman in date, and likely derive from an unexcavated Roman period villa located 200 m north of the lower town. Finally, 19 sherds are possibly from the second millennium, or the Middle and Late Bronze Age, though none of these were highly diagnostic of those periods.

The remaining diagnostic sherds, over 97 % of the assemblage, derive from the early first millennium BCE. Individual sherds were assigned a type according to a ceramic typology developed from the Iron Age II and III levels of the Syrian-Hittite Expedition excavations on the tell, Building Periods 2-5 (Osborne in press). Although a small number of the Iron Age II-III types present on the tell were not found by TLTP, these types absent from the lower town are almost exclusively variants of decorated or imported wares that are exceptions to, rather than representative of, the larger repertoire. The total assemblage collected by TLTP, then, contains almost the full repertoire of forms found on the mound itself, including imports.

### *Iron Age II and III Ceramic Wares*

Common Ware, here defined as locally produced, wheel made, and undecorated pottery, represents 70 % of the diagnostic sherds collected by TLTP. Common Ware is attested in all of the shapes described below, and consists of a pink-beige fabric with black and white inclusions that is typically, though not always, thoroughly oxidized across the profile. The most common form is the platter. Common Painted Ware is made from an identical fabric, but here the vessels have a surface treatment consisting of painted bands in red, brown, or black. These sherds are comparatively rare in the TLTP assemblage ( $n = 96$ ), and are likely a derivative of the Iron Age I period during which painted pottery was far more pervasive, such as the locally produced Mycenaean IIIC vessels. Common Painted Ware is also found in a more restricted range of forms, limited only to platters, bowls, kraters, and jar rims. In the TLTP collection, they are mostly present as painted body sherds.

At 21 % of the assemblage surveyed by TLTP, Red Slipped Burnished Ware (RSBW) is the second most frequently occurring ware. As has long been established in the archaeology of the northern Levant and southeast Anatolia, RSBW is the ceramic hallmark of the early first millennium, though its precise start and end dates remain difficult to pinpoint (Mazzoni 2000a; 2000b: 42). RSBW is essentially the same fabric as Common Ware – typically well oxidized, pink-beige in color, and with black and white inclusions – but differs in surface treatment, which consists of a red slip that is either hand or wheel burnished. The nature of the burnishing – specifically that it was first performed by hand and only later by wheel, and that

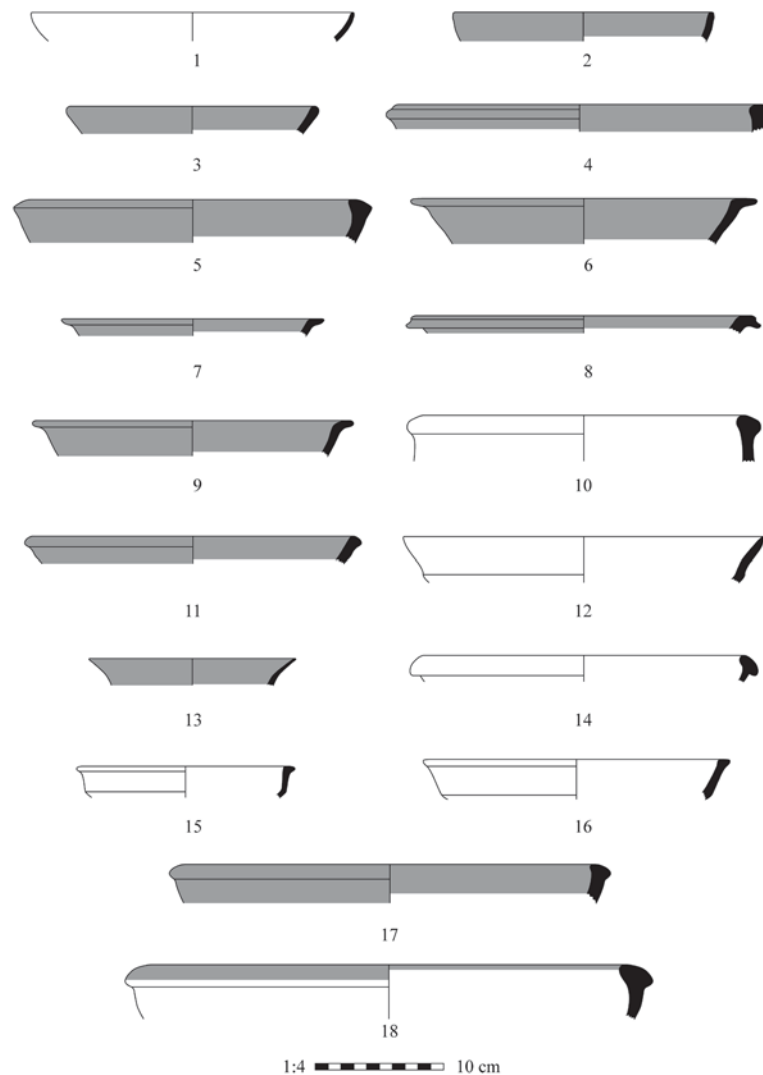


Fig. 5. Bowls.

**1.** AS126.14.K6.57.17, Common Ware rounded bowl; **2.** AS126.14.J7.91.10, Red Slipped Burnished Ware rounded bowl; **3.** AS126.14.J6.95.35, Red Slipped Burnished Ware rounded bowl; **4.** AS126.14.H6.79.12, Red Slipped Burnished Ware rounded bowl with inverted rim; **5.** AS126.14.K6.51.43, Red Slipped Burnished Ware rounded bowl with beveled rim; **6.** AS126.15.H7.73.37, Red Slipped Burnished Ware bowl with everted, flattened rim; **7.** AS126.15.E6.79.25, Red Slipped Burnished Ware bowl with everted, flattened rim; **8.** AS126.15.E7.13.13, Red Slipped Burnished Ware bowl with everted, drooping rim; **9.** AS126.14.C5.59.19, Red Slipped Burnished Ware bowl with everted, angled rim; **10.** AS126.14.G6.59.29, Common Ware bowl with everted, thickened rim; **11.** AS126.14.D6.15.14, Red Slipped Burnished Ware bowl with everted, thickened rim; **12.** AS126.15.H7.75.37, Common Ware carinated bowl; **13.** AS126.14.D5.75.36, Red Slipped Burnished Ware carinated bowl; **14.** AS126.15.G6.77.33, Common Ware bowl with ovular rim; **15.** AS126.15.G6.77.19, Common Ware bowl with flat, pointed rim; **16.** AS126.15.J6.71.37, Common Ware bowl with flat, pointed rim; **17.** AS126.15.H7.11.40, Red Slipped Burnished Ware bowl with ovular rim; **18.** AS126.14.G6.59.2, Red Slipped Burnished Ware bowl with large, ovular rim.

over time it became more complete over the surface of the vessel – has long been thought to be a chronologically significant distinction (Swift 1958), though this has not yet been demonstrated stratigraphically. Both hand and wheel burnishing is present in the collection. RSBW is primarily found on open vessels, especially platters and all of the many varieties of bowl forms, including basins. It is less frequently present on jugs and juglets, themselves a rare form in the ceramics of this period. An exotic version of RSBW consists of Local Bichrome Ware, again comprised of the same local fabric, and also slipped and burnished, but in this case the slip is beige in color (i.e., the slip matrix uses the same clay as the fabric itself) and is painted in alternating red and brown bands. Local Bichrome Ware was determined on the main mound to have been extremely rare and therefore an elite category of ceramics (Osborne in press-b); this is confirmed by the lower town collection, in which only five specimens exist.

Far less frequent, but nevertheless present in several places across the lower town, were the same range of imported wares that have been excavated in the tell: Cypriot White Painted, Bichrome, and Black-on-Red Wares; Aegean geometric pottery, especially including the pendent semicircle skyphos imported from Euboea or the Cyclades; and Assyrian stamped pottery, Glazed Ware, and perhaps two pieces of Assyrian Palace Ware, which cannot be identified with certainty. These imported sherds will be described in more detail in the following section.

In terms of absolute chronology for the ceramics, the available stratigraphic evidence permits only a broad dating to the early centuries of the first millennium BCE. Especially difficult is relating the ceramic assemblage to the arrival of the Assyrians, and imported pottery is of little help in answering such a restricted question. The small number of Assyrian sherds, as well as specific forms like the shallow bowl with pointed rims, are commonly found in the Neo-Assyrian heartland and may have been introduced to Tayinat following Tiglath-pileser III's conquest in 738 BCE, i.e., the late 8<sup>th</sup> and 7<sup>th</sup> centuries. These hardly suffice to date the entire lower town occupation to the Assyrian period, however. As mentioned above, allegedly early hand burnished RSBW platters are present and, as will be illustrated below, are also spatially concentrated, possibly indicating that lower town occupation began early in the Iron Age II. In addition, Syro-Anatolian statuary fragments (see below) must likewise belong to a pre-Assyrian context. It seems highly probable, therefore, that settlement in the lower town of Tell Tayinat was present for something approaching the full range of the Iron Age II and III, including at least parts, but possibly all, of the 9<sup>th</sup>, 8<sup>th</sup>, and 7<sup>th</sup> centuries.

### *Types*

The most common form in the Iron Age II/III repertoire is the open platter (Fig. 4). These are present in varying quantities in nearly every unit collected by the TLTP survey and occur in both Common Ware and Red Slipped Burnished Ware. Rim diameters typically cluster between 25 and 30 cm, but can also reach ranges upward of 45 cm. These vessels are likely used for the consumption of food, and it may be that these larger diameters are indicative of commensal use. The lip is most often rounded, but a squared variety also exists; the former is usually wheel burnished and red-orange in color while the latter is more frequently associated with hand burnishing and tends to be closer to purple. Both Common Ware and Red Slipped Burnished Ware platters have parallels at a number of sites in or near the north Orontes watershed, such as Tell Abou Danné, 'Ain Dara, Tell 'Acharneh, Tell Afis, and Tell Qarqur (Lebeau 1983: Pls. II: 1-5, III: 4-8, V: 1-6; Stone

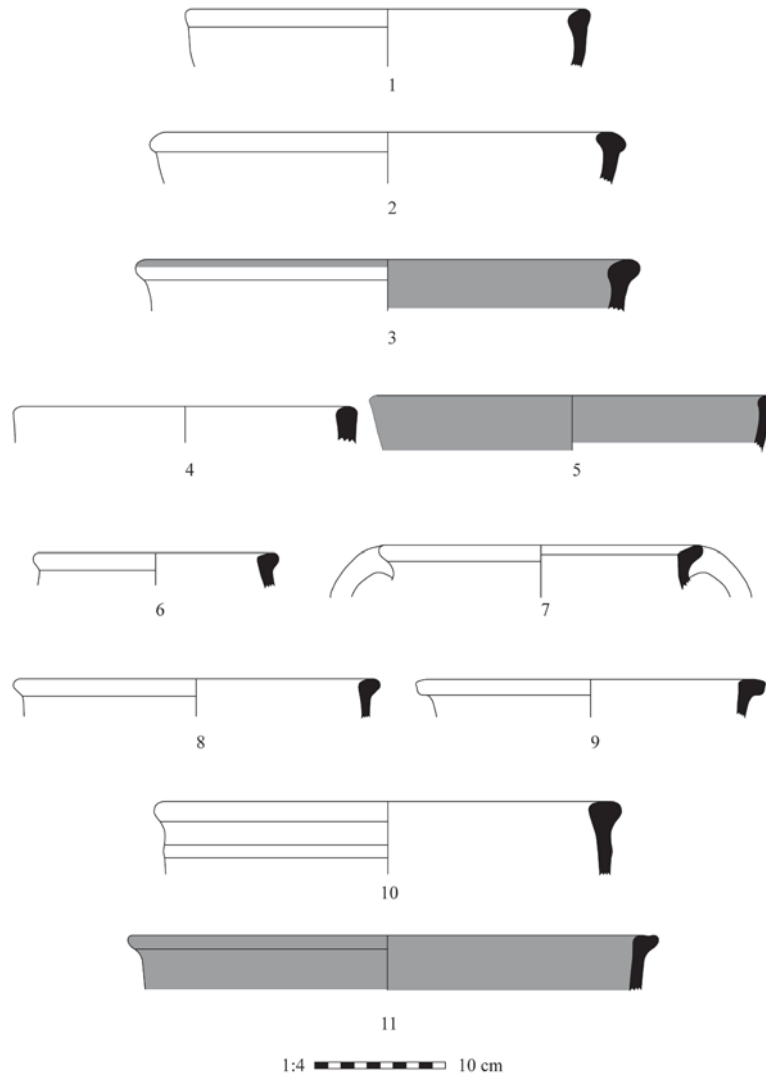


Fig. 6. Basins and kraters.

**1.** AS126.14.K5.51.4, Common Ware basin; **2.** AS126.15.G7.15.11, Common Ware basin; **3.** AS126.14.D5.31.7, Red Slipped Burnished Ware basin; **4.** AS126.14.J6.59.12, Common Ware basin with vertical walls; **5.** AS126.15.G7.15.26, Red Slipped Burnished Ware basin with vertical walls; **6.** AS126.14.G6.99.8, Common Ware krater with outwardly curved, rounded rim; **7.** AS126.14.D5.77.4, Common Ware krater with outwardly curved, rounded rim; **8.** AS126.14.J6.57.11, Common Ware krater with outwardly curved, rounded rim; **9.** AS126.14.D5.73.17, Common Ware krater with squared rim; **10.** AS126.15.G7.71.13, Common Ware krater with squared rim and ridged collar; **11.** AS126.14.K5.93.1, Red Slipped Burnished Ware with grooved rim.

& Zimansky 1999: Fig. 74: 1; Cooper 2006: Figs. 2: 1-5, 5: 6-14, 7: 1-6, 8: 4-7; Dornemann 2003: Fig. 81: 1-9). A much rarer variety has a vertically flanged rim that is either ridged or pinched (Fig. 4: 12-13). Both of these platter types – the common straight rim versions as well as the flanged rim variety – are attested with single examples in Local Bichrome Ware (Fig. 4: 14).

The form with the most diverse typology is the bowl, for which there are over two dozen varieties (Fig. 5). These include simple rounded bowls, bowls with flattened or everted rims, rims with exterior thickening or a ridge, carinated bowls, and the frequent shallow bowls with flat pointed rims. Like the platters, this diversity is well represented in both Common and RSBW and in this case there are also a handful of examples in Common Painted Ware. Also like the platters these bowl forms, in both Common Ware and RSBW, are well represented at local sites in the region. A significant divergence from this pattern is the shallow bowl with flat pointed rims (Fig. 5: 15-16), which have a number of parallels at Assyrian or Assyrian-period sites such as Tell Ahmar, Tell Sheikh Hamad, and Fort Shalmaneser (Jamieson 2000: Figs. 2: 15, 3: 4; Oates 1959: Pl. XXXV: 2-3; Kreppner 2006: Taf. 48: 2-3).

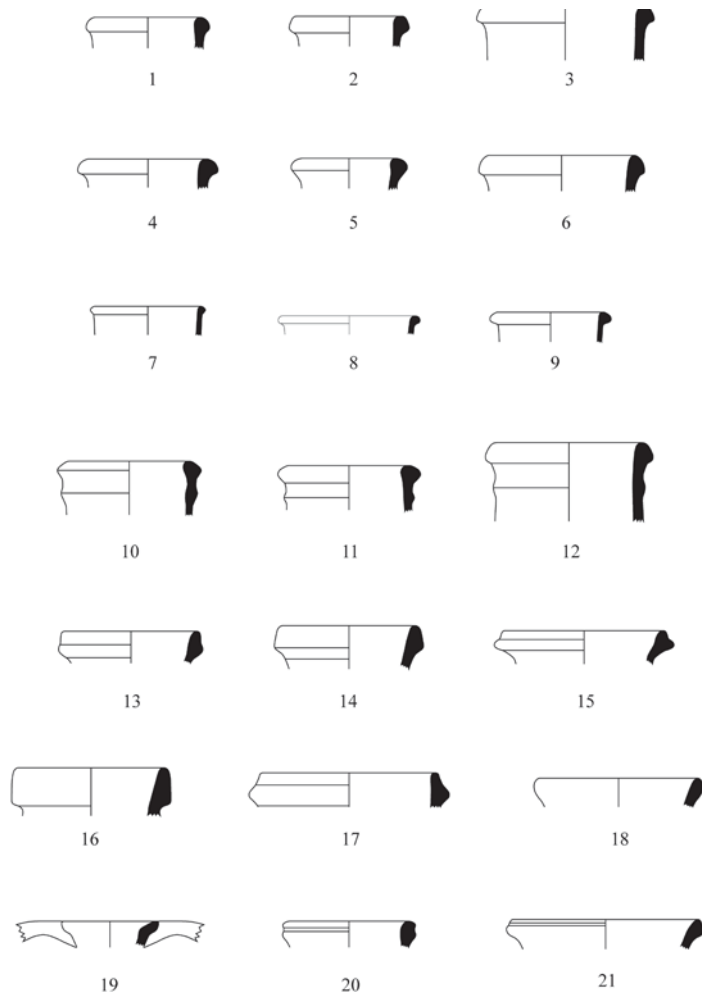
Large deep bowls, or basins, are another common form across much of the lower town. The most common variety has rim diameters between 35 and 40 cm, a curved profile, and thickened ovular rims, often at an everted angle. When preserved, vertical loop handles connect the rim to the shoulder (Fig. 6: 1-3). These basins, like the bowls, are attested at nearby sites such as Tell Abou Danné and Tell Afis, and are found in both Common Ware and RSBW; the latter are typically slipped and burnished on the rim and shoulder only. A less common variety of basin includes tall, vertical vessels with thickened rims (Fig. 6: 4-5).

Kraters, or deep basins with slightly concave profiles come in three major forms. The first have outwardly curving rims with round lips (Fig. 6: 6-8); the second have rims with a rectangular or squared profile and often, though not always, a ridged collar that extends around the bottom of the shoulder (Fig. 6: 9-10); the third have grooved rims (Fig. 6: 11). All three of these types are present in Common Ware, and the first two are also infrequently attested in Common Painted Ware. All are paralleled in the same range of sites in the region.

Several distinct types of jars are present in the TLTP assemblage. By far the most common ( $n = 457$ ) are characterized by straight necks with a vertical stance and a thickened exterior rim profile (Fig. 7: 1-6). Occasionally a ridged collar is present where the neck meets the shoulder of the vessel. Rim diameters consistently cluster around 10 cm. A very similar sub-type has the same stance but a much thinner profile with a beaded rim instead of a thickened exterior (Fig. 7: 7-9). The second most frequent profile is the ridge-necked jar ( $n = 129$ ) (Fig. 7: 10-12). Its rim is curved and thickened, but the most diagnostic trait is the ridge roughly halfway up the neck. Where preserved, a vertical loop handle connects the shoulder to the neck where the ridge is located. Slightly less common than the sub-types just mentioned are jars with thick necks and triangular rim profiles ( $n = 88$ ) (Fig. 7: 13-17). Least common of all are the rims of torpedo jars with broad shoulders ( $n = 6$ ). The fabric of these vessels, unlike the Common Ware that typifies the other jar types, is bright orange in color. Only the rims are preserved, such that the chronologically sensitive profile of the body is not available. Whereas the bulk of the jar types are paralleled in the typical sites of the north Orontes watershed, these vessels are attested at coastal sites such as Al Mina and Tyre (Lehmann 2005: Fig. 9: 1; Bikai 1978: Pl. XXI: 1, 5).

Compared with the forms listed above, jugs and juglets are relatively uncommon in the TLTP collection. Common Ware pitchers with everted, likely trefoil, rims and loop handles connecting the rim to the shoulder are rare; slightly more frequent are their RSBW counterparts ( $n = 45$ ), sometimes with double loop handles (Fig. 7: 18-19). RSBW strainer jugs are





1:4 10 cm

Figure 7. Jars and jugs.

**1.** AS126.15.F6.95.16, Common Ware jar with straight neck and thickened rim; **2.** AS126.14.K6.59.21, Common Ware jar with straight neck and thickened rim; **3.** AS126.14.K5.59.13, Common Ware jar with straight neck and thickened rim; **4.** AS126.14.J6.19.22, Common Ware jar with straight neck and thickened rim; **5.** AS126.14.G6.59.11, Common Ware jar with straight neck and thickened rim; **6.** AS126.14.C5.53.18, Common Ware jar with straight neck and thickened rim; **7.** AS126.14.H6.99.19, Common Ware jar with thin profile and beaded rim; **8.** AS126.15.F6.95.15, Common Ware jar with thin profile and beaded rim; **9.** AS126.15.H7.11.7, Common Ware jar with thin profile and beaded rim; **10.** AS126.14.K3.91.1, Common Ware ridge-necked jar; **11.** AS126.14.G6.79.23, Common Ware ridge-necked jar; **12.** AS126.14.D6.73.19, Common Ware ridge-necked jar; **13.** AS126.15.J6.15.17, Common Ware jar with triangular rim; **14.** AS126.14.K6.57.4, Common Ware jar with triangular rim; **15.** AS126.14.D5.73.19, Common Ware jar with triangular rim; **16.** AS126.15.G7.71.15, Common Ware jar with triangular rim; **17.** AS126.14.H6.19.2, Common Ware jar with triangular rim; **18.** AS126.14.D5.37.4, Common Ware jug; **19.** AS126.15.G7.91.22, Common Ware jug with double loop handles; **20.** AS126.15.H6.17.16, Common Ware jug with compound rim; **21.** AS126.14.C5.53.15, Common Ware jug with compound rim.

rare ( $n = 10$ ), but partially this is because they cannot be identified at the rim such that several of the pitchers likely belong to this category. Instead, they are identified either by the preservation of part of their spout or by a body sherd of the strainer itself, located where the spout meets the body of the jug. Common Ware jugs with a compound rim (Fig. 7: 20-12) are, like all of these forms, found at neighboring sites like Tell Afis and Tell Mastuma (Iwasaki *et al.* 2009). Even rarer than the jugs are juglets, with Common Ware ( $n = 25$ ) and Red Slipped Burnished Ware ( $n = 5$ ) versions both appearing too infrequently to form morphological types.

There are two primary categories of cooking pots in the TLTP collection, both of which are characterized by fabrics that are different from both the locally produced wares (Common Ware, Common Painted Ware, Red Slipped Burnished Ware, and Local Bichrome Ware) as well as any of the imports. The most frequent type ( $n = 346$ ) is perhaps the same basic matrix as the local clay recipe, including the self-slip that is frequently applied, but is heavily tempered with crushed shell. Its rim is thickened on the exterior or rolled outward and, if present, is connected to the shoulder by means of a loop handle. Two size categories are present, one whose rim diameters range between 10 and 15 cm, and a larger variety with rim diameters typically falling between 16 and 25 cm, though larger examples exist (Fig. 8: 1-7). A less common ( $n = 73$ ) and entirely different cooking pot has gray-black fabric and high quantities of shiny stone, likely steatite, temper (Birney 2008). These are holemouth vessels with pointed, triangular rims, wide, thin strap handles that begin just below the rim, and the occasional applique design around the shoulder (Fig. 8: 8-12). These, too, have two main size categories, clustering between 10 and 15 cm, and 18 to 25 cm. Despite the fact that their fabrics are highly different both from one another and from the other wares present at Tayinat, both cooking pot types are commonly found at the neighboring sites of Tell Afis, Tell Qarqur, Tell Mastuma, and Tell 'Acharneh.

Storage jars come in two primary forms and fabrics. The first, and most common ( $n = 257$ ), is the typical storage jar of the northern Levant and southeastern Anatolia at the time, the pithos with a rounded and thickened rim profile that varies in the length of its ovular shape. The fabric is macroscopically identical with that of the local wares, though voids in the clay are more prominent. Rim diameters range greatly, but cluster around 40 cm (Fig. 9: 1-3). A sub-type of this class of storage jar has a flattened rim and more vertical stance, and may in fact belong to a different functional vessel such as 'bathtub' vessels. Both are common in the region (Fig. 9: 4). A second storage jar ( $n = 76$ ) has a very different fabric that is the usual pink-beige on the surface but with a blue-grey core and metallic texture that is highly fired with few inclusions. It lacks the large thickened oval on the rim, and its stance is so inverted that it almost appears like a holemouth jar (Fig. 9: 5-7).

Pot stands into which jars of various sizes could be inserted were common ( $n = 62$ ). Because their rim profiles resemble other forms, making their identification a challenge without substantial preservation, it is possible that small rim fragments were misrecognized as other vessels. Pot stands are made with the typical local fabric, and come in smaller (Fig. 10: 1) and larger (Fig. 10: 2-4) varieties depending on function. Parallels in this case are present both in local regional sites like Tell Abou Danné and Tell 'Acharneh, as well as Assyrian sites such as Tell Sheikh Hamad and Khorsabad (Loud and Altman 1938: Pl. 63: 251).

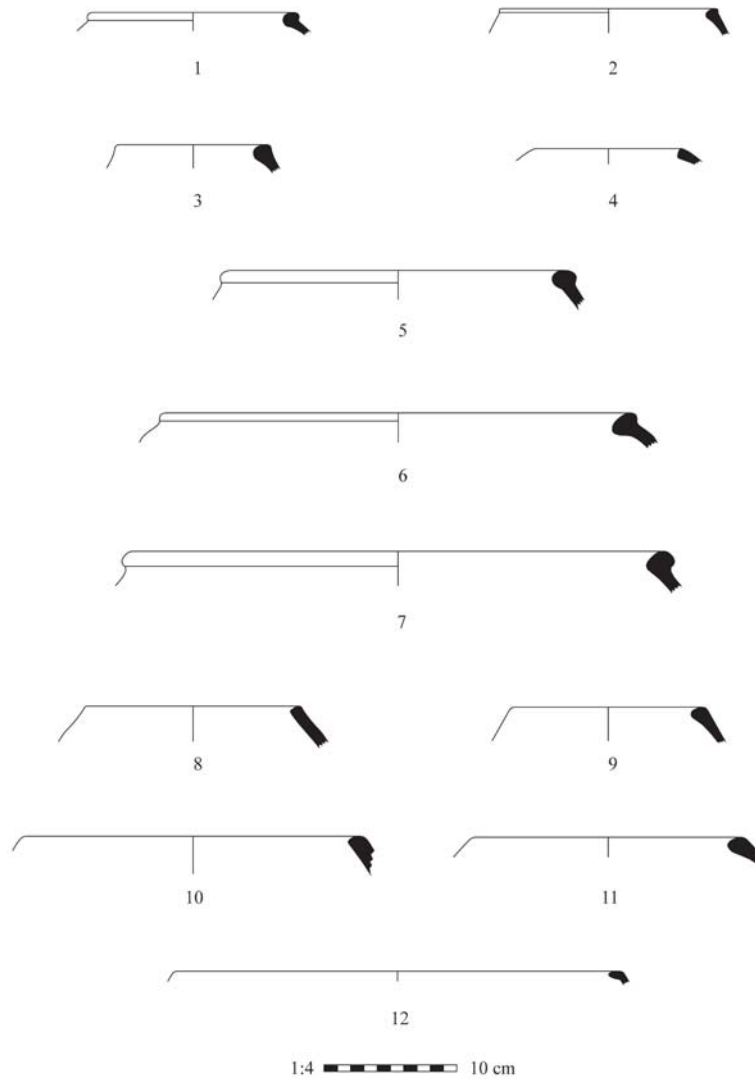


Figure 8. Cooking pots.

1. AS126.14.J6.93.23, Shell temper cooking pot; 2. AS126.15.D6.99.32, Shell temper cooking pot; 3. AS126.14.H6.19.15, Shell temper cooking pot; 4. AS126.14.H6.99.29, Shell temper cooking pot; 5. AS126.14.H6.99.3, Shell temper cooking pot; 6. AS126.14.J7.91.4, Shell temper cooking pot; 7. AS126.14.K6.79.1, Shell temper cooking pot; 8. AS126.14.D5.77.3, Stone temper cooking pot; 9. AS126.14.K6.51.9, Stone temper cooking pot; 10. AS126.14.J6.59.8, Stone temper cooking pot; 11. AS126.14.H7.91.31, Stone temper cooking pot; 12. AS126.15.E6.79.24, Stone temper cooking pot.

The largest category of Iron Age II and III imported ceramics – or at least ceramics that are macroscopically identified as imports – are classified here as Cypriot pottery, with the understanding that some pieces may actually have been produced in Cilicia or the Amuq. It is difficult to date individual sherds to specific divisions of Cypriot pottery chronologies, but

provisionally they appear to belong mainly to the Cypro-Geometric III (ca. 850-700 BCE) and less so to the Cypro-Archaic I (ca. 700-600 BCE) periods (Gjerstad 1948; Birmingham 1963; Schreiber 2003; Iakovou 2004). As listed above, the stylistic groups include White Painted III-IV ( $n = 48$ ), Bichrome III-IV ( $n = 6$ ) – though of course several of the ‘White Painted’ sherds might actually derive from Bichrome vessels – and Black-on-Red I(III)-II(IV) ( $n = 6$ ). The White Painted pieces are predominantly body sherds that cannot be assigned to a specific form; where rims are preserved it is possible to identify vertical sided bowls (Fig. 10: 6), barrel jugs, juglets and an amphora (Fig. 10: 8). The same applies to the Bichrome sherds, for which two vertical sided bowls and one juglet (Fig. 10: 7) are attested. The few Black-on-Red sherds are typical of that tradition: red, oxidized, and highly levigated fabric with a polished red slip onto which are painted thin and well-executed black bands and compass-drawn concentric circles. Besides one ambiguous body sherd, the TLTP corpus consists of two rounded bowls and three juglets.

Sherds of Aegean Middle-Late Geometric pottery ( $n = 18$ ) are exclusively bowls for the nine sherds where rims were preserved. Of these, six are the pendent semicircle skyphos imported from Euboea or the Cyclades, with its characteristic sharp carination where the rim meets the body, a band of reserved paint along the rim interior, and painted pendent semicircles in a reserved space between two horizontal handles (Fig. 10: 9-11) (Kearsley 1989). This is quite a high quantity of Aegean ceramics considering that they derive from the surface of the site, and that most Levantine sites hardly produce these numbers through excavation.

Finally, the TLTP assemblage contains a handful of pieces imported from Assyria including Assyrian stamped pottery ( $n = 6$ ) (Fig. 10: 12-13), glazed ware ( $n = 1$ ), and perhaps two pieces of Assyrian Palace Ware, although the latter cannot be identified with certainty.

### *Spatial Distributions*

The general spatial distribution of ceramic counts and weights was described above: instead of an even spread, it is clear that ceramics are clustered in certain sectors of Tayinat's lower town (see Fig. 3 above). Chronologically, one of the most interesting features is the persistent presence of Early Bronze Age pottery across the lower town, despite their low frequency in absolute terms (Fig. 11a). EB pottery appears in 93 of the collection units spread fairly evenly across the TLTP survey universe, including locations that are 150 m beyond the main tell. Although the numbers are small, perhaps explained by the great depth of EB occupation under the alluvium, this finding increases the likelihood that actual EB settlement exists in the lower town, as already suspected from coring results (Welton *et al.* 2011: 153). The earliest Iron Age occupation in the lower town appears to be early in the Iron Age II sequence. This is tentatively suggested by the presence of purplish platters with squared lips, which are thought to be the earliest RSBW vessels (Swift 1958), though this remains far from uncertain. If that is the case, it is interesting to note that these squared platters cluster just beyond the north and northeast sides of the tell (Fig. 11b), possibly indicating that the lower town expanded over time from this area.

As described elsewhere (Osborne 2017), the stronger clustering of RSBW platters in comparison with Common Ware platters points toward some degree of differentiation in wealth, given the assumed greater worth of RSBW vessels over Common Ware vessels in light

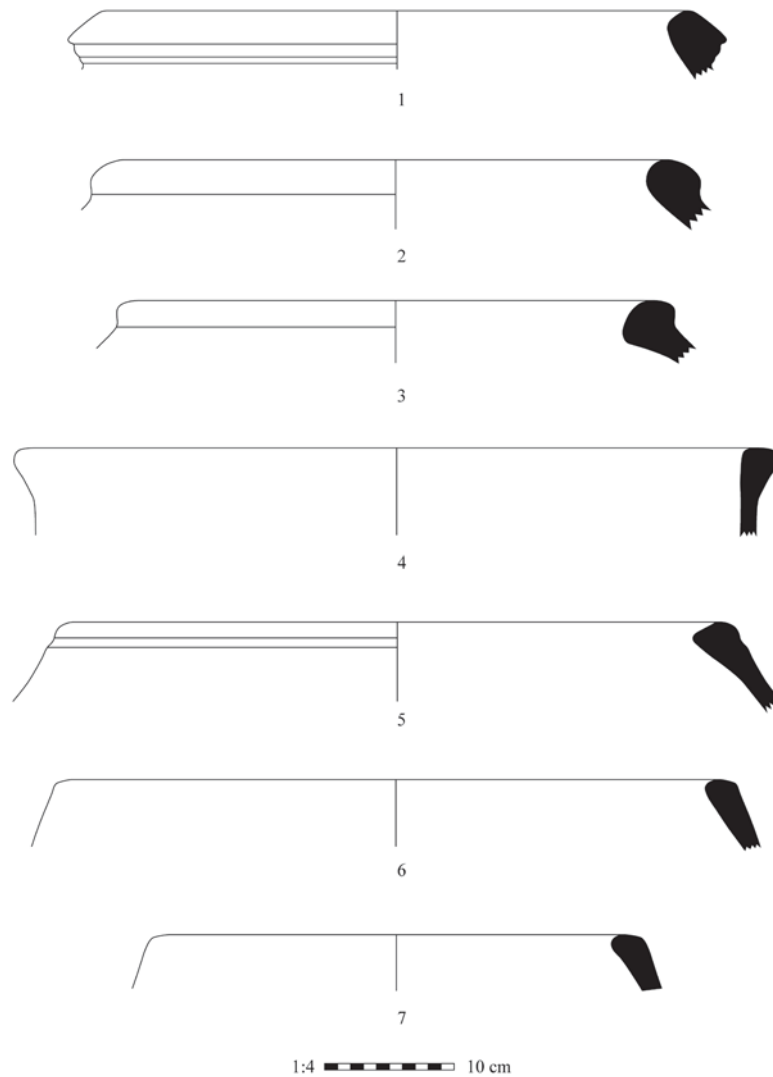


Figure 9. Storage jars.

**1.** AS126.14.D6.35.1, Common Ware storage jar with rounded rim; **2.** AS126.15.G6.77.48, Common Ware storage jar with rounded rim; **3.** AS126.14.G6.39.27, Common Ware storage jar with rounded rim; **4.** AS126.14.G6.79.28, Common Ware storage jar with flattened rim; **5.** AS126.14.G6.39.37, storage jar with metallic fabric; **6.** AS126.14.H6.59.25, storage jar with metallic fabric; **7.** AS126.14.J6.95.11, storage jar with metallic fabric.

of the increased amount of time and energy required to produce them. That this is a plausible scenario is supported by the fact that at least one of these clusters, located at the northeast edge of the lower settlement by the city wall, corresponds to a clear concentration of Bichrome and White Painted sherds likely imported from Cyprus (Fig. 12).



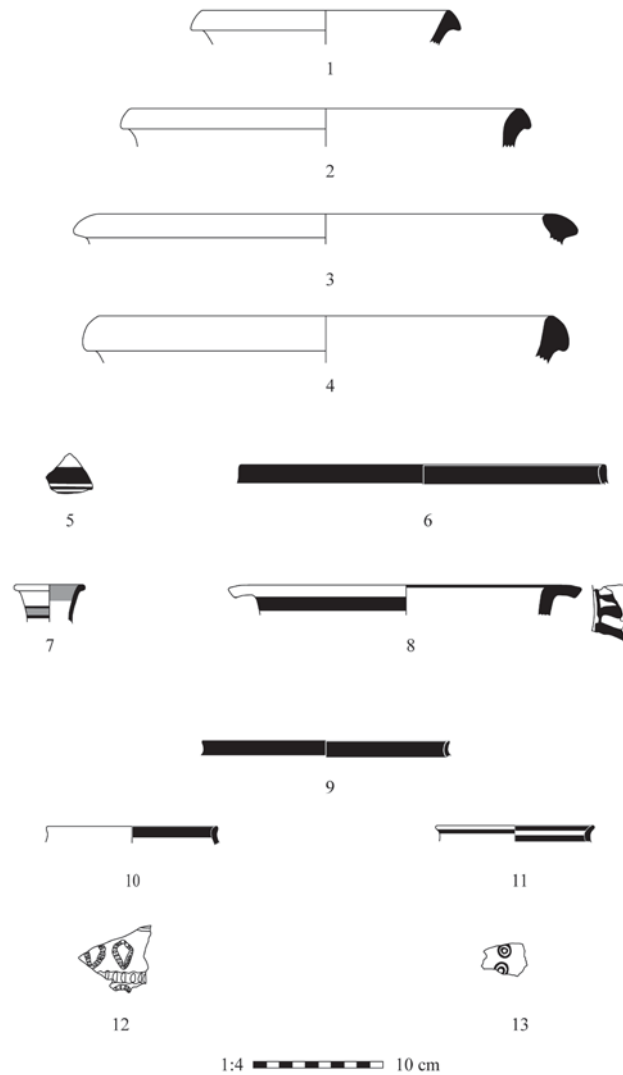


Figure 10. Pot stands and imported pottery.

**1.** AS126.15.F7.95.4, Common Ware pot stand; **2.** AS126.14.H6.79.5, Common Ware pot stand; **3.** AS126.15.J6.71.42, Common Ware pot stand; **4.** AS126.14.J7.31.1, Common Ware pot stand; **5.** AS126.14.G6.99.16, White Painted Ware body sherd; **6.** AS126.14.D5.57.27, White Painted Ware vertical sided bowl; **7.** AS126.14.D5.99.59, Cypriot Bichrome Ware juglet; **8.** AS126.15.E7.35.50, White Painted Ware amphora; **9.** AS126.14.C4.97.25, Aegean Middle-Late Geometric skyphos; **10.** AS126.14.K5.75.2, Aegean Middle-Late Geometric skyphos; **11.** AS126.14.G6.39.53, Aegean Middle-Late Geometric skyphos; **12.** AS126.14.D6.37.2, Assyrian stamped body sherd; **13.** AS126.14.G6.59.17, Assyrian stamped body sherd.

For the most part, the frequency of specific forms across the lower town aligns with the quantities of ceramics that were collected. This is to be expected: more vessels of a given shape will be present where more pottery was found. Most types' spatial distribution densities thus line up with Fig. 3, which extrapolates the density of all the ceramics across the site. There are a couple of interesting exceptions to this pattern, however. One is with bowls, for which there is an amazing range of forms for this period. Compared with the general distribution of bowls, Red Slipped Burnished Ware bowls with thickened exterior rims (Fig. 5: 11) concentrate distinctly in the southeastern quarter of the lower town (Fig. 13). The same distribution appears with basins (Fig. 6: 1-5), which are also more common in the southeast (Fig. 13c). Similarly, the concentration of jars and jugs that is noticeable in the center of the east field just east of the tell (Fig. 14a) appears to be partially driven by a similar concentration of ridged-necked jars specifically (Fig. 14b), and not by the more common straight-necked jars with thickened rims, which are ubiquitous wherever pottery was found (Fig. 14c). The explanations for these concentrations of specific forms is unclear, and perhaps cannot be found until excavation takes place in these areas.

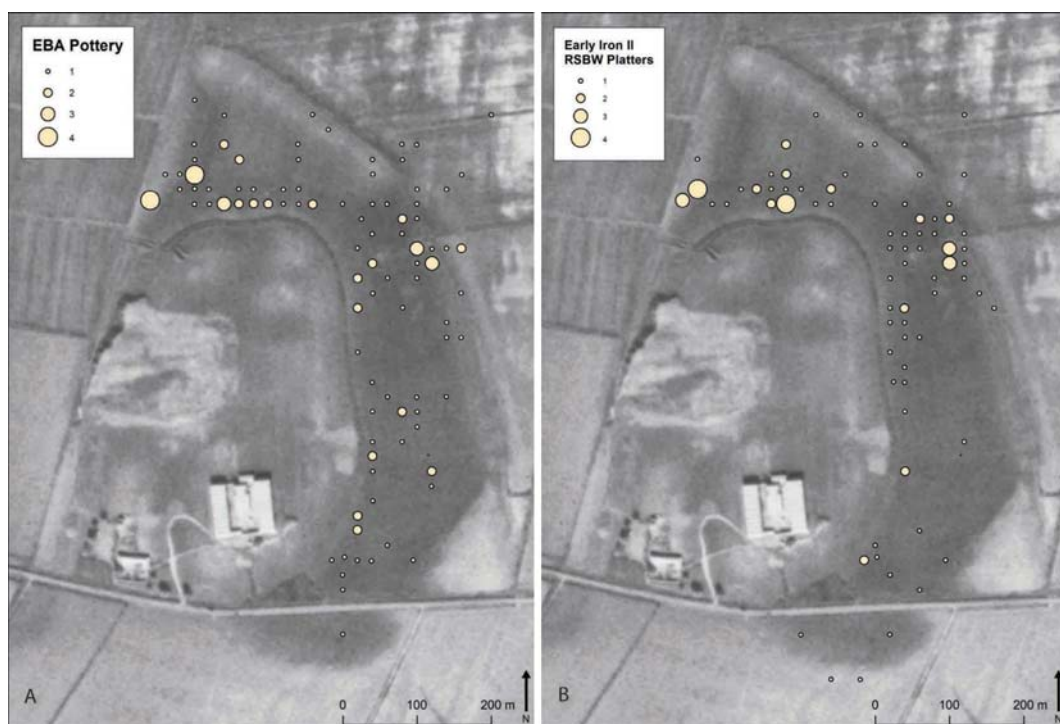


Fig. 11. Distributions of pre-Iron II/III phases in the lower town.  
*a)* Early Bronze Age III and IV pottery; *b)* Early Iron II Red Slipped Burnished Ware platters.

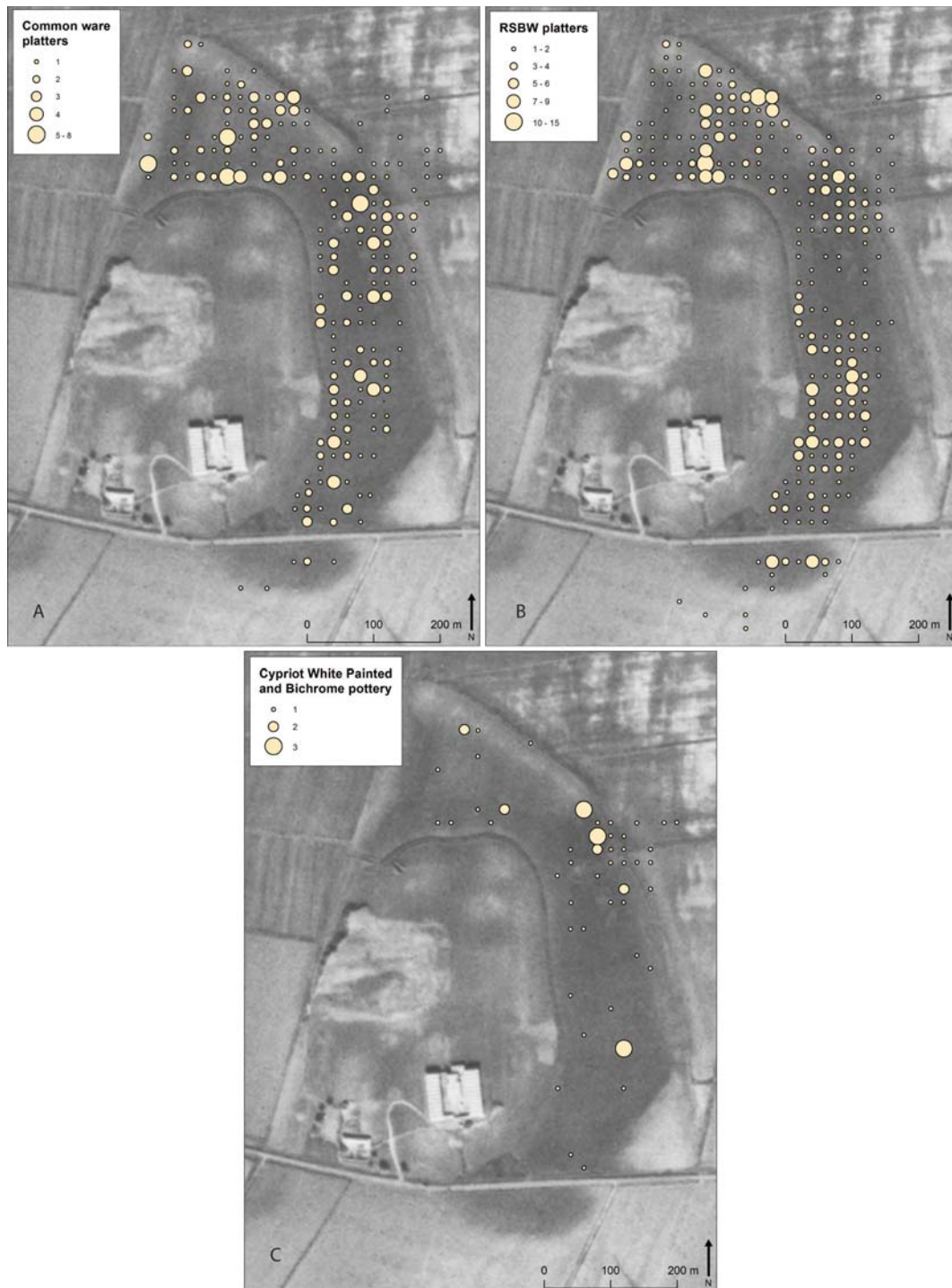


Fig. 12. *a*) Distribution of Common Ware platters; *b*) distribution of Red Slipped Burnished Ware platters; *c*) distribution of Cypriot White Painted and Bichrome wares. Note the concentration of Red Slipped Burnished Ware and Cypriot sherds in the same neighborhood of the northeastern lower town.

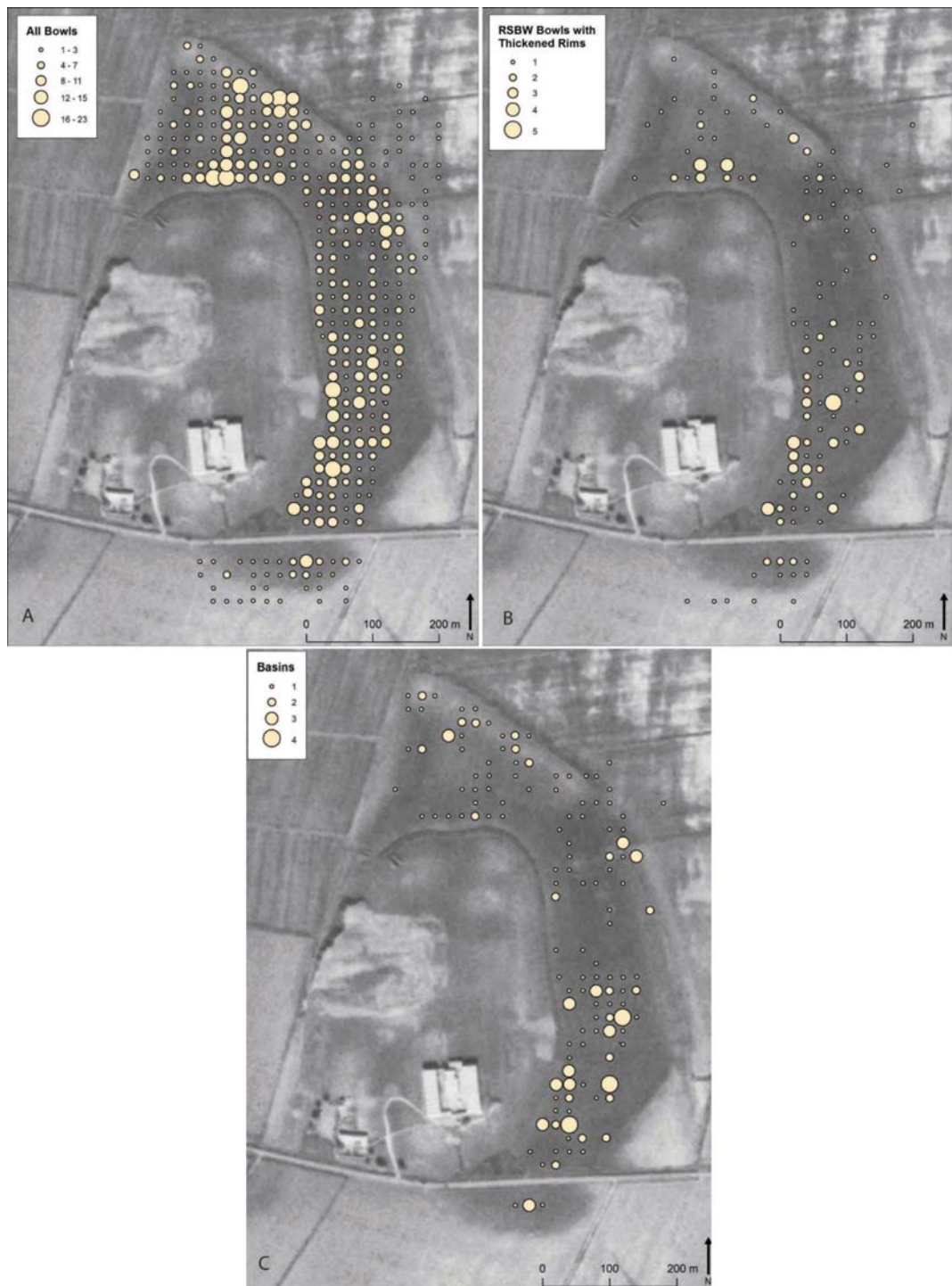


Fig. 13. *a*) Distribution of all bowls across the lower town; *b*) distribution of bowls with thickened exterior rims; *c*) distribution of basins. Note the concentration of bowls with thickened exterior rims and basins in the southeastern lower town.



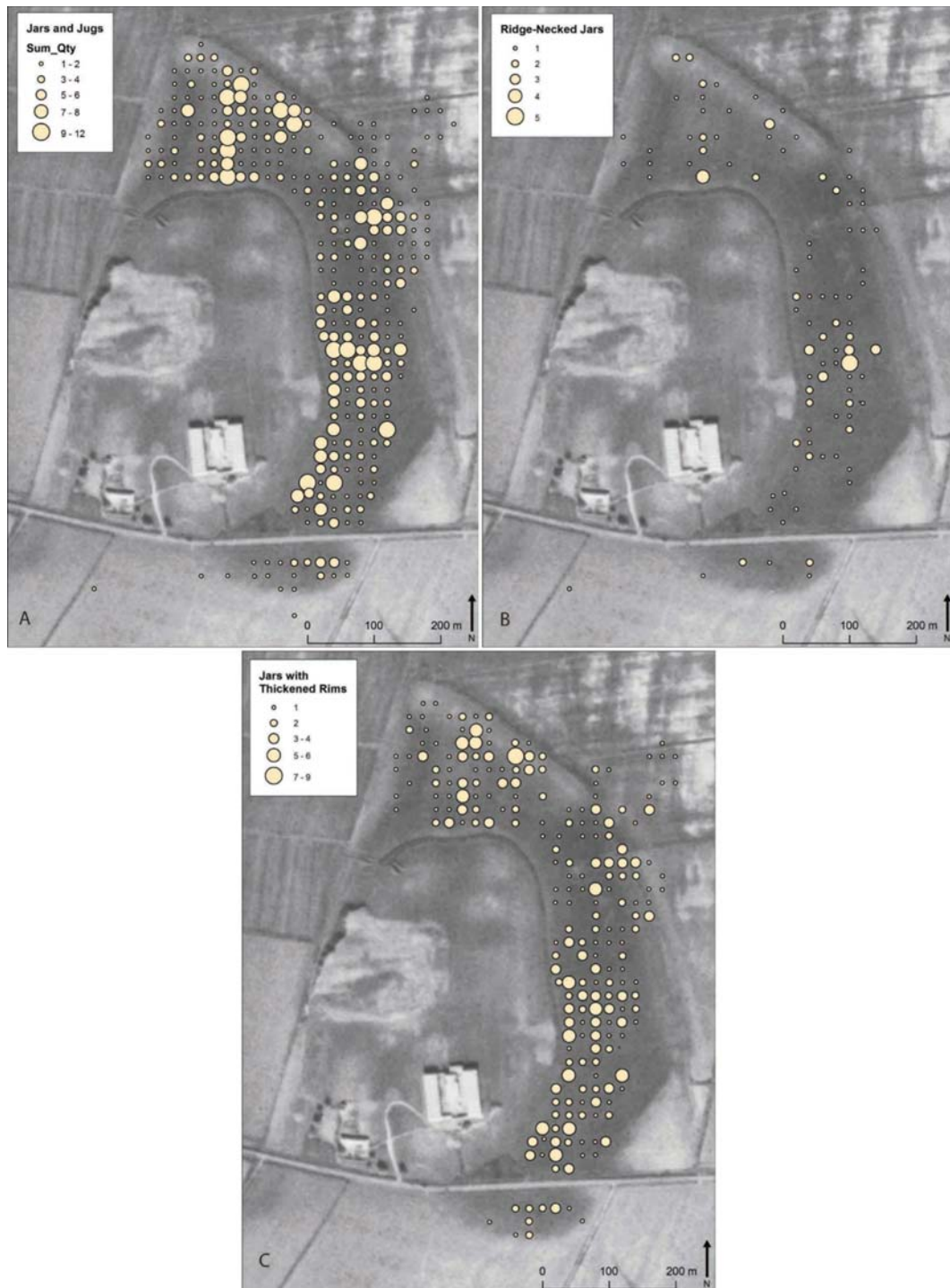


Fig. 14. *a*) Distribution of all jars and jugs across the lower town; *b*) distribution of ridge-necked jars; *c*) distribution of jars with thickened rims. Note the concentration of ridge-necked jars in the eastern lower town compared with the ubiquity of jars with thickened rims.



## Objects

TLTP collected 304 small finds, or just under one per collection unit (excluding collection units located beyond the edge of the ancient city). Each non-ceramic object discovered in the course of surveying a unit was collected and marked with the GPS; objects noticed in the processing of pottery, such as ceramic loom weight or figurine fragments, are placed on the map at the southwest corner of the survey unit (Fig. 15). As with the ceramics, the quantity of objects on the surface of the site points toward an incredible richness of material culture below the surface. Also like the ceramics, although the sample size is far smaller in this case, the objects show a general similarity in their distribution across Tayinat's lower town, with concentrations and negative spaces noticeable in the same areas as the pottery. Aside from a handful of miscellaneous objects from later periods that do not coincide with the periodization presented by the ceramics (e.g., Roman coins and an Ottoman pipe), the vast majority of these small finds belong to the early first millennium BCE.



Fig. 15. Locations of all objects recovered by TLTP.



Fig. 16. Figurines (drawings by F. Haughey).

1. AS126.SS.14.C4.57.74, ceramic horse figurine fragment; 2. AS126.SS.14.G6.39.71, ceramic horse figurine fragment; 3. AS126.SS.15.J6.37.86, ceramic horse figurine fragment; 4. AS126.SS.15.D7.53.73, ceramic anthropomorphic figurine fragment.

## Figurines

The survey recovered 11 figurines. None of these was found complete. All but one of these are fragments of either the horse or human figure in the well-known horse-and-rider figurine type that characterizes this period, with parallels identified at Carchemish, especially its Lower Town, and at various sites in the Amuq Valley itself (Fig. 16.1-3) (Pruss 2010; Woolley 1952: Pl. 70; Bolognani 2014). One

figurine fragment appears to be a standing figure with its eyes fashioned from two added blobs of clay (though one is missing), a common decorative technique. Between the eyes is a long vertical nose, and arm extensions on the sides have been broken off. All of these pieces are handmade (Fig. 16: 4). No figurine or figurine fragments were found of the mold-made frontal, nude females with hands supporting the breasts, another type that is introduced in this period.

### *Textile industry*

Small finds related to the textile production on the warp-weighted loom at Tayinat are among the most common finds of TLTP, which recovered a total of 37 loom weights, 7 spindle whorls, and a stitching awl. The loom weights consist of two classes of objects: the first and most common ( $n = 22$ ) is the cylindrical unpierced weight made out of baked clay, sometimes referred to as spool, or reel, weights (Fig. 17: 1-2). Across the northern Levant and southeast Anatolia these appear to be derived from the Iron Age I period, at which time the form is unbaked, and is possibly related to Aegean parallels. The unbaked versions are present in the Iron I levels at Tayinat (Harrison 2009), and it is thus not surprising to find the Iron II baked versions in the lower town. Less common ( $n = 15$ ) are baked clay loom weights with perforations (Fig. 17: 2-4).

Most of these are doughnut shaped with vertical perforations, though two are conical with horizontal perforations. All of the spool, doughnut, and conical weights are common in the Tell Afis sequence, where the doughnut and conical versions become common during the late Iron II and Iron III periods, or the late 8<sup>th</sup> and 7<sup>th</sup> centuries (Cecchini 2000: 222). Of the seven spindle whorls, four are reused ceramic sherds that have been rounded and pierced in the middle (Fig. 17: 5), while three are conical in shape and made of stone; two of the latter are serpentine (Fig. 17: 6-7). Finally, a large shell stitching awl was recovered that partially resembles the Iron II bone spatulas found at Afis (Fig. 17: 8) (Cecchini 2000: Fig. 6).

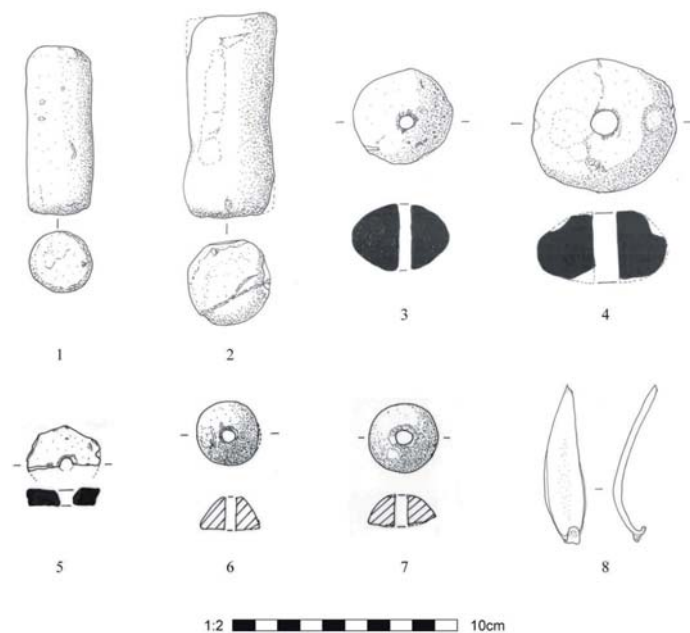


Fig. 17. Textile industry objects (drawings by F. Haughey).

1. AS126.SS.15.G7.93.90, ceramic cylindrical loom weight; 2. AS126.SS.15.J7.33.205, ceramic cylindrical loom weight; 3. AS126.SS.15.G7.71.195, ceramic doughnut-shaped loom weight; 4. AS126.SS.15.G6.77.85, ceramic doughnut-shaped loom weight; 5. AS126.SS.14.D6.17.80, ceramic spindle whorl, repurposed sherd; 6. AS126.SS.14.C6.71.40, serpentine spindle whorl; 7. AS126.SS.14.K6.55.8, serpentine spindle whorl; 8. AS126.SS.15.E6.39.202, shell, stitching awl.

### *Jewelry*

Three pieces of jewelry were identified across the lower town. One is a long, tubular bead made of lapis lazuli that is broken down its long axis (Fig. 18: 1). A second is a small (dia. 1 cm), black steatite bead with a flat surface on which are two bands of circular inlay. The outer circle is possibly a corroded metal, while the inner is apparently limestone (Fig. 18: 2). Finally, a small (length 1.5 cm) curved piece of lead may have been an earring, though this identification is not certain (Fig. 18: 3).



Fig. 18. Jewelry pieces (photographs by E. Booker, J. Jackson, and S. Karacic).

1. AS126.SS.15.E6.37.88, lapis lazuli bead, broken lengthwise down the middle;
2. AS126.SS.15.E6.55.89, steatite bead with metal(?) and limestone(?) inlay on surface;
3. AS126.SS.14.D4.33.90, lead, possible earring.

### *Slag*

Six pieces of slag were found, four of ceramic and two of iron. Given the presence of an Iron Age metal workshop on the mound where both bronze and iron were being produced, these finds tentatively suggest similar production activities taking place in the lower town.

### *Ivory*

A total of 11 pieces of ivory were collected, although the identification of at least five of these pieces remains uncertain pending specialist analysis. All are small and highly fragmentary. There is no evidence of worked or decorated surfaces, suggesting that either these fragments are not from the surface of finished objects, or perhaps that they are byproducts in the production sequence.

### *Chipped stone tools*

Chipped stone tools were relatively abundant, with a total of 22 taken from the surface of the lower town by TLTP. Of these, twelve are chert and the remainder flint. Interestingly, only seven of these objects were actual blades – the remainder are either debitage or cores from which blades were taken.

### *Basalt vessels*

Basalt vessels are, by far, the largest category of small finds found in the TLTP surface survey. A full third of the total number of objects recovered by TLTP are grinding stones ( $n = 101$ ), mostly consisting of loaf-shaped grinders, but also including quern stones and mortar fragments. Many more pieces of basalt were encountered over the course of the survey, but

basalt fragments were only collected and registered as objects if at least one worked surface was visible. Only slightly less frequent with 62 objects were fragments of basalt bowls and basins (Fig. 19: 1-4). Most of these bowls have a simple curved profile with a rounded lip, but several required greater amounts of time and energy to produce. The latter includes profiles that parallel the ceramic repertoire, such as bowls with a thickened exterior rim, or a ridge running around the rim (Fig. 19: 2-3). The discovery of three bowl legs suggests what the complete vessel would have looked like (Fig. 19: 1), and also parallels Red Slipped Burnished Ware tripod bowls that have been excavated on the acropolis (Osborne in press). All of these basalt vessels are ubiquitous across the lower settlement of Tayinat.

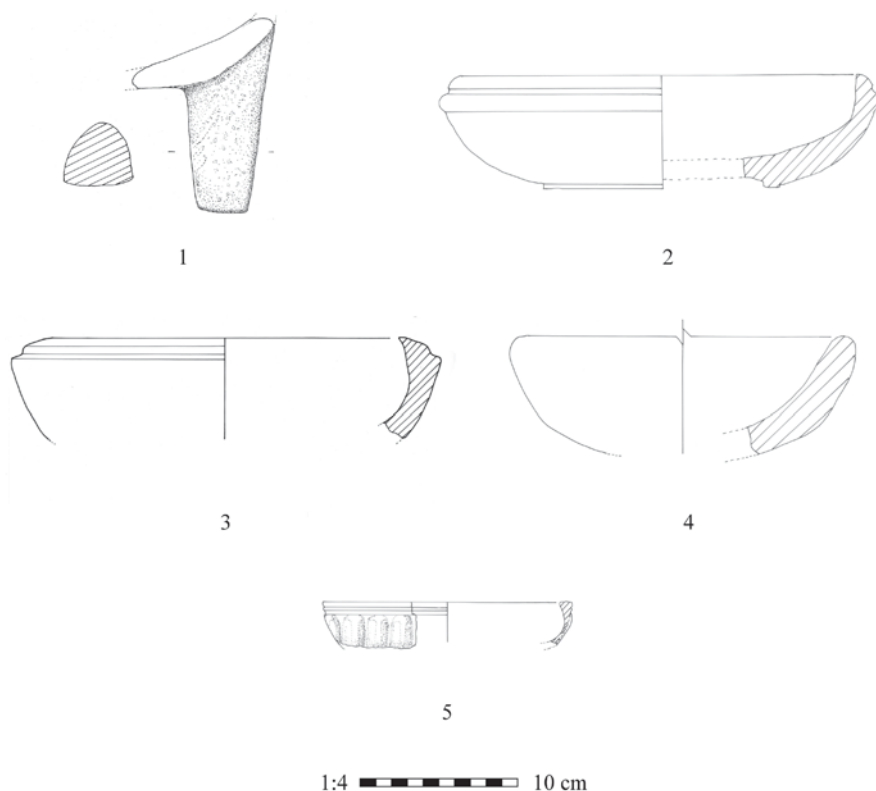


Fig. 19. Stone bowl fragments (drawings by F. Haughey).

1. AS126.SS.14.D5.51.67, basalt bowl leg; 2. AS126.SS.15.H6.75.83, basalt bowl with thickened exterior rim; 3. AS126.SS.14.C5.53.76, basalt bowl with thickened exterior rim; 4. AS126.SS.15.J6.71.84, simple rounded basalt bowl; 5. AS126.SS.15.G7.71.201, serpentine gadroon bowl fragment.

### *Basalt statuary*

Two fragments of basalt statuary with clear worked faces were found in the same collection unit, G7.11, 75 m east of the middle of the tell – that is, right in the heart of the lower town. Their proximity to one another suggests that they derive from a single monument, but this cannot be demonstrated. One of them is 12.7 × 6.5 cm and clearly illustrates the curly hair

pattern that characterizes local Syro-Anatolian monumental statuary (Fig. 20a) (Orthmann 1971). The second one is  $11.2 \times 10.6$  cm with a well-preserved worked surface that is insufficiently large to make out what is being depicted (Fig. 20b); one possibility is that it displays a portion of a textile pattern.

These objects are too far from the tell, and too close to one another, to have traveled to their findspots from somewhere on the acropolis. Their significance, and that of the head fragment especially, is thus two-fold. First, their presence suggests that at least part of the lower town was occupied by elite space of the kind that befitted monumental arts. Second, the clearly local iconographic tradition of the curly hair situates at least this area of the lower town comfortably within a pre-Assyrian cultural and chronological context, providing support for conclusions only tentatively reached by means of ceramics.

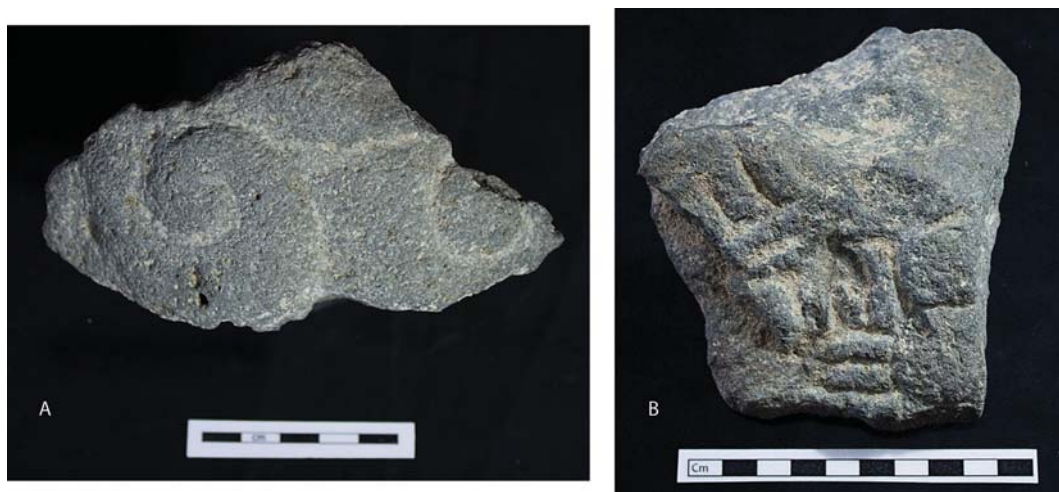


Fig. 20. *a*) Basalt fragment from a colossal Syro-Anatolian statue, with the curls representing hair; *b*) basalt statuary fragment with an unidentifiable pattern (photographs by E. Booker and S. Karacic).

### *Fine stone objects*

In a different tradition of stone craftsmanship than the basalt working just described, two pieces of bowls were found that display extremely high levels of craftsmanship. The first is a fragment of a serpentine bowl that preserves perhaps 20% of the original vessel. This bowl is the so-called gadroon, or fluted, bowl, that has bronze parallels from Syro-Anatolian city-states including Hama and Tell Halaf (Fig. 19: 5). The second is a very small piece ( $2.7 \times 1.6$  cm) of a red serpentine bowl. The preserved fragment shows the flat rim of the vessel curving into the shallow profile, and gripping the rim are three knuckles. This is a clear, though highly fragmentary, example of an Iron Age II lion bowl, perhaps used as a censer or for liquids (Fig. 21: 1). A complete example of this bowl was excavated by the Syrian-Hittite Expedition from the Iron II levels of Çatal Höyük (Neumann 2016), and examples have been published from the contemporary level at Hasanlu with parallels to other Syro-Anatolian sites (Muscarella 1974; van Loon 1962).



Besides these two bowls TLTP collected four pieces of worked steatite and serpentine that were either unfinished objects (Fig. 21: 2-3) or from other stages in the production process, including a piece with drill holes and one serpentine cylinder that appears to be an example of what was removed from such drill holes (Fig. 21: 4).

### Seals

TLTP collected a single steatite stamp seal. Its height is 1.3 cm and the square sides of its flat face are 1.7 cm long. A small handle is pierced with a horizontal hole allowing for suspending the seal on a string. The face is engraved with figurative decoration that is unfortunately too abstract to make out clearly, though the figures look vaguely anthropomorphic (Fig. 21: 5).



Fig. 21. Fine stone objects and seals (photographs by E. Booker and S. Karacic, drawing by F. Haughey).

1. AS126.SS.15.G7.95.212, serpentine lion bowl fragment (rim plus lion knuckles grasping rim), profile view (left) and underside view (right);
2. AS126.SS.15.E6.55.206, serpentine drill piece with drill holes;
3. AS126.SS.15.G7.55.64, serpentine incomplete vessel;
4. AS126.SS.15.F6.57.199, serpentine cylinder, possible drill hole negative;
5. AS126.SS.15.G7.75.82, steatite stamp seal.

### Spatial distribution

Because the objects' total sample size is relatively small, spatial patterns are more tentative, and in lower resolution, than they are with ceramics. Nevertheless, a few preliminary observations can be made. The first is simply the sheer ubiquity of basalt vessels of all kinds across the site, especially grinding stones and bowl fragments (Fig. 22a). Basalt objects were clearly a major component of early first millennium material culture in the lower town at Tayinat, and were apparently used both for food production and consumption.



The second is a modest clustering of loom weights and spindle whorls in the middle of both the north and east fields (Fig. 22b), suggesting that textile production was not evenly distributed across the settlement. To the extent that textile production took place at a household scale, this finding may indicate that the places where these objects were *not* found are either devoid of settlement or occupied by buildings that are not domestic in nature. Interestingly, one of the largest areas that is devoid of textile industry small finds is the northeast sector of the lower town, precisely where ceramics (Red Slipped Burnished Ware and Cypriot wares) had pointed toward an elite or otherwise non-domestic residence.

Finally, non-basalt stone working clearly took place only on the east side of the lower town, where all of the beads, chipped stones, and fine stone products were located, including the pieces of steatite and serpentine that were clearly part of the production process. This is also the same region where TLTP's limited sample of ivory pieces were found (Fig. 22c). If ivory workshops and lapidaries were present in ancient Kunulua, this is the vicinity of the city to find them.

## DISCUSSION

Although a survey of a Syro-Anatolian capital city's lower town at TLTP's degree of intensiveness is unique, there are other sites that have undergone exploration in these areas in one form or another. Surface survey conducted at 'Ain Dara – not a capital city *per se* but nevertheless a large and significant Syro-Anatolian site – discovered densities of Iron II pottery in specific areas, which then became the subject of targeted excavation (Stone & Zimansky 1999); the survey's comparatively low resolution and brief report do not allow for direct comparison with TLTP, though the small-scale structures that were excavated are in line with the non-elite structures that TLTP expected to find at Tayinat. Woolley's excavations at Carchemish exposed a small area at that city's lower town (Woolley 1952), and the renewed Turco-Italian joint project at the site has begun a major research initiative that promises to bring to light a host of information about this sector of Carchemish, arguably the most significant of the Syro-Anatolian capitals. The recent University of Chicago excavations at Zincirli, ancient Sam'al, and Kunulua's neighbor to the north, have opened a large horizontal exposure in the lower settlement there and have found a series of large-scale buildings, inside one of which was the KTMW mortuary stele (Schloen & Fink 2009; Struble & Herrmann 2009).

In short, given the relative paucity of data, it is not yet possible to create a generalizable model for how the lower towns of Syro-Anatolian capital cities functioned in social or economic terms (Osborne 2017). The impressive buildings unearthed at Zincirli, for example, contrast sharply with the residential remains at 'Ain Dara and potentially with Tayinat as well, where TLTP discovered a number of spatial indications for at least two elite zones – one in the northeast indicated by ceramics, one in the central east indicated primarily by monumental statuary fragments – surrounded by more quotidian areas. What evidence exists so far suggests that such a model might not be feasible, and that in fact individual cities operated under distinct social and economic principles related to the particular historical exigencies that they faced. The same applies with respect to urban planning: although test soundings by the Syrian-Hittite

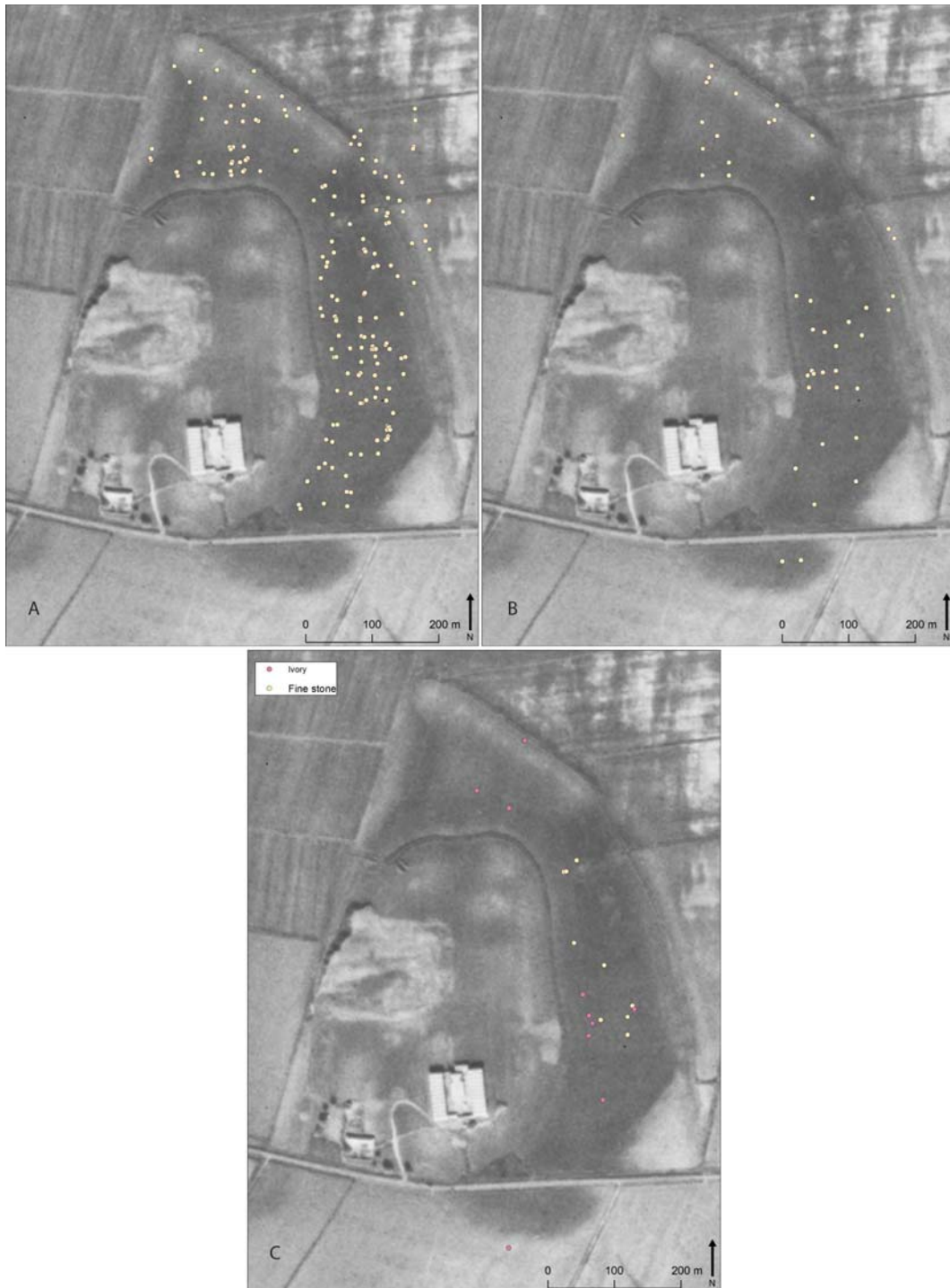


Fig. 22. *a*) Distribution of all basalt objects; *b*) distribution of loom weights and spindle whorls; *c*) distribution of fine stone and ivory objects. Note the clustering of textile production in the north and east areas of the lower settlement, and the concentration of fine stone and ivory objects in the east.

Expedition and recent geomagnetic work in Tayinat's lower town found indications of possibly multiple paved streets, it seems unlikely that Tayinat's lower town was planned to the same degree as Zincirli (Casana & Herrmann 2010: Fig. 4). Only a long-term, sustained research initiative into these long-neglected sectors of multiple Syro-Anatolian urban centers will clarify these questions.

#### CONCLUSIONS AND FUTURE RESEARCH

The Tayinat Lower Town Project's intensive surface survey has contributed substantially to our understanding of Tell Tayinat, ancient Kunulua, as a holistic urban phenomenon. Chronologically, TLTP produced additional support for dating the site's occupation in at least part of this area to the Early Bronze Age. The first millennium occupation appears to have begun off the north and northeast edges of the main mound, after which it spread to occupy the entire lower town by the mid-Iron Age II period. However, TLTP also demonstrated that even at the height of its occupation, settlement was not evenly distributed across Tayinat's lower town. To the contrary, clear clusters of sherd counts and weights point to a patchy occupation, with several large areas of thinly settled, or possibly even empty, space. Certain categories of objects tend to cluster together, such as specific bowl and jar types, whose explanation is difficult to determine. Other examples of clustered spatial distributions, such as objects pertaining to textile and stone working industries, more clearly point toward the spatial loci of specialized craft production. TLTP has thus generated a great deal of critical information that pertains directly to the first two major research questions posed at the outset of the project – understanding urban processes beyond the monumental acropolis of the city and the nature of Iron Age craft specialization. The third research question, concerning the archaeological signature of the Neo-Assyrian forced migration in which Tayinat participated, has also benefited from our clarification that Tayinat's lower town was occupied both before and after the Assyrian conquest of 738 BCE. At the same time, it is intriguing, and a question to be directly addressed by future research at the site, that there is no morphologically or stylistically obvious indicator for the presence of non-local individuals at any period.

All three of these topics are questions to be pursued through further archaeological fieldwork, especially excavation. All other things being equal, TLTP hopes to continue pursuing this research agenda through targeted excavations in some of the areas identified as having high potential by the surface survey. These include the apparently non-elite contexts of the southeast and northern quarters of the city, and the wealthier district in the northeast. Each of these areas, and Tayinat's outer settlement generally, offers enormous potential for expanding our understanding of Iron Age urbanism off the acropolis and into the lower town.

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