NEMEA VALLEY ARCHAEOLOGICAL PROJECT

VOLUME III

THE MYCENAEAN SETTLEMENT ON TSOUNGIZA HILL

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THE MYCENAEAN SETTLEMENT ON TSOUNGIZA HILL

PART 2: SPECIALIST STUDIES

BY

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With contributions by

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ABBREVIATIONS OF PERIODICALS AND SERIES

AA = *Archäologischer Anzeiger*
ActaAth = *Skrifter utgivna av Svenska Institutet i Athen (Acta Instituti Atheniensis Regni Sueciae)*
AJA = *American Journal of Archaeology*
AM = *Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung*
AmerAnt = *American Antiquity*
AnatSt = *Anatolian Studies*
AR = *Archaeological Reports* (supplement to *JHS*)
ArchDelt = *Αρχαιολογικόν Δελτίον*
ArchEph = *Αρχαιολογική Εφημερίς*
ArchKorrBl = *Archäologisches Korrespondenzblatt*
BAR-BS = *British Archaeological Reports, British Series*
BAR-IS = *British Archaeological Reports, International Series*
BCH = *Bulletin de correspondence hellénique*
BÉFAR = *Bibliothèque des Écoles françaises d'Athènes et de Rome*
BICS = *Bulletin of the Institute of Classical Studies of the University of London*
BSA = *Annual of the British School at Athens*
Ergon = *Το Έργον της εν Αθήναις Αρχαιολογικής Εταιρείας*
ErIsr = *Eretz-Israel*
ÉtCrét = *Études crétoises*
JAS = *Journal of Archaeological Science*
JFA = *Journal of Field Archaeology*
JHS = *Journal of Hellenic Studies*
JMA = *Journal of Mediterranean Archaeology*
JPR = *Journal of Prehistoric Religion*
MAGW = *Mitteilungen der anthropologischen Gesellschaft* (Vienna)
MarbWPr = *Marburger Winckelmann-Programm*
OJA = *Oxford Journal of Archaeology*
OpAth = *Opuscula Atheniensia*
Prakt = *Πρακτικά της εν Αθήναις Αρχαιολογικής Εταιρείας*
RA = *Revue archéologique*
RDAC = *Report of the Department of Antiquities, Cyprus*
SBWien = *Sitzungsberichte, Österreichische Akademie der Wissenschaften (Wien), Philosophisch-historische Klasse*
SIMA = *Studies in Mediterranean Archaeology and Literature*
SIMA-PB = *Studies in Mediterranean Archaeology and Literature. Pocketbook*
SMEA = *Studi micenei ed egeo-anatolici*
TAPS = *Transactions of the American Philosophical Society*
UCLAMon = *University of California at Los Angeles, Institute of Archaeology, Monograph*
UCLAPap = *University of California at Los Angeles, Institute of Archaeology, Occasional Paper*
WorldArch = *World Archaeology*

ABBREVIATIONS

CP	cooking pottery
D.	depth
Diam.	diameter
dim.	dimension
EBA	Early Bronze Age
EH	Early Helladic
EN	Early Neolithic
est.	estimated
ext.	exterior
EU	excavation unit
EVE	estimated vessel equivalents
FM	Furumark motif
FN	Final Neolithic
fr., frr.	fragment, fragments
FS	Furumark shape
GAS	Greek Archaeological Service
H.	height
ICP-AES	inductively coupled plasma-atomic emission spectroscopy
INAA	instrumental neutron activation analysis
int.	interior
L.	length
LBA	Late Bronze Age
LH	Late Helladic
LM	Late Minoan
LN	Late Neolithic
masl	meters above sea level
max.	maximum
MaxAU	maximum numbers of anatomical units
MBA	Middle Bronze Age
MFF	macroscopic fabric family
MFG	macroscopic fabric group
MH	Middle Helladic
min.	minimum
MinAU	minimum numbers of anatomical units
MNI	minimum numbers of individuals
MURR	University of Missouri Research Reactor
NAA	neutron activation analysis
NISP	numbers of identified specimens
N/R	not recorded
NVAP	Nemea Valley Archaeological Project
NVAP-AS	Nemea Valley Archaeological Project-Archaeological Survey
p.	preserved
perf.	perforation
SMU	square meter unit
SU	stratigraphic unit
Th.	thickness
TS	Tsoungiza
UCB	University of California at Berkeley
W.	width
Wt.	weight

11

LATE BRONZE AGE COOKING VESSELS

by Bartłomiej Lis

One of the most important and beneficial ways of studying cooking pottery is to look at its development from a diachronic perspective. However, for the Late Bronze Age on the mainland there are very few sites with long stratigraphic sequences. Although we do know that many sites were continuously inhabited—among them the most prominent centers, such as Mycenae, Tiryns, and Thebes—not every period is represented with a sizable deposit. For example, the Early Mycenaean period, when important changes in cooking pottery took place, is very poorly represented in general. A notable exception is the site of Mitrou, in East Lokris. The LBA cooking pottery from this settlement constituted the topic of my doctoral dissertation.[1] In the course of my research, I decided to conduct a comparative case study with another site. This site happened to be Tsoungiza, which had a very good sequence of deposits for most of the Late Bronze Age. For me, the site also had a particular personal connection with Mitrou. Jeremy B. Rutter and Patrick M. Thomas were my excellent teachers of pottery at Mitrou, and before they came to work there, they both worked at Tsoungiza. Most of the relevant materials from Tsoungiza had already been published by them (or were in the final stage of preparation for publication), which greatly facilitated my study. With the permission of the director of NVAP, James C. Wright, I was able to conduct a study of the deposits from Tsoungiza, which resulted in this contribution.[2]

METHODOLOGY

Definition of the Functional Group

The first major challenge concerning the methodology of this study is connected with a simple question: How do I define the material I am going to study—the cooking pots?[3] Far too often delimitations are highly judgmental and are based on one's expectations rather than more objective criteria. Of course, there is no way one can be entirely objective in this respect, and the complexity of past reality will surely escape our rigid definitions. This particular group of pottery is defined by function, and that should be the major consideration in the choice of criteria. Function has an impact on both the production and the use

1. Lis 2012b; see also Lis 2017a.

2. This study would not have been possible without generous funding from the Polish Ministry of Science and Higher Education (grant No. N N109 218036). I would also like to acknowledge the support of NVAP during one of my stays at Nemea.

3. Throughout this study, I will use the terms "cooking pots" and "cooking pottery" interchangeably. Furthermore, the widest definition of a "cooking pot" will be employed, encompassing not only deep jars, but also any other utensil used in the process of cooking (frying pans, griddles, etc.). The abbreviation CP is used for "cooking pottery" in tables in this chapter.

of a pot. In the production stage, the *desired function* influences potter's choices as to the fabric and shape. The *actual function* leaves traces on the surface of the cooking pot, for the most part burning marks (but also abrasion of the surface). None of these—that is, the fabric, shape, or burning marks—can work as the sole criterion for discriminating cooking pottery in the ceramic material. Designating certain fabrics a priori as cooking pot fabrics, even if based on a number of premises, like density, kinds of inclusions, or color, is still very judgmental. The same applies to the shape, plus this criterion is hardly applicable to smaller fragments. Burning marks, if present on the studied fragment, provide a strong argument for its identification as a cooking pot. They can also stem from conflagration, yet a careful analysis of the context, which can verify such a hypothesis, and the location and shape of the burning marks on the vessel's body, can help eliminate remaining doubts. I decided to use three main criteria, and to apply the presence of burning marks as the most important criterion for identification of cooking pots. Its application resulted in a group of securely identified cooking pots, which were then subjected to the fabric study. Based on this group, I was able to separate a number of macroscopic fabric groups (MFGs) used throughout the Late Bronze Age for the manufacture of cooking pottery. These fabrics provided the second criterion for identification of fragments of cooking pottery in the material that did not qualify for consideration as defined by the criterion of burning marks. The greatest advantage of using fabric for identification is that it can be applied to (almost) every single fragment. This is an inherent weakness of many other classificatory systems, which are based on identification of either shape or decoration (in the case of painted pottery).[4] They leave a considerable number of fragments unclassified, and their number is particularly high in the undecorated fraction. Obviously, accepting fabric as the main criterion here is not a perfect solution either. One disadvantage is related to the fact that the same fabric could have been used for manufacture of pottery other than just cooking pots. This problem refers to a particular group of pottery from Tsoungiza, called "orange" jars, only some of which were probably used as cooking pots. However, I have found no other solution for fragmented settlement material that deals with this problem in a better way.

The debatable fragments can be subjected to the third criterion, that of shape. The situation is more complicated at the beginning of the Late Bronze Age, during the LH I period, when most of pottery seems to be produced with simple methods on a household level and when the standardization of fabrics is in its initial stage. The shapes are also quite simple, which makes the application of the third criterion futile.[5] Even for the best-preserved vessels it was very difficult to be absolutely certain as to their identification as cooking pots. Nevertheless, this situation does not expose the limitations of the applied methodology, but merely demonstrates that in certain cases the exact definition of cooking pottery is simply impossible, unless there is additional contextual information.

Selection of Deposits

The choice of deposits was dictated by the very simple principle that they should be comparable in nature. Although it is theoretically possible to compare a floor deposit with a dump, there exists a serious danger that many of the detected differences will be an effect of the different natures of the deposits, one being a "freeze-frame shot" of an assemblage used at the household at a given moment in time, the other an accumulation of pottery discarded over a longer span of time. As floor deposits are scanty at Tsoungiza, I decided to concentrate

4. For an example of such an approach, see Furumark 1941.

5. This is particularly clear in the case of pale-slipped jars of the LH I period, which copy shapes of MH III cooking pots (see below).

on chronologically consistent dumps. This would have been my choice even if there were enough floor deposits for each period. Dumps, usually accumulated over a longer period of time, are more representative of the entire repertoire used at a given household. The sample is usually larger and thus also less biased against the randomness of archaeological preservation. These are all important characteristics with respect to statistical analysis. To illustrate this with a simple example, we might find a floor deposit containing two flat-based jars and one tripod, but it is only through an analysis of a larger dump (or a greater number of chronologically similar floor deposits, which is rarely the case anywhere) that we can try to discuss the relative frequencies of the two shapes. I would like to remark that the choice of certain deposits does not mean that my analysis will be narrowed down to this selection. The aim of making a selection is to obtain reliable statistical data that enables proper comparisons between deposits representing different periods. All remaining cooking pottery deriving from good contexts will be presented alongside the fragments deriving from deposits selected for detailed statistical analysis. In addition to the fragments inventoried by Rutter and Thomas during their study of particular deposits, I have inventoried pieces that were important for the current study. For a list of these fragments, see Table 11.6, below.

Standards of Recording and Presentation

The focus of many publications of pottery is on the analysis of selected, inventoried fragments. Quite often, in such cases, the presentation of the *entire* deposit is limited to a few tables showing the breakdown of the material into broad categories. As the aim of this study is to follow the change of the entire cooking repertoire with respect to its composition, technology, and development of particular forms, and not only to highlight certain developments or interesting features, my approach is to provide a balance between the analysis of the entire deposit and inventoried fragments.

My initial approach to recording deposits assumed that every single sherd would be classified according to the only criterion that can be applied to all the sherds, the fabric.[6] After initial tests, however, it turned out that the frequencies counted for all the sherds and those resulting from the counts of feature sherds (rims, bases, handles, legs, and spouts) are usually closely comparable. Apart from this observation, there were two other arguments in favor of such a method of recording. During my work, I noted that the size of a sherd is crucial for a correct identification of fabric. Because of the fragmentary nature of the deposits, in almost every unit there were at least a few very small sherds, usually fragments of body, for which a correct fabric identification was impossible. Yet most importantly, the counting method that I considered most reliable was based on estimated vessel equivalents (EVE; see below), for which only feature sherds (rims and bases) are recorded.

The fragments excavated in a single SMU were recorded according to two main divisions. The first and most important division was the split into MFGs. The second division was the arrangement according to feature type (rim, base, handle, or leg). On the recording form (Fig. 11.1), rows represented different fabrics, while columns were reserved for particular features. Each large cell (with further subdivisions) in this form describes therefore a single feature as to its fabric and type. Within the cell, additional descriptions of features were noted and placed in the appropriate subcolumn for a given feature type. The types were described in each case. The remaining subcolumns described dimensions and preservation of each sherd. The preservation for bases and rims was calculated as a percentage of the circumference that they represent. This value was later used for calculation of estimated vessel equivalents. In addition, each fabric group was weighed.

6. Lis 2010, pp. 239–240.

TSOUNGIZA SU _____ E_____ N___

Fabric	Rims		Handles	Bases		Legs (lower/upper)	**Total features**	Weight
	No	%		No	%			
Aiginetan								
Totals								

Comments on the back of page

Figure 11.1. Cooking pottery recording form. *B. Lis*

Statistical Analysis

A substantial part of this study is based on statistical analysis of relevant deposits. Therefore, much care has been taken in preparation of this analysis, starting from collection of the data. Before I started the recording process, I had to decide how to quantify the deposits. Apart from the standard counting and weighing, which do not require further discussion, there are two methods of quantification that are used more or less widely for pottery recording in the Aegean. One is the method of minimum number of individuals (MNI); the other is the method of estimated vessel equivalents (EVE).

The MNI method involves, in simple terms, identification of all sherds that belong to a single vessel, no matter whether joining or not, and counting them as one. However, this is only possible in ideal conditions, in which vessels are distinct enough to allow for a secure separation of the sherds. The method has been modified to suit the reality of pottery processing and takes the form of counting diagnostic vessel parts or only those features (like handles) that clearly differentiate one vessel type from another.[7]

The EVE method involves measuring the percentage of the circumference that a particular fragment preserves. It is usually done with a simple diameter chart that is divided into 10% or 5% slices. For this reason, it is applicable only to rims and bases, and not to features like handles or legs. It is also virtually impossible to apply this method to body sherds. However, an interesting variant of the method, which takes into account all sherds, is EVE based on weight.[8]

Without going into a lengthy discussion of these methods, I would like to quote a classic book for students of ancient ceramics, *Pottery in Archaeology* by C. Orton, P. Tyers, and

7. For a useful summary, see Strack 2011.
8. Orton, Tyers, and Vince 1993, p. 172.

A. Vince: "The vessel-equivalent is the only measure that is unbiased, both for measuring proportions within an assemblage and for comparing them between the assemblages."[9] The last part of this statement is especially important for this study, as the comparison of proportions between different assemblages (in these cases, deposits) is fundamental. The mentioned bias results mostly from different brokenness of particular shapes and completeness[10] of assemblages.[11] Let me illustrate this point with an example that was used in the cited work. The assemblage consists of only two vessel types, with ten pots of each type. The first type breaks into ten fragments, and the other type does not break at all. A 10% sample of such an assemblage may consist of sherds from up to ten pots of the former type, but only one fragment (a complete pot in this case) of the latter type. The MNI method, provided that the fragments of individual pots belonging to the same type were easily distinguishable, would overestimate the share of the type that breaks into ten fragments. The estimated ratio between the types would reach close to a maximum of 10:1 instead of the original 1:1. The EVE method would acknowledge that the fragments of the former type are roughly equivalent to a single complete form, thus giving a ratio closer to the original 1:1. In short, the major problem of the MNI method is that it ascribes too much value to single sherds, thus underestimating the share of more completely preserved examples. This bias may affect the statistics in various ways, depending on the nature of the deposit. In the case of deposits from Tsoungiza, the bias would be quite strong, as there are many small fragments that may not have been parts of the original context, and rather few mended[12] examples, which would almost "disappear" in the statistics if the MNI method was used.[13]

The rim EVE will be favored in the interpretation over the base EVE, as the former appears to be more representative. First, from the LH IIIA2 early period, tripods become an important part of the assemblage and are often equipped with round bases that are not quantifiable with the EVE method. Furthermore, the rims usually break into many more fragments than the bases and therefore provide better equivalents of the original vessels, in particular in the case of small deposits with low completeness.[14]

The frequencies for fabric groups will be calculated using feature sherd count, feature weight, rim EVE, and base EVE. This way, although one of the counts will be preferred, results gained by using other methods can always be consulted.

Burning Marks

Burning marks[15] are not only useful for defining cooking pottery, but also provide a valuable source of information about the use of these vessels. There are two important limitations in their study, however. First, the better preserved the material is, the more informative these marks can be. Regrettably, the material under study is usually very fragmented.

The second constraint is that there is not much previous research that would provide guidance as to possible interpretations of burning marks. Experimental and ethno-archaeology

9. Orton, Tyers, and Vince 1993, p. 171.

10. The completeness indicates how much of the original assemblage is preserved in the deposit.

11. Orton, Tyers, and Vince 1993, pp. 168–173.

12. As pots that were mended from two or more fragments have, on average, a bigger chance of having belonged to the original context, I will indicate this aspect in the discussion of particular deposits.

13. A 2011 publication devoted to the issue of pottery quantification includes a chapter with guidelines, which also discusses pros and cons of the two methods (Verdan 2011, pp. 166–169). It appears from that account that MNI's only advantages are in the analysis of decorated pottery. Therefore its value for quantification of entire deposits, or for groups such as discussed here, is limited. Furthermore, proponents of the MNI fail, to my knowledge, to address crucial problems outlined by Clive Orton (Orton, Tyers, and Vince 1993; see above).

14. If the deposit preserves only 10% of the original small assemblage, there is a better chance that a rim fragment of a pot will be recovered than a base fragment, if a base breaks in far less pieces than a rim; see also Strack 2011.

15. Or soot marks; see Skibo 1992. In other publications they are also called scorch marks; see Yasur-Landau 2006.

could be a major source of useful data, and in fact a book by James M. Skibo[16] devoted a lot of space to such marks on cooking pottery. According to this study, interior soot deposits provide much more information about cooking-related activities. They are caused by charred food, the residues that either adhered to or were absorbed into a vessel's surface. The study was based on two types of cooking pots, those used for cooking rice and those for cooking vegetables/meat, which limited the variability of observed carbon depositions. Since for prehistoric cooking pots we usually do not know what was cooked in them, it is difficult to use Skibo's particular observations. Furthermore, some of his typical marks have never been noticed on cooking pots from Tsoungiza.

Regarding the exterior marks, Skibo refers to the work of David J. Hally,[17] who differentiated two kinds of soot. The first forms a dull black layer directly above the fire, consisting probably of solid carbon. This layer could be largely removed when rubbed. The second kind of soot is of lustrous quality and can be found on sides and rim, and cannot be removed by rubbing. Skibo[18] recorded three different kinds of soot on Kalinga cooking pots and made interesting observations on the relation of such marks to the distance from fire and possibility of reoxidization of soot deposits. The kind of wood used as fuel proved to be another important variable. However, just as in the case of interior marks, these observations are based on a limited number of experiments with a small number of different cooking pots and methods,[19] and as such they are hardly applicable to prehistoric pottery, especially with fragmentary preservation. The two kinds of soot mentioned by Hally are not detectable on Tsoungiza cooking pots, which is probably due to postdepositional processes in the soil.

In sum, there is a clear need for more research in the field of experimental archaeology. Interpretations of burning marks found on Tsoungizan cooking pots will be relatively limited and of a preliminary nature. Particular value will be ascribed to "localized" burning marks—that is, those marks that have clearly outlined borders and appear in the same location on more than one cooking pot.

LH I

For the study of the LH I cooking pottery from Tsoungiza, I have chosen the rich materials from two SUs, 1326 and 1327 (see Table 11.1), that form a part of an extensive deposit in EU 8. This deposit was found not to be directly associated with any surviving contemporary architecture. The LH I part of the fill in this trench was excavated during 1985 in these two SUs, separated by patches of calcium carbonate occurring at irregular intervals. According to Rutter, a small number of joins laterally between SMUs and vertically between SUs suggests that the pottery was highly fragmented when initially deposited (see p. 496). In his view, this deposit is a purposeful fill brought in to raise the level of the surface in this area of the settlement. The excavation of this deposit continued in 1986, providing much additional material that confirmed this interpretation. The choice of only the part of the entire deposit excavated during 1985 as the basis for statistical analysis was dictated by the fact that most of the SUs excavated in the following year were more contaminated with later material. Moreover, the amount of material in these two SUs was substantial enough to warrant a representative sample.

16. Skibo 1992.
17. Hally 1983.
18. Skibo 1992, pp. 153–154.
19. Virtually all cooking pots in Skibo's experiments were placed over the fire on supports.

TABLE 11.1. COOKING POTTERY: BASIC STATISTICS FOR ANALYZED DEPOSITS

Period	*Number of CP Features*	*Weight of CP Features (g)*	*Total Rim EVE (Aggregate %)*	*Total Base EVE (Aggregate %)*
LH I (SUs 1326 and 1327)	55	1,425	151	385
LH IIA	39	–	–	–
LH IIB	81	3,340	205	1,010
LH IIIA2 early	263	10,870	485	2,142
LH IIIB1	490	20,550	715	3,480

Fabric Groups

The number of MFGs for cooking pottery at LBA Tsoungiza appears to be rather limited. However, some of the fragments that were counted as "Unclassified" could be members of undefined fabric groups. Since all major MFGs are present in the studied material right from the outset of the Late Bronze Age, they will be described only once.[20] Fabric groups will be referred to using numerical codes. Use of codes also reflects my lack of certainty regarding the identification of the minerals, as I was not assisted by an experienced geologist during the work on Tsoungiza material, and petrographic analysis was not conducted on the material studied.

The fabrics can be divided into two major groups, or, following terminology used by Jennifer Moody and her team,[21] macroscopic fabric families (MFFs). The first family (MFF 1) is characterized by the predominance of quartz. Within this fabric family, I have differentiated three MFGs. The first, MFG 1.0, contains quartz almost exclusively, ranging from very pale to gray or even dark gray in color, but still semitransparent. Its grains are mostly subangular/subrounded, and cluster around 1 mm in size. Occasional dark grits or nontransparent yellowish inclusions are also present.

A coarser variant of this fabric, mixed with substantial amounts of dark (gray, brown) angular/subangular rock fragments reaching 4 mm, is classified as MFG 1.1. There are sometimes also bigger pale subangular inclusions in this MFG.

Finally, MFG 1.2 is distinguished by addition of small, subangular semitransparent red inclusions, which usually have a glossy surface.

The other fabric family (MFF 2) is characterized by the presence of subangular rock fragments of dark red to dark gray color. These inclusions are usually much larger than those of quartz, which was dominant in the previous fabric family, and they very often exceed 4 mm in dimension. Therefore many of the fragments belonging to this family could be classified as coarse, rather than medium coarse. The mineralogical identification of this inclusion was not clear during the study, and therefore I refrained from giving it a specific name. Most probably it is either chert[22] or mudstone.[23]

The major fabric group of this family is MFG 2.0, which contains mostly inclusions described above, reaching up to 6 mm, and rare calcareous particles. Subrounded quartz grains are present but are very rare. As the surface is usually rather pale, often with an orange hue,

20. This is not to say that they do not change over time. Nevertheless, the changes within one MFG are not substantial enough to justify creation of a new group.

21. Moody et al. 2003.

22. As suggested in Thomas 2005, p. 518.

23. A similar inclusion in Corinthian pottery has been identified as mudstone; see Whitbread 2003.

this fabric was called "orange" by Thomas. He recognized it both in the LH IIIA2 early[24] and LH IIIB1 deposits.[25] Although he treats it separately from cooking pots, which is entirely appropriate, localized burning marks on some of the examples of this MFG and quite a few tripod cooking pots executed in this MFG during the LH IIIA2 early period leave no doubt that some of the "orange" jars were used for cooking. The only way to distinguish between vessels used for different purposes made in this fabric is to look at burning marks. This procedure fails to capture those fragments executed in MFG 2.0, which do not preserve burning marks but were used as cooking pots (see above).[26] Therefore, the share of MFG 2.0 in the total cooking pottery is probably underestimated, especially in those deposits where it played an important role (LH IIIA2 early).

MFG 2.1 is very similar to MFG 2.0, but the density of the main inclusion type is higher, and the fabric lacks calcareous grits. The surface is usually very pale, with mottled appearance, possibly due to the application of a slip. Covering of the surface with a pale slip is not at all a standard procedure for cooking pots, and the rarity, or even complete absence, of burning marks, pointed out by Rutter (pp. 602–603), makes their interpretation as cooking pots highly unlikely. Therefore, I am following him in considering them primarily storage vessels. Probably, as in the case of MFG 2.0, they were occasionally used as cooking pots, yet burning marks are so rare on examples of this fabric group that it appeared superfluous and potentially misleading to include them in statistical counts. The two restorable pots from the LH I West Building (**E18**, **E27**), initially interpreted as cooking pots,[27] display burning marks, but this is most probably because of the final conflagration that destroyed the building. Also in the case of an unequivocal cooking pot from the same context, Aiginetan import **E14**, marks take the form of irregular patches that were most probably not formed during use.

MFG 2.3[28] is closely related to the above-mentioned fabric group. What differentiates it rather clearly is the darker and more reddish color of the fabric, a standard feature of the majority of the LBA cooking pots.

MFG 2.4 appears to be a combination of the two fabric families, containing inclusions that are characteristic of both. Nevertheless, the subangular dark red inclusion, typical of MFF 2, quantitatively dominates quartz.

Apart from these two fabric families, two other independent fabric groups have been defined. The first one is the Aiginetan fabric group. In contrast to all other fabric groups, a lot of research has been done on Aiginetan cooking pottery, including characterization of its fabric by means of petrographic and chemical analyses.[29] Therefore, we can be confident in listing all the frequent inclusions. The fabric is medium coarse, featuring a mix of gold flakes of biotite (gold mica); sparkling black angular elongated "spikes" of hornblende; transparent inclusions of feldspar and much more rarely quartz; and white, soft calcareous inclusions (micrite).

A separate MFG, not susceptible to a precise definition and thus probably including members of different, less frequent fabric groups, was described as Mix MFG. It is characterized by the presence of quartz accompanied by a number of other inclusions, in their density and quantity surpassing MFG 1.1.

Finally, all fragments that could not be ascribed to any of the groups defined above were classified under the common heading "Unclassified fragments."

24. Thomas 2011a, p. 219.

25. Thomas 2005, p. 518.

26. This is probably very often the case, as most of the material from Tsoungiza is very fragmented.

27. Rutter 1989, p. 10, nos. 18, 19.

28. Initially, I defined also MFG 2.2, but after a closer scrutiny examples of that fabric group were reclassified as MFG 2.0.

29. For results and a summary of previous research, see Gauss and Kiriatzi 2011.

TABLE 11.2. FREQUENCY OF MAIN FABRIC GROUPS DURING THE LH I PERIOD

MFG	*Feature Count (%)*	*Feature Weight (%)*	*Rim EVE (%)*	*Base EVE (%)*
Aiginetan	27	47	29	42
1.0	11	2	7	0
1.1	9	7	10	3
1.2	9	12	3	26
2.0	2	3	0	3
2.3	16	14	16	27
2.4	11	8	19	0
Mix	4	1	1	0
Unclassified	11	5	15	0

Fabric Group Frequencies

The frequencies of fabric groups for the LH I period (Table 11.2) reveal that only the Aiginetan fabric group has a substantial share in the assemblage of cooking pots. The discussion here will commence with this fabric group.

Aiginetan cooking pottery, almost completely absent from the repertoire during the final MH period,[30] has a share of 29% according to rim EVE, but its share varies according to different counts (Table 11.2). The share according to base EVE is almost 50% higher than that calculated according to rim EVE, yet in later periods the discrepancy will be even greater (I will attempt to explain this phenomenon below). Thus it seems that roughly one-third of cooking pottery from Tsoungiza was made of Aiginetan clay.

This frequency is highest among single fabric groups, and higher than that for all fabrics of MFF 1. Since Aiginetan cooking pottery is found at many other sites, and there its frequency is usually given in relation to the entire assemblage, it would be interesting to look at such shares for Tsoungiza as well. As I did not make the necessary calculations, I refer here to the percentages presented by Rutter in this volume for SU 1327 (see Tables 9.6, 9.11). Aiginetan cooking pottery at Tsoungiza constitutes 4.6% of all sherds, and among all Aiginetan imports it has a share of 53%. This is clearly much higher than at other sites, pointing to a very strong position for cooking pottery among all Aiginetan imports at Tsoungiza.[31]

MFF 2, associated with possible chert or mudstone, has a certain quantitative advantage over the quartz-rich fabrics, and also the single Aiginetan fabric group. Within this family, two MFGs have a roughly similar share in the entire cooking assemblage. According to the preferred rim EVE, MFG 2.4 has a share of 19%, and MFG 2.3 has 16%. The frequencies calculated in other ways are rather stable for MFG 2.3, but variable for MFG 2.4 (and much lower than in the case of rim EVE), reaching as low as 0% for base EVE.

The frequencies for all three quartz-rich fabric groups are lower, reaching 10% only in the case of MFG 1.1. The counts for MFG 1.2 are most variable, depending on the counting method. It scores as high as 26% for base EVE and as low as 3% for rim EVE. Given the considerable number of well-preserved fragments of that MFG from other LH I contexts, I

30. Rutter 1990, p. 454.
31. See Gauss and Kiriatzi 2011, p. 254, table 87.

would consider its share in the rim EVE accidentally low. It is interesting to note that by the LH IIB period this fabric becomes almost invisible statistically.

Unclassified fragments display a considerable share according to the rim EVE (15%) when compared to the most frequent LH I fabrics. This may suggest the presence of a few additional, unrecognized fabrics in the LH I material from Tsoungiza, and thus substantial fabric variability. This situation seems to be reflected in the other categories of pottery as well (see Chap. 9).

Shapes and Features

The discussion of shapes and features will be organized according to the division of Tsoungizan cooking pot fabrics. Important fragments from the LH I period, but not coming from the two units recorded statistically, will be discussed as well.

Fabric Family 1

The majority of inventoried fragments belonging to the quartz-rich fabric groups are made in MFG 1.2. As many as seven feature fragments have been inventoried from the EU 8 LH I deposit, but only one derives from the two SUs recorded statistically, which reflects the surprising (but perhaps accidental) rarity of rims made in this MFG in that part of the deposit. The rims are usually everted, or sharply flaring, slightly tapering at the end. Two of them show a slight hollow (**D349**, 1334-2-17). Two rim fragments preserve a handle attachment (**D349**, **D348**) and demonstrate that it was of a vertical type placed on the shoulder, with a round section. Such rims and handles are not present in MFF 2 (see below). The bases executed in MFG 1.2 (**D358**, **D360**, **D122**) are invariably splaying, usually featuring a flat underside. Only **D360** is distinctly hollowed and much thinner in the middle than other bases. The diameters of MFG 1.2 bases cluster between 5 and 6 cm.

This brief analysis of features represented in this MFG does not leave much doubt as to their very close similarity to contemporary Aiginetan cooking pots (see below). However, in contrast to some probable products of Aiginetan potters executed in non-Aiginetan clays,[32] these cooking pots do not display the same manufacturing details. Therefore, it seems appropriate to interpret them as an influence of Aiginetan cooking pots on other cooking pot producers.

A very well-preserved cooking pot, **E17**, is executed in a quartz-rich fabric, most probably a variant of MFG 1.2. It is also shoulder-handled, yet the handle's section is a flattened oval with a central hollow—a type otherwise unattested at Tsoungiza. The base is splaying and slightly convex. The general impression is similar to the Aiginetan cooking pots, but on a level of manufacturing details, this cooking pot is much different (including the surface treatment).

There are two additional bases (**D359**, **D361**) included in MFG 1.1. They are very similar to each other, measuring 5.5 cm in diameter and featuring almost vertical sides. Both are also very thick.

There is only one inventoried feature classified as MFG 1.0. It is a simple flaring rim, very different from rims in MFG 1.2.

Regarding the general distribution of rim diameters (Fig. 11.2),[33] it is notable that there are no recorded rims larger than 20 cm in diameter. As I will show in the following sections, such a situation is evidenced only in the LH IIIA2 early deposit, which is very peculiar in

32. Lis, Rückl, and Choleva 2015.

33. The rims of all non-Aiginetan fabrics are treated together here, as they are very few and do not allow for a separate discussion according to MFGs. The fragments presented in the histogram (Fig. 11.2) include rims from two statistically recorded SUs and other inventoried rims from LH I contexts.

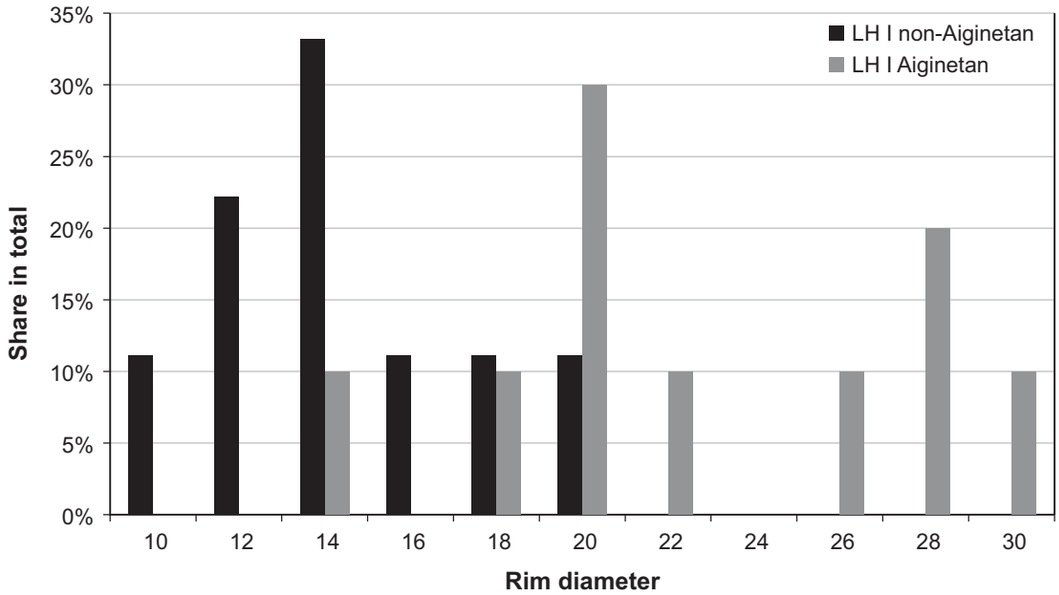

Figure 11.2. Histogram of rim diameters for Aiginetan (n = 10) and non-Aiginetan (n = 9) cooking pottery during the LH I period. *B. Lis*

terms of size distribution. In the LH I deposit, however, the lack of truly large cooking pots in MFF 1 is compensated by the presence of large Aiginetan cooking pots, which in the case of Tsoungiza display a strong preference for large specimens (Fig. 11.2; see also below).

Fabric Family 2

Only two cooking pots belonging to this MFF were inventoried. Nevertheless, features recorded in statistical forms significantly increase the available sample. Rim fragment **D118**, executed in MFG 2.3, belongs to a small jar with a flaring rim (Diam. 12 cm), most probably similar to the cooking pots of the MH III period[34] and LH I pale-slipped jars that copy the shapes of MH III cooking pots (**E18**, **E27**). This would suggest that cooking pottery was still made in forms referencing an earlier tradition, yet in smaller versions and limited number. There are two other noninventoried flaring rims in this fabric (SU 1327 675/391); one of them is tapering toward the end. Another rim (SU 1327 677/391) has an everted profile and a tapering end.

A very intriguing example of a base executed in MFG 2.4 (**E56**) is different from all other contemporary bases in that it is broader (Diam. 6.6–6.75 cm) and thinner in the middle. It is much more like the Aiginetan cooking pot bases. In fact, there is one striking point of convergence—on its underside there is a pot mark of three radially arranged elements, which, however, are impressed in a manner unlike pot marks on Aiginetan vessels. A noninventoried rim in the same fabric (SU 1326 674/391) has a flaring profile with flattened top. There is also a fragment of a strap handle (SU 1327 674/391).

Aiginetan

The formal variety in this fabric group is virtually nonexistent—all cooking pots belong to shoulder-handled jugs.[35] This is very typical for other settlements as well. An interesting,

34. Rutter 1990, pp. 447, 450, figs. 17, 18.

35. Lindblom 2001, p. 26, shape S-15, fig. 4; see also Lis 2012a.

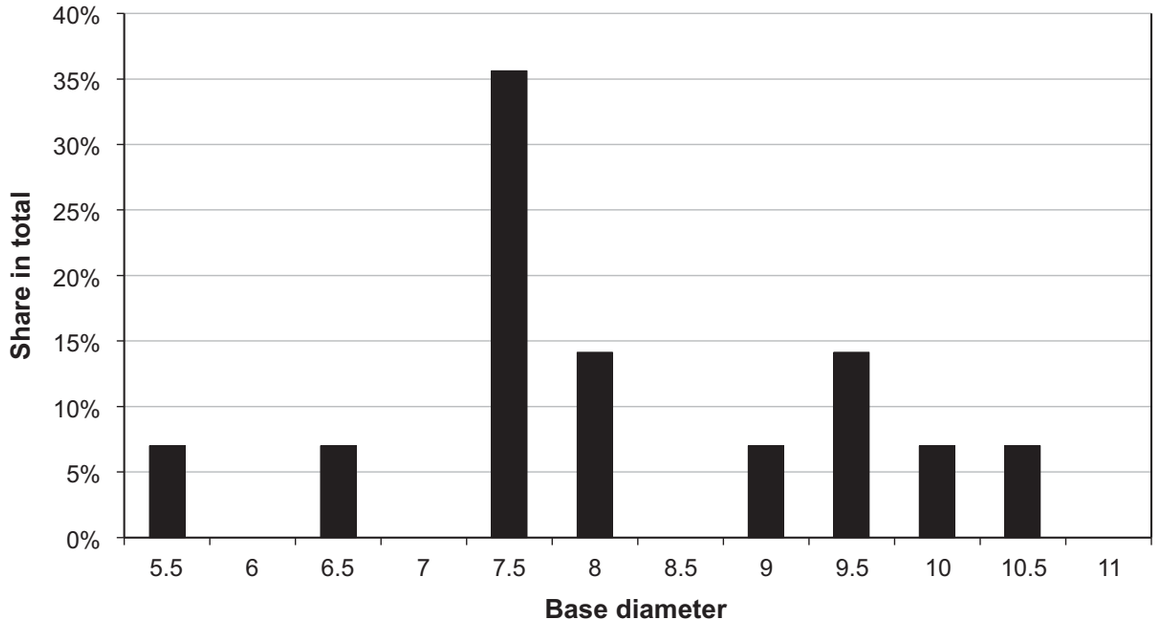

Figure 11.3. Histogram of base diameters (n = 14) for Aiginetan cooking pottery during the LH I period. *B. Lis*

and rare, feature of one of the rims (**E24**) is a slashed plastic band at the rim–shoulder transition on the exterior. This is usually a feature of large cooking pots, and that is the case here, as the rim has a diameter of 35 cm. After the single MH III Aiginetan tripod leg,[36] tripods of that provenance are not attested in the early LBA deposits from Tsoungiza, including the rich finds of the LH I period. Only in the LH IIIA2 early deposit are there two base fragments belonging to Aiginetan tripods of the Early Mycenaean type (with a flat-convex base).

As the number of Aiginetan bases and rims recorded for the LH I period is not insubstantial (14 and 10, respectively, as compared to a total of 24 and 15 for the entire Early Mycenaean period), it is possible to analyze their size distributions (Figs. 11.2 and 11.3) and compare them with distributions for the entire corpus of Aiginetan pottery.[37] The result is striking. Bases with diameters up to 7.5 cm, which for Aiginetan cooking pottery from all sites make up more than 50% of the total, are poorly attested at Tsoungiza (Fig. 11.3). It is not a matter of chronology, as the histogram for LH I bases from all sites is similar to the general one. Moreover, at Tsoungiza bases between 9 and 11 cm in diameter, belonging to really large pots,[38] are well represented. Hence there is a clear bias toward large Aiginetan cooking pots of considerable capacity. The rims, which are less numerous, and thus their histogram is slightly less representative, confirm this view fairly well (Fig. 11.2). A distinct concentration of rim diameters around 20 cm may be matched with a similar peak in the histogram of base diameters around 7.5 cm. Very large pots are attested as well, including a rim with a diameter of 35 cm.

A very distinct feature of Aiginetan cooking pots is potters' marks, which, during the early Late Bronze Age, were placed usually at the base.[39] The assemblage of marks placed on

36. Rutter 1990, p. 450, no. 171, fig. 18.

37. These distributions derive from my doctoral research on Aiginetan cooking pottery and will be published in a separate monograph.

38. The completely preserved LH I cooking pot from the West Building (**E14**) has a capacity of 7.7 liters, while its base diameter is 7.7 cm.

39. Lindblom 2001.

Early Mycenaean[40] cooking pots from Tsoungiza is rather standard in their distribution among different mark groups as defined by Michael Lindblom based on mark location.[41] A-type marks, located underneath the base, constitute slightly more than 50% of the total (21). The next most frequent group is the C-type marks, placed at the edge of the base, making up 29%. Such a distribution of marks is very similar to that at sites like Asine, Korakou, and Lerna.[42] Slightly atypical is an identical number of C1, C2, and C3 marks, as usually C3 marks are much more common than the other two. Another important observation is the presence of two examples of the I29 mark (one from LH I, **D341**; and one from a LH IIA context, F36[43]), consisting of a single clay pellet placed at the lower handle stump, attested in the entire corpus by only one more specimen, from Kolonna.

Manufacture

The share of wheelmade as opposed to handmade manufacture was not measured in a consistent way at Tsoungiza, because it is difficult to provide credible estimates for wheelmade manufacture based on fragmentary material. Therefore, I will base my statements only on observations made for the inventoried finds, which are not fully representative.

No trace of wheelmade manufacture has been detected in either the recorded units or the entire LH I inventoried material. Many of the cooking pots display traces of coil-building, and this was probably the most popular method of shaping. Very basic manufacture without clear use of coils is present only in minor quantities.

As far as the surface treatment is concerned, wiping is most popular. In the case of 1334-2-17, vertical wiping reaches a stage in which it can be called scoring, sometimes visible also on Aiginetan cooking pottery. Use of burnishing, in contrast to contemporaneous cooking pots from Mitrou, is rare.

Use of the Vessels

The study of the use marks on cooking pots is undermined by the fragmentary preservation of the majority of cooking pots. Theoretically, the almost entirely preserved Aiginetan cooking pot from the West Building in EU 7 (**E14**) could provide invaluable insights; however, it was destroyed in a heavy conflagration and therefore bears marks deriving from that event.[44]

Extant burning marks that can be interpreted are found on three base fragments and display a common pattern—localized burning on one side of the cooking pot, indicating the way the pot was inserted into the fire. The small size of the bases excludes their placement on the edge of the fireplace without any stabilization. Base **D360** has a localized patch covering most of the preserved exterior and part of the base, including the underside. Also base 1409-2-24 has a burning mark on one side. The base 1152-2-3 is, in a way similar to the Aiginetan cooking pots, slightly burnt on the side opposite the mark.

A very well-preserved one-handled cooking jar (**E17**) displays a most intriguing burning mark, but only upon a look at its interior (Fig. 11.4). There is a wide horizontal stripe at the midbody, covering almost the entire circumference, except for the part where, on the exterior, the handle is attached. In all probability this mark derives from charred residues of

40. I decided to cover the entire assemblage of Early Mycenaean marks under the LH I heading for two reasons. First, after the LH I period the frequency of Aiginetan pottery declines, and as a result there are only few marks in each of the later deposits. Their separate discussion would eliminate the most important general picture. Second, for reasons stated below, I am inclined to interpret many of the bases found in later deposits as reused fragments.

41. Lindblom 2001, p. 46.

42. Lis 2012b, p. 282, table 27.

43. Rutter 1993b, p. 71, no. 36, fig. 7.

44. Wright 1982, pp. 392, 394.

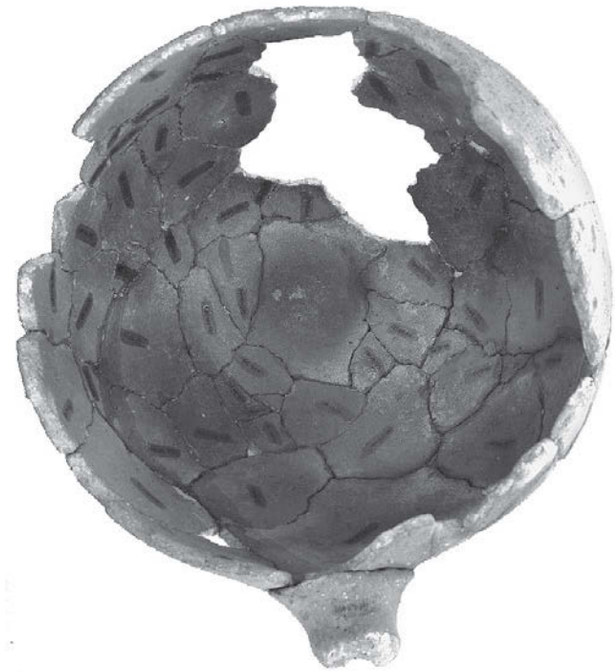

Figure 11.4. Burning marks on **E17**. *B. Lis*

food that penetrated the walls of the vessel. It indicates places where the highest temperature reached the body of the pot, and probably that the pot was turned during use to facilitate even heating. Interestingly, the exterior burning marks are not comparable and are difficult to interpret.

Aiginetan cooking pots have their bases burnt at the edge of the underside, except for a small part that was probably located below the handle (**D116**, **D115**). Blackening on the almost fully preserved example from the West Building (**E14**) derives most probably from the conflagration.

Summary

The LH I cooking pottery at Tsoungiza has two main characteristics —the very strong presence of Aiginetan pottery and a variety of fabric groups. The frequency of Aiginetan cooking pottery during this period is the highest for the entire Late Bronze Age, reaching ca. 30% of the assemblage. Another interesting observation concerning Aiginetan cooking pottery is that it constitutes more than 50% of the total Aiginetan imports at the site, which is similar to the situation at Asine from the beginning of the MH III period, but much different from that evidenced at Kiapha Thiti and post–LH I Mitrou.[45] Rutter claimed that it is only by the LH IIB period that Mycenaean counterparts for Aiginetan water jars appear on a large enough scale to compete with Aiginetan products,[46] but it seems that already by the LH I period—in other words, right from the start—Aiginetan water jars, and even more so Aiginetan painted and burnished open shapes, did not have a substantial share in the local assemblage, when compared to other sites. It is difficult to say what lies at the core of this consumption pattern,

45. See Gauss and Kiriatzi 2011, p. 254, table 87. For the LH I period, the frequency of Aiginetan pottery at Mitrou is very low, and it is difficult to consider it as very representative.

46. See pp. 709, 726.

whether it was consumer preferences or simple reasons of availability. Given the remoteness of Tsoungiza[47] and its small size, the latter solution appears more plausible. Can the very peculiar size distribution of Aiginetan cooking pots, strongly biased toward large examples, also be explained following the same line of reasoning? Undoubtedly, such a distribution is better explicable as a result of a particular preference on the part of consumers. How could such a preference have been fulfilled? One possibility is that the merchant(s) supplying the village of Tsoungiza were aware of local preferences and carried only large cooking pots especially for this destination. Alternatively, the inhabitants of Tsoungiza were purchasing only large cooking pots from whatever was available, at the village or during local markets. This presupposes that merchants were coming with a variety of cooking pots to Tsoungiza (or a nearby center) quite frequently and with large amounts of pottery. This scenario is possible, but it seems unlikely that the demand at such small and remote sites was able to influence the supply side. Therefore, perhaps a better explanation is that an itinerant Aiginetan potter carrying clay with her/him was active for some time at Tsoungiza and supplied the inhabitants with substantial quantities of cooking pots according to their specific needs.[48] The presence of mobile Aiginetan potters has been argued for elsewhere.[49] Here I would like to suggest that at least part of the supply of inland sites like Tsoungiza could have been satisfied by potters carrying the clay with them. It might have been more viable for a potter to transport a load of clay sufficient to make a number of pots to an inland region than to bring a much smaller number of vessels on a pack animal, constantly risking their breakage.[50] A similar situation has been observed in present-day Peru,[51] and the reason why potters would prefer to carry the clay with them to using locally available resources might have been the properties of volcanic clay on Aigina that made Aiginetan cooking pots superior to others. An interesting argument in favor of such a hypothesis is that the size range of non-Aiginetan cooking pots, presumably local, seems to have been "adjusted" to the size range of Aiginetan pots (Fig. 11.2). It is difficult to imagine such a situation without potters working close to each other, and actively reacting to each other's decisions. It is tempting to see the decision of the local potters to abandon production of large cooking pots typical of the MH III period as driven by the availability of the superior large cooking pots made of Aiginetan fabric.

Finally, the LH I period is the first stage of the phenomenon of the distinct influence of Aiginetan pottery on the formal appearance of cooking pottery produced in other fabrics. During LH I it concerns the cooking pots manufactured in MFG 1.2. Interestingly, Aiginetan-inspired cooking pots are evidenced only in small sizes—their rim diameters do not exceed 15 cm. It seems to be yet another adjustment to the characteristics of the Aiginetan assemblage at Tsoungiza.

A considerable variety of fabrics is the other important aspect of LH I cooking pottery at Tsoungiza. The picture emerging from the study of the LH I Tsoungizan repertoire seems to confirm what is known about the fine pottery, for which a variety of different sources can be distinguished.[52] Tsoungiza has therefore suddenly gained access to goods from many different areas, in great contrast to the preceding period.

47. In reference to the supply source of Aiginetan pottery.

48. Such a hypothesis could be proposed also for the other classes of Aiginetan pottery at the site. This would imply that the potter carried two types of clays with her/him, or that there were more potters involved. However, the relative predominance of cooking pots over other classes of Aiginetan pottery (in comparison to other sites) suggests that the hypothesis of itinerant potters may apply only to this functional group.

49. Lis, Rückl, and Choleva 2015.

50. I am not implying here that *all* Aiginetan potters were responsible for distribution of their wares, but I consider it plausible that *some* could have chosen to take responsibility in order to increase their profit.

51. Donnan 1971.

52. See Chap. 9; Rutter 1993b, p. 90.

Unfortunately, it is not possible to say which of the various fabric groups was most local for Tsoungiza. Nevertheless, it appears most plausible that it was the second fabric family (MFF 2). The share of this fabric family remained fairly stable until the LH IIIB1 period, showing a remarkable longevity of local production even when faced with a real flood of pottery from a different source in LH IIIB1. This local production seems to be confined to simple jars that probably fulfilled a variety of functions, including cooking and storage, since the fabric of pale-slipped jars is virtually identical.

LH IIA

The deposit in EU 10 is one of the very few settlement contexts on the Greek mainland dating to the LH IIA period. The material was recovered from a sounding through debris from the nearby LH II buildings, and that overlaid a fill mixed with EN–EH III debris.[53] According to Rutter, the pit was formed quickly, mostly with recently broken vessels. Nevertheless, roughly 8% of its contents consists of Neolithic, EH I–III, and late MH fragments.[54]

Discussion of the Evidence

As the contents of the sounding are not substantial,[55] and there were only 39 cooking pot features (Table 11.1) and only a single mended cooking pot (F35; Fig. 11.5), I decided not to conduct a statistical analysis of this deposit. Only the frequency of Aiginetan cooking pottery in the assemblage can be commented upon here, as I have recorded the number of Aiginetan fragments during the analysis, and the general frequency was provided in the original publication. It generally decreases after the peak during the LH I period. By the LH IIA period, Aiginetan cooking pottery accounts for ca. 20% of all cooking pots (29% in LH I), and 3.4% (4.6% in LH I) of the total sherd number.[56] The decline is not very dramatic but appears to affect all classes of Aiginetan pottery in an equal way. Therefore, cooking pottery still makes up ca. 50% of total Aiginetan imports.

Only very brief discussion can be offered here, as there are very few sufficiently preserved feature sherds. The most interesting and best-preserved features belong to MFG 1.2, which is in line with the LH I period, and MFG 2.3.

Shapes and Features

Fabric Family 1

Among the MFG 1.2 fragments there is a vertical handle and a body sherd with two scars of a single vertical handle (SU 1761, 728/495). Both features display, once again, affinities to Aiginetan pottery. There is also a very thin, everted rim (F34; Fig. 11.5) with a slight thickening at the lip, which makes its profile look slightly hollowed on the interior. The most intriguing feature in the quartz-rich fabric family is an apparent leg fragment (1764-2-2; Fig. 11.5; MFG 1.1), with rounded section, tapering to an almost pointed end. This is the earliest tripod leg fragment in a non-Aiginetan fabric reported from MH/LH Tsoungiza. Its significance is nevertheless limited, as it is a singleton. In the following stage (LH IIB), in a much larger assemblage, there were only two tripod legs (see below).

53. See pp. 42–43, 291–294.
54. Rutter 1993b, pp. 53–59.
55. In all only 1,841 sherds weighing 15.8 kg: Rutter 1993b, p. 58, table 1.
56. After Rutter 1993b, p. 58, table 1.

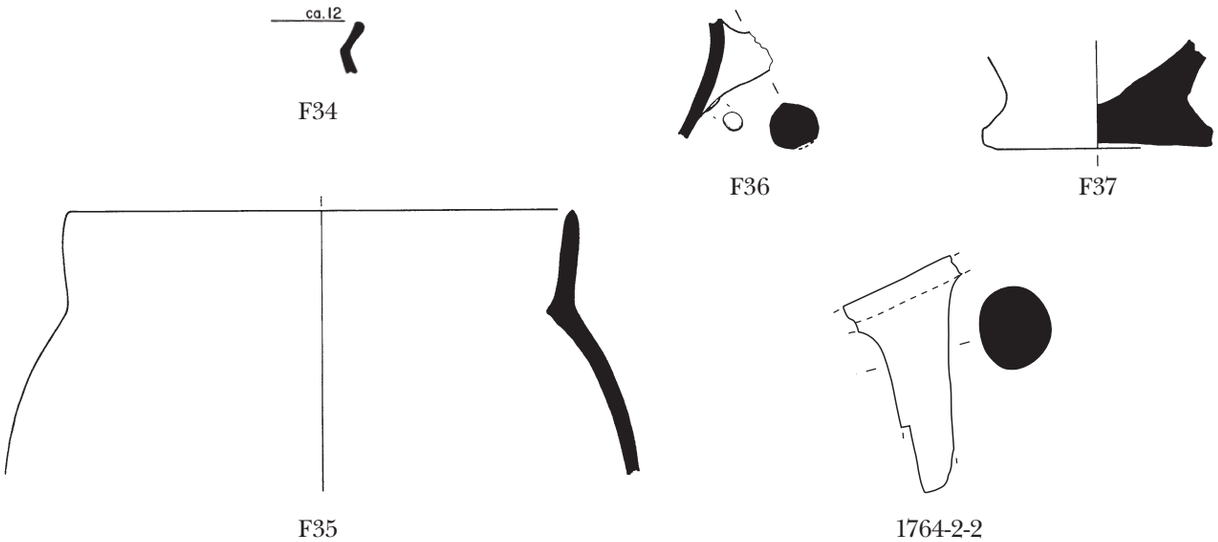

Figure 11.5. LH IIA cooking pots. *Scale 1:3. Rutter 1993b, fig. 7 (F34–F37); B. Lis (1764-2-2)*

Fabric Family 2

MFG 2.3 includes a large base, F37 (Fig. 11.5; Diam. 9.5 cm), which is splaying and has a squared edge and slightly hollowed underside. Its size is paralleled only among Aiginetan cooking pots, and in fact the general form is very similar to such pots. Another feature recorded in this MFG, a shoulder handle with the beginning of an everted rim, also has an Aiginetan-like profile. This could suggest that by the LH IIA period, there are at least two production units (responsible for pots executed in MFGs 1.2 and 2.3) that are influenced by cooking pottery forms current on Aigina.

Aiginetan

The only inventoried fragments include a mended rim (F35; Fig. 11.5) and a handle with a rare pot mark of I29 type (F36; Fig. 11.5). The rim is almost vertical, with a pronounced interior hollow caused by a very distinct ledge at the rim-shoulder transition. The exterior surface in its lower part is scored. Among the remaining sherd material there are very few other fragments of Aiginetan cooking pottery that include three features. However, one body sherd (SU 1767 725/495) stands out. It is a sizable fragment, made in a rather fine version of Aiginetan fabric, yet with much thicker walls than in the case of standard cooking pots. It is thus possible that this fragment belongs to a pithos or a pithoid jar. Later Aiginetan examples demonstrate that large storage containers were made in a clay similar to that used in cooking pots.[57]

Apart from the description of particular features, little can be said about LH IIA cooking pottery. In terms of manufacture, there are still no unambiguous examples of wheel-made pottery. In general, it seems that in terms of both fabric group composition and formal variety, LH IIA is a continuation of the previous period. An important, and apparently new, development is the appearance of Aiginetan-like features in MFG 2.3, in addition to MFG 1.2.

57. Riley 1981, p. 141.

Summary

The very small size of the deposit for the LH IIA period is an important constraint in drawing any conclusions regarding the development of cooking pots at Tsoungiza during that period.

The Aiginetan cooking pottery experiences some decline, but it is still well represented. The postulated dominance of Mycenae as the source of fine pottery[58] certainly does not seem to be the case in the cooking pottery supply (or at least not to a comparable extent), as a variety of fabrics is present also in the LH IIA deposit. MFG 1.2 still features examples of "Aiginetizing" cooking pottery, but is now joined by probably more local MFG 2.3.

An important new entry in the formal repertoire is the tripod, although represented by only a single leg fragment. Tripods are usually very rare prior to the LH IIB/IIIA1 period,[59] and therefore such a find at Tsoungiza is significant. Nevertheless, as this is a singleton, not much interpretation can be built upon such evidence. The fact that it is not an import, but is probably made of a local fabric, is potentially important. It may suggest that there were individuals, maybe some more prominent members of the local society, interested in the use of a novel and exotic form who asked a local potter to make it.[60] The full exploitation of the potential of tripods in this respect will be seen in the LH IIIA2 early deposit.

LH IIB

The material presented here derives from two spatially separated deposits in EU 2, the so-called Larger and Smaller Deposits. They were treated together following their interpretation as belonging to a single, rather short-lived occupational episode. The original dump from which the presented pottery comes is likely to have been ordinary household rubbish discarded by the occupants of the building represented by walls 6 and 16. This debris was thrown away uphill from the building into what is probably best identified simply as its backyard.[61]

In the Larger Deposit, cross joins through all the strata and across the layers excavated confirm its coherence and contemporaneity within LH IIB. The Smaller Deposit, according to Rutter, is material from the upper levels of the Larger Deposit that eroded to within the angle of walls 6 and 16 after the building they were a part of was destroyed.[62]

Fabric Group Frequencies

In terms of fabric group frequencies, the LH IIB period represents a continuum, rather than a period of dramatic change (Table 11.3). Among the fabrics that become more common, there is the quartz-rich fabric family, in particular MFG 1.1 (29%, according to rim EVE), but the increase (for the entire fabric family) is not particularly strong. MFG 1.2, which yielded very interesting examples in the previous chronological stages, is almost entirely gone from the assemblage, and it is possible that it was simply replaced by MFG 1.1.

58. Rutter 1993b, p. 89.

59. An important exception is the site of Mitrou; see Lis 2015, 2017a. I am only considering tripods that do not show any clear Minoan influence, and thus sites in Messenia (like Nichoria) are excluded.

60. Another possibility, that it was just a single experiment of a potter, without any external inspiration, can also be considered.

61. See pp. 162–177, 657–665.

62. See pp. 657–665.

TABLE 11.3. FREQUENCY OF MAIN FABRIC GROUPS DURING THE LH IIB PERIOD

MFG	*Feature Count (%)*	*Feature Weight (%)*	*Rim EVE (%)*	*Base EVE (%)*
Aiginetan	14	31	10	46
1.0	10	6	9	0
1.1	23	16	29	19
1.2	2	2	0	12
2.0	4	3	5	0
2.3	17	19	21	14
2.4	10	7	4	1
Mix	11	7	12	6
Unclassified	9	9	9	1

The other fabric family, MFF 2, retains its LH I position, with only a minor decrease according to some of the counts, mainly due to the decreasing frequency of MFG 2.4. Frequencies of other MFGs in this family are more or less unchanged.

During the LH IIB period the share of Aiginetan cooking pottery experiences a further decline, this time much more acute. According to rim EVE, its share fell from 29% during the LH I period and ca. 20% during LH IIA to only 10% in LH IIB. However, there is a huge discrepancy if one compares the frequencies for rim and base EVEs. According to the latter, Aiginetan cooking pottery has a dominant position (46%). Such a difference could be expected if other fabric groups featured a lot of round-based tripods, and hence their bases would not be reflected in the statistics based on EVE. But this is not the case. In my opinion the best explanation, given that most of the Aiginetan bases are completely preserved, is that there was a constant reuse of bases. They are thick and sturdy and could serve a variety of purposes, including acting as stoppers.[63] Moreover, although Aiginetan cooking pots change very little over time, and each period features a variety of base profiles, there is a type of base that is characteristic for the LH IIB and IIIA1 periods, as evidenced at the Acropolis Wells at Athens[64] and at Kolonna.[65] This is a narrow, very thick base, with a hollowed underside. Among the many LH IIB bases from Tsoungiza, there are none of this type.

Again, both Mix MFG and Unclassified fragments have a substantial share in the total cooking assemblage, suggesting the presence of other fabrics (and possibly sources of supply) available during the LH IIB period at Tsoungiza.

Shapes and Features

Fabric Family 1

The most frequent fabric group, MFG 1.1, yielded several interesting feature fragments, including one mended cooking pot (308-2-58; Fig. 11.6). It is possible that they all represent a single type of a cooking pot, with everted, almost vertical rim, single shoulder handle

63. To serve as stoppers, they do not even have to be reshaped. In this the bases resemble kylix feet.

64. Mountjoy 1981, p. 22, fig. 6:29.

65. W. Gauss (pers. comm.); see also Gauss et al. 2017.

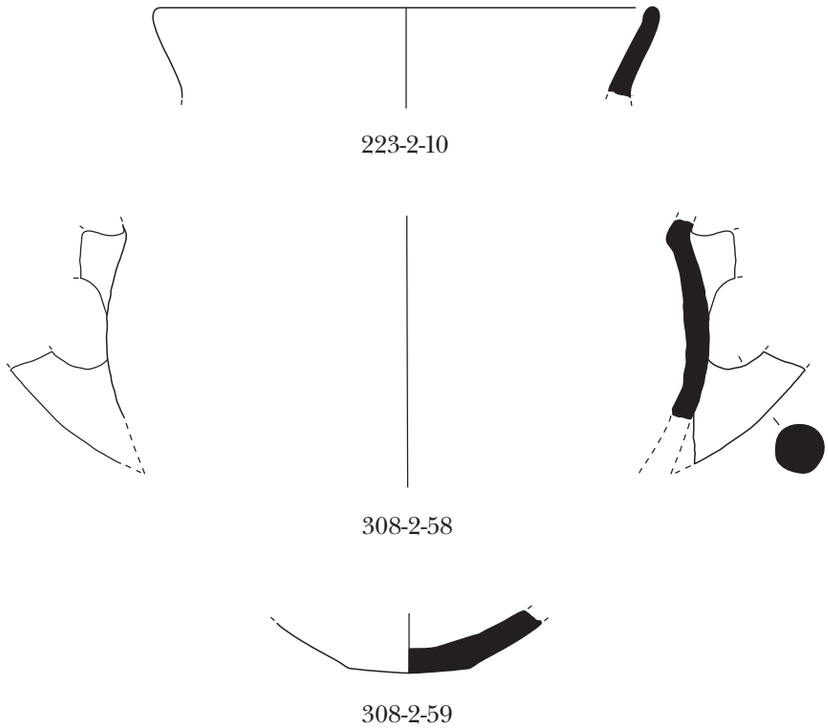

Figure 11.6. LH IIB cooking pots. *Scale 1:3. B. Lis*

with round section, and a rather narrow, well-defined splaying base, usually hollowed. Once again I would like to stress the similarity of these general features to the Aiginetan cooking pots, which now become much rarer than in the previous periods. This is not a novel phenomenon, as it can be traced back to the LH I period, yet it is important to note that previously Aiginetan-derived forms were manufactured in different fabrics, notably MFG 1.2, which is almost entirely gone from the assemblage in LH IIB. This is another argument supporting the hypothesis that MFG 1.1 is a simple replacement of MFG 1.2, maybe denoting a slight modification of clay paste in one and the same workshop/group of workshops.

One of the rims in MFG 1.1, **G136**, has a small diameter of 12 cm and an almost vertical profile. At the uppermost shoulder part there is a thickening suggesting the presence of a vertical handle. The only mended fragment in this fabric, 308-2-58 (Fig. 11.6), preserves almost a complete handle (with a round section) including both lower and upper attachment, and the beginning of an everted rim. There are two bases executed in MFG 1.1, **G141** and **G142**, with diameters of 4.1 and 5.3 cm, respectively. They are both thick, splaying, and hollowed. The profile of **G142** is more elaborate, as its edge is distinctly squared. The similarity to the contemporary Aiginetan bases is considerable, as some of them are by that time also hollowed (see above). A very similar situation, with the general profiles following Aiginetan cooking pots, and small mostly hollowed bases, can be seen on only slightly later examples from the Mycenaean wells on the south slope of the Athenian Acropolis.[66]

66. Mountjoy 1981, p. 99, fig. 6.

A very different kind of cooking pot is preserved with rim fragment **G144**. It is more similar to storage vessels, as it has a definite neck, which flares sharply toward a squared end.

The only inventoried feature belonging to MFG 1.0, **G137**, is almost identical to the cooking pots manufactured in MFG 1.1. The diameter of the vertical rim is 20 cm, making it a rather substantial cooking pot, comparable to 308-2-58 (ca. 22 cm at the internal carination), and both stumps of a vertical handle are preserved.

The only feature in MFG 1.2 is **G140**, another small base (Diam. only 3.6 cm), with a slight hollowing and splaying outer profile. It is thus similar to the bases executed in MFG 1.1.

Fabric Family 2

MFG 2.3 has the biggest share in the second fabric family. There is a single mended rim fragment executed in this fabric, **G138**. Its profile, with a slight hollow and a spreading and flattened lip, is attested for the first time in Tsoungiza. The diameter is substantial (25 cm). The rim outline is not clear, but it seems to have been of everted or sharply flaring type. Another rim, 223-2-10 (Fig. 11.6), has a long, everted profile, very similar to Aiginetan cooking pots.

Although much less frequent than MFG 2.3, MFG 2.4 provides the most intriguing examples of cooking pots from LH IIB Tsoungiza. Both inventoried fragments in all probability belong to tripod cooking pots, a type otherwise attested only among the Unclassified fragments during this period. The end part of a tripod leg, **G143**, has an oval section with a rounded ending. Another feature, a mended base fragment (308-2-59; Fig. 11.6), is a less obvious candidate for a tripod, yet the combination of its profile and small size (Diam. 4.5 cm) suggests it belongs to a tripod of a type evidenced, for example, in an only slightly later deposit from Athens.[67] The presence of as many as two tripod fragments in this rather rare fabric group is important, as during the LH IIIA2 early period this MFG will be characterized by one of the highest frequencies of tripod legs in the total number of features.

Finally, an unusual shape of a deep basin/bowl is evidenced in MFG 2.0 (**G139**). It has a substantial diameter and is rather deep, which renders it a very capacious vessel. Its ascription to cooking pottery is based mostly on the slight burning mark in the lower part of the preserved fragment.

Aiginetan

The formal characteristics of Aiginetan cooking pottery during the LH IIB period have been already commented upon. The bases (e.g., **G151**, **G158**), which are probably mostly reused, are of a standard LBA type, with splaying profile and usually flat underside (but there are examples of convex and concave undersides as well). The only inventoried rim from the deposit (**G132**) is, again, a standard early LBA type. A LH IIB pit, recovered in the LH I West Building, yielded a well-preserved rim fragment of an Aiginetan cooking pot (**E92**), again of a standard type.

Regarding the distribution of rim diameters of all non-Aiginetan fabric groups (Fig. 11.7),[68] it is notable that it is very even, covering all sizes from small to large. During LH I, there were no rims exceeding 20 cm in diameter (Fig. 11.7). It is possible that such a change during the

67. Mountjoy 1981, p. 99, fig. 6:25.

68. The only two recorded Aiginetan rims (small fragments) have diameters of 19 (est.) cm (**E92**) and 32 (est.) cm (**G132**).

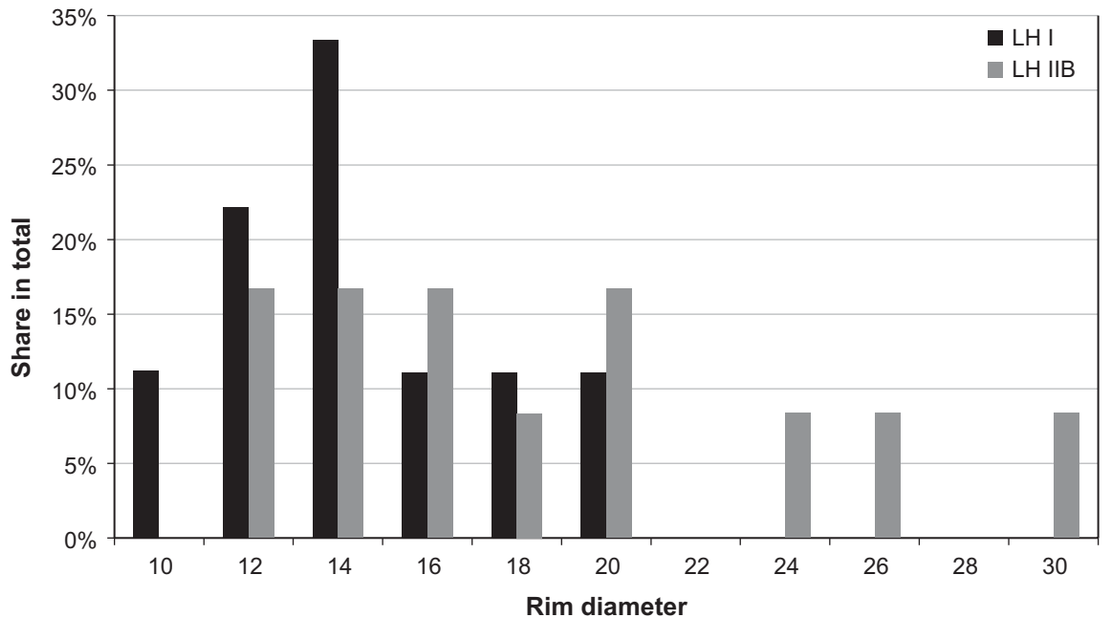

Figure 11.7. Histogram of rim diameters for non-Aiginetan cooking pottery during the LH I (n = 9) and LH IIB (n = 12) periods. *B. Lis*

LH IIB period was triggered by the decreasing amounts of Aiginetan cooking pottery, which at Tsoungiza was characterized by a substantial share of large and very large specimens.

Manufacture

The most important development of the LH IIB period with respect to manufacture is the appearance of cooking pots that for the first time display unambiguous traces of wheel-finishing. It is clear in the case of **G141** and 308-2-58 (Fig. 11.8) executed in MFG 1.1, and in 308-2-59 made in MFG 2.4. I describe the manufacturing method as wheel-finishing,[69] as in many cases it seems that use of the wheel was subsequent to coil-building. The extent of the use of the wheel during the LH IIB period is not clear, but it is certain that even in MFG 1.1 there are examples that were clearly only coil-built. It is important, however, that wheel-finished cooking pots are present in both fabric families, thus also in the one that is presumably more local.

Use of the Vessels

Low mendability of the material excludes fuller insights into the use of cooking pots at Tsoungiza. In most of the cases, small bases have a burning patch on one side only, in line with their reconstruction as one-handled cooking pots. An Aiginetan base from the LH IIB pit displays an interesting pattern of this kind. The underside has a ring at the edge, and the only unburnt part corresponds to the potter's mark. As the marks were usually placed underneath the handles, the burning pattern suggests that the handle was facing out of the fire and that the pot was turned to enable more equal heating of the content.

Only the base **G142** is thoroughly burnt on its undersides and edges.

69. Or wheel-coiling, see Courty and Roux 1995; Gelbert 1997; Roux and Courty 1998. These statements are based on my own observations only, as to date no detailed study of manufacturing techniques of Mycenaean pottery of any kind has been accomplished.

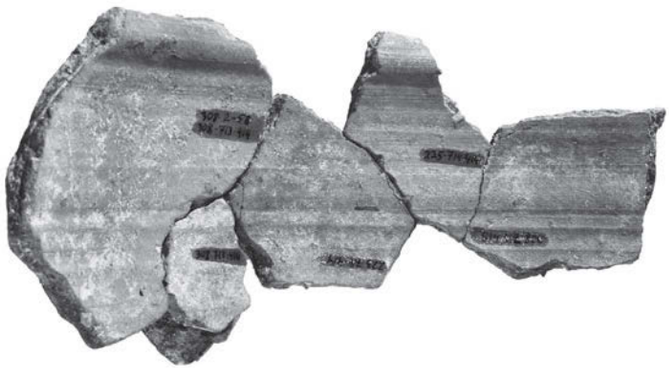

Figure 11.8. Wheel marks on 308-2-58. *B. Lis*

Summary

The LH IIB period is probably to be listed among the most significant periods in the development of the cooking pottery at Tsoungiza, as it clearly gives a foretaste of the cooking pottery assemblage during the later part of the Late Bronze Age. This is an interesting observation, as according to interpretations based on other evidence, it is LH IIIA2 early that is considered a turning point in the history of the site.[70]

The most important development is the final elaboration of a type of a cooking pot that will be a dominant one until the end of the palatial period. It is a shoulder-handled cooking pot with a tall, everted, and almost vertical rim, standing on a splaying base. In order to fully understand this process, we have to consider also the accompanying developments. The best examples of such cooking pots are manufactured in MFG 1.1 and are, as far as I could tell from fragmented material, mostly wheelmade.[71] The fabric in question was present before but did not play an important role in the assemblage, while during the LH IIB period it asserts the dominant position. This fabric group is closely related to MFG 1.0, which in the analysis of the LH IIIB1 period will be associated with a production center in the Argolid. If MFG 1.0 represents a continuation of MFG 1.1, and this appears quite probable fabric- and form-wise, then the strong appearance of examples executed in this fabric may represent an equally strong entry of an Argive production center into the local pottery market of Tsoungiza. Whether it was Mycenae that expanded its control over new areas of pottery production, as proposed by Rutter,[72] cannot be proven, but Mycenae may have been a major consumer, and perhaps also a distribution center, of this type of pottery. In such a case both fine decorated pottery, as well as part of the cooking pots, would derive from roughly the same area. This is not an entirely new phenomenon, as there seems to be some relation between MFGs 1.1 and 1.2, popular during the LH I period, but the presence of this source of supply is clearly firmer during the LH IIB period.

An important aspect of LH IIB, which is not limited to MFG 1.1 only, is the strong appearance of cooking pots executed with the use of wheel. There was probably a major change in the organization of production, at least in some of the production units, toward larger-scale production on a full-time basis. This attests to growing economic stability and the increase of the potential market, fueled probably by a political expansion of future palatial centers like Mycenae. The next period well attested at Tsoungiza, LH IIIA2 early, provides a good

70. Dabney, Halstead, and Thomas 2004.

71. The term "wheelmade" is used here to indicate the use of the wheel in the manufacturing process, when it is not possible to tell whether the pot was wheel-thrown or wheel-finished.

72. See p. 726.

illustration of the means by which this expansion was realized. The extent to which the appearance of workshops producing cooking pottery on a large scale represents direct involvement of the growing centers, or is only a result of new economic conditions triggered by their appearance, is unknown.

The fact that this new cooking pot type is shaped according to an Aiginetan "model" is important, but we should remember that this phenomenon dates back to the LH IIA or even LH I period, when cooking pots similar to Aiginetan prototypes first appeared. I am inclined to interpret this not as a sign of competition with Aiginetan production during the LH IIB period but as a reaction following the waning output of Aiginetan production units—a process that had started already in the LH IIA period. If Aigina was perceived as a competitor, I would not expect other workshops to copy the form, but to create a new one, especially since the properties of Aiginetan clay could not be simply copied. I think that in this case Aiginetan pottery functioned as a model, a template of a good cooking pot. At Mitrou the amount of cooking pot forms clearly inspired by Aiginetan production was minimal, and this is probably connected to the "foreign" character of Aiginetan cooking pots, which never become so familiar to consumers as to be copied by local producers.

Furthermore, the LH IIB tripods appear to be slightly more common than in the LH IIA period, especially in MFG 2.4, yet are still far from popular. Both the basic cooking pot and fragmentary preserved tripods bear close similarities to the types developed in Attica at almost the same time, as evidenced by the contents of the wells on the south slope of the Athenian Acropolis.[73] These developments may be a reflection of a similar phenomenon—that is, the replacement of once very popular Aiginetan cooking pots with a more local production of high quality, often wheel-finished, cooking pottery.

As pointed out by Rutter, the assemblage of LH IIB non-Aiginetan cooking pottery is varied in terms of shapes represented, which might have been the source of another competitive advantage over the cooking pottery produced on Aigina.[74]

LH IIIA2 EARLY

This important deposit was recovered in EU 9 and has been interpreted as remains of episode(s) of feasting.[75] There were no walls, floors, or other features associated with the deposit. It was sealed by a floor of LH IIIB date associated with walls of the same date. The chronological homogeneity of the material suggests that it was accumulated over a limited period of time, probably no longer than 30–40 years. An interesting feature of this deposit is that there were lenses of pottery, small stones, and bones with no soil matrix between them, representing most probably episodes of intense dumping. Only part of the deposit was unearthed during the NVAP excavation; the entire deposit might have been twice as big. There is a cluster of units above this deposit, SU 1576–1579, which contained much more battered material datable to LH IIIA2 late–LH IIIB1.[76]

Fabric Group Frequencies

There are quite a few important developments in the frequency of fabric groups (Table 11.4); although not particularly dramatic, these developments are more significant than in the

73. Mountjoy 1981.
74. See p. 708.
75. Dabney, Halstead, and Thomas 2004.
76. Thomas 2011a, pp. 179–183.

TABLE 11.4. FREQUENCY OF MAIN FABRIC GROUPS DURING THE LH IIIA2 EARLY PERIOD

MFG	*Feature Count (%)*	*Feature Weight (%)*	*Rim EVE (%)*	*Base EVE (%)*
Aiginetan	6	6	5	15
1.0	25	16	35	26
1.1	13	13	15	11
1.2	3	4	2	4
2.0	15	17	14	2
2.3	24	26	21	19
2.4	8	10	4	18
Mix	1	3	1	0
Unclassified	5	5	3	5

preceding (LH IIB) period. However, it is impossible to say for any of the developments described here how much of the observable change is due to the special character of the deposit.

Both major fabric families experience a significant increase in their frequency, at the expense of Aiginetan, Mix MFGs, and Unclassified fragments. The decline of Aiginetan cooking pottery is plausibly a reflection of the decreased or even terminated production on the island itself. The reduced frequency of Mix MFG and Unclassified fragments should probably be understood as symptomatic of a growing standardization of fabric groups at Tsoungiza, suggesting a reduction in the number of supply sources.

The quartz-rich fabric family 1 has a slight domination over fabric family 2, with a share in rim EVE slightly over 50%. Among individual fabric groups, MFG 1.0 has the highest frequency, reaching 35% if rim EVE is concerned, which is the highest share for a single fabric group attested so far. This is particularly striking upon comparison with the LH IIB period, when MFG 1.0 had only a modest share, being outnumbered by MFG 1.1. However, even this frequency is only a preview of the situation in the next (LH IIIB1) deposit. MFG 1.1 is still fairly well represented (15%, compared to 29% during LH IIB), while MFG 1.2 is at an almost negligible level, a tendency already attested in the earlier deposit.

Among the fabric groups of fabric family 2, MFGs 2.3 and 2.4 display almost unchanged frequencies, while MFG 2.0 experiences a substantial increase (14%, from 5% in LH IIB).

Aiginetan cooking pottery from the LH IIIA2 early deposit from Tsoungiza is best interpreted as residual. Its frequency is much lower than in the LH IIB period, reaching only 5% in rim EVE, and no more than 6% according to either feature count or weight. None of the Aiginetan fragments was mendable, in contrast to many other cooking pots in this deposit. Suspicious is the presence of three more or less intact bases that can be considered, again, as repurposed. Furthermore, a fair amount of material in the whole deposit was securely identifiable as earlier (5% according to Thomas).[77] Finally, other classes of Aiginetan pottery are not present at all. Only two fragments of tripod cooking pot bases[78] diverge from this one-sided picture. Aiginetan tripods become more popular toward the end of the Early Mycenaean period,[79] and as such they may be contemporary with the rest of the deposit, unlike the other, complete jar bases.

77. Thomas 2011a, p. 178.
78. They come from SU 1583 730/460 and SU 1584 730/461.
79. Lis 2012b, p. 129.

Shapes and Features

Before discussing particular shapes and features, I would like to point out two major developments that will be recurrent in the analysis of almost every popular fabric group. The first is the massive occurrence of tripods. The average frequency of legs in the total features in the LH IIIA2 early deposit is 23%,[80] and all common fabric groups, apart from MFG 1.1, display similar or higher scores. This frequency is the highest recorded for LBA Tsoungiza, and at Mitrou, the only site for which I gathered comparable data, it is surpassed by only two small LH IIIA1 deposits.[81] The second development is the predominance of small cooking pots (be they tripods or flat-based jars), featuring a shoulder handle and an everted rim that is less vertical than during the LH IIB period.

Fabric Family 1

In contrast to the previous deposits, the amount of mended material is substantial. In the most frequent group in fabric family 1, MFG 1.0, there are four mended cooking pots. Tripod cooking pot 1582-2-7 (Fig. 11.9) preserves an almost complete profile. It is a small (Diam. of rim 12 cm) one-handled tripod. The rim is everted, and the handle with a round section is placed on the shoulder. The only surviving leg, oval in section, is placed directly below the handle. Two similar mended rims were inventoried as 1588-2-66 and 1588-2-68 (Fig. 11.9) and also belong to small cooking pots, with rim diameters of 14 and 10.5 cm, respectively. In general, the measured rims of MFG 1.0 show a very peculiar distribution, with almost 80% of diameters within the range of 10.1–14.0 cm (Fig. 11.10)! The only distinctly larger rim in MFG 1.0 is 1584-2-94 (Fig. 11.9), which is of the same type, but is ca. 30 cm in diameter.[82] The last mended example of MFG 1.0 is the lower part of a tripod (1588-2-67; Fig. 11.9), preserving a complete base and two leg stumps. It also belongs to a small cooking pot, as the maximum diameter of the belly does not exceed 17.5 cm. The most important aspect of this fragment is that it preserves the base. It is slightly rounded, distinctly thicker than the remaining walls of that pot, and not very regular. The legs are again small and oval in section. In this fabric group, there is one atypical leg, 1588-2-73, which stands out because of a very deep vertical cut (Fig. 11.9, indicated with a dashed line). Generally, this is a very rare feature on the Greek mainland.

Apart from tripods, there is also some evidence, albeit meager, for other kinds of cooking pots/utensils. Object 1583-2-27 is a small (Diam. 5 cm; Fig. 11.9), splaying, and distinctly hollowed base. A novelty in Tsoungizan cooking repertoire is 1584-2-125 (Fig. 11.9), a lid fragment, which preserves part of the wall and attached strap handle.

MFG 1.1, although less frequent than before, is nevertheless characterized by a substantial formal variety. Object 1536-2-3 (Fig. 11.9) preserves a typical upper profile of a small LH IIIA2 early cooking pot. There is no hint of whether it is a tripod or a jar. There are two jar bases, both larger than what had been standard: 1581-2-12 (Fig. 11.9) is a substantial (11.5 cm) splaying and slightly hollowed base, its size so far unprecedented, and 1583-2-28 (Fig. 11.9) is a hollowed base with a diameter of 6.8 cm. Tripods, although constituting a much smaller part of this MFG in comparison with other MFGs, are also attested, with an inventoried mended rounded base (1584-2-122; Fig. 11.9), which becomes thicker toward the slightly pointed center.

Among the nonstandard shapes there are two more open forms. A deep bowl with two small knobs and probably a horizontal plastic band has been inventoried as 1581-2-11. It

80. This number should not be understood as an estimate of the frequency of tripods among cooking pots; it is only an index developed to enable comparison between different deposits or fabric groups.

81. Lis 2017a, p. 197, table 2.

82. This diameter reading might not be very precise, as the fragment is most probably distorted by attachment of a handle.

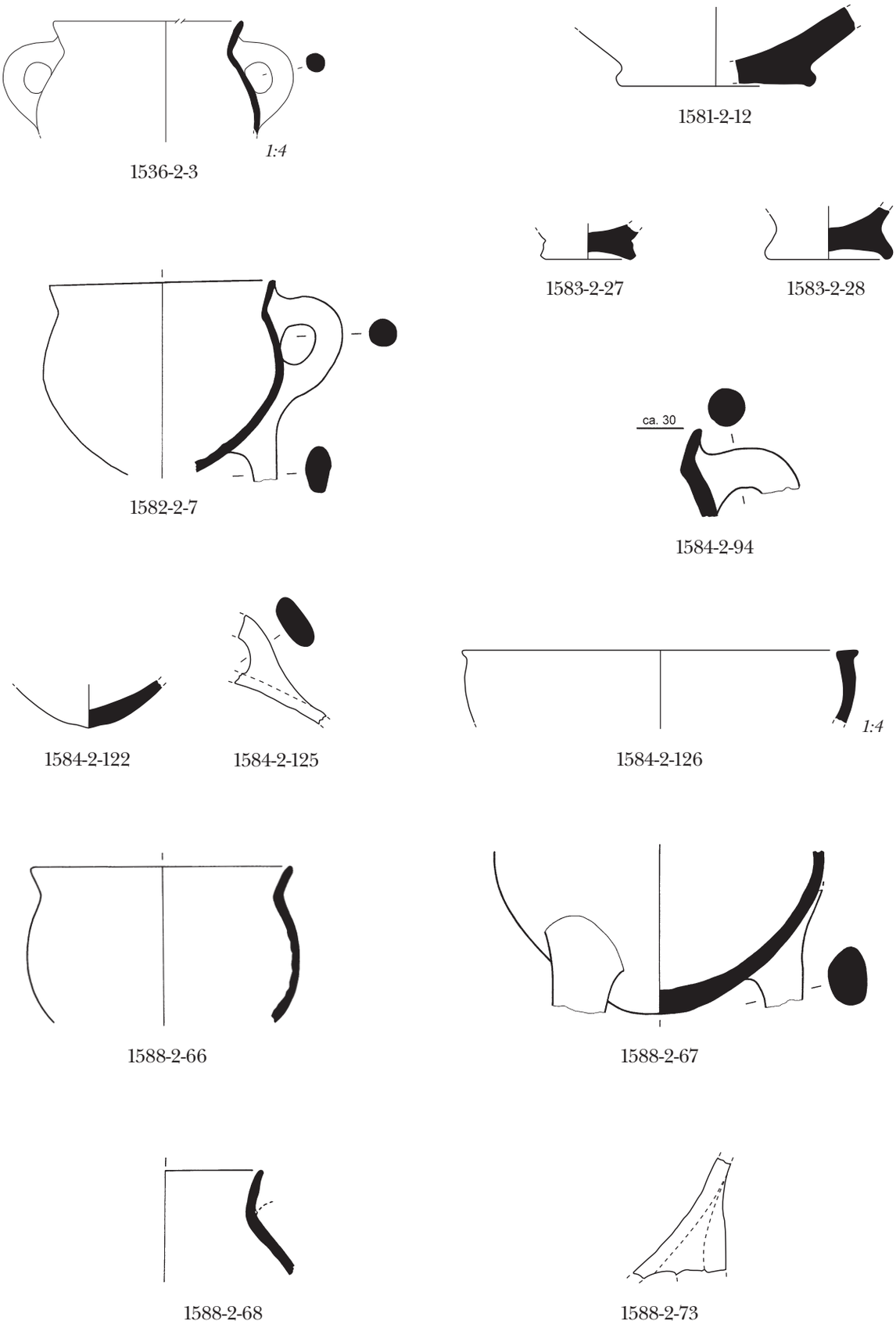

Figure 11.9. LH IIIA2 early cooking pots of fabric family 1. *Scale 1:3, except where indicated. B. Lis; Thomas 2011a, p. 217, nos. 279, 282, 285, 287, 288, fig. 25*

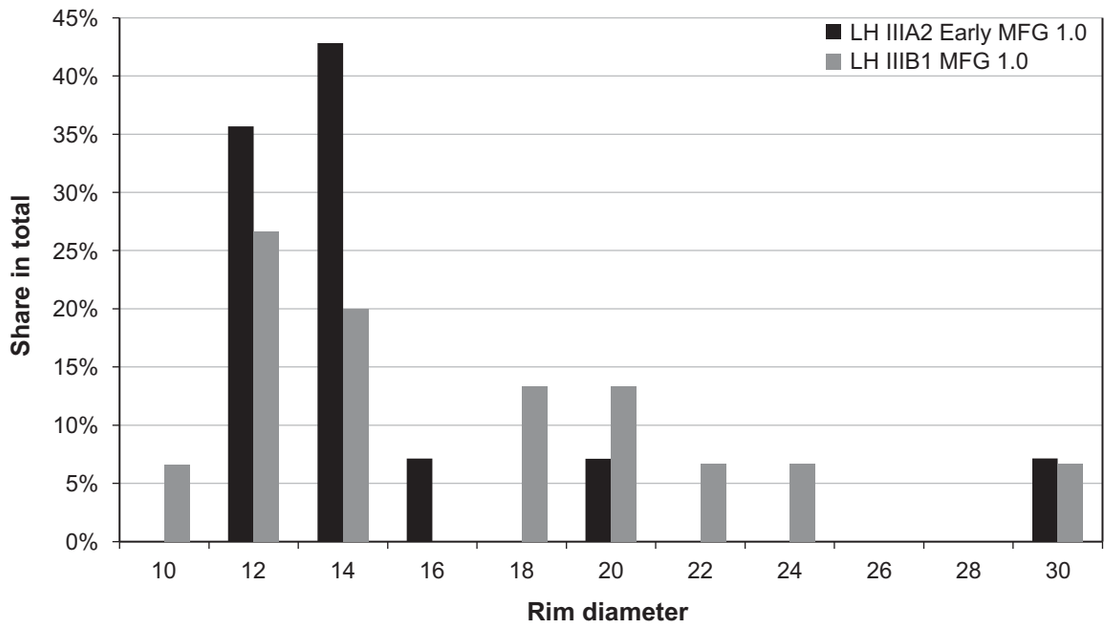

FIGURE 11.10. Histogram of rim diameters for cooking pottery of MFG 1.0 during the LH IIIA2 (n = 14) and LH IIIB1 (n = 15) periods. *B. Lis*

bears some resemblance to much later Handmade Burnished Ware, and there is no similar object among the LBA material from Tsoungiza. The second form is a basin (1584-2-126; Fig. 11.9), mended from two fragments, with a substantial diameter of 28 cm. The rim is sharply everted, almost flat-topped. There is a slight hollow below it on the exterior, followed by a carination.

Fabric Family 2

MFG 2.3, which has the biggest share among fabric groups of MFF 2, is interesting in many respects. First of all, it displays a fairly stable share in all frequency counts (Table 11.4). The share of legs in all features is almost identical to the average for the entire deposit—23%. A fair degree of formal variety is evidenced in this fabric. Both small and large jars are present, and there is a mixture of tripods and flat-based jars. Rim fragment 1588-2-43 (Fig. 11.11) is very similar to the cooking pots made in MFG 1.0. It is small (10.5 cm) and equipped with a shoulder handle and has an everted rim, which is more vertical than in other examples. Object 1584-2-124 (Fig. 11.11) has a similar profile, although the handle has a slightly flattened section, and in this case the shape identification is certain thanks to a leg scar right below the handle. It is another small tripod from the LH IIIA2 early deposit (Diam. of rim 14 cm), with a very steep lower body suggesting that it would end in a flattened base. A similar steep lower body can be observed in fragment 1584-2-123 (Fig. 11.11), which features a completely preserved leg. It is rather short, in line with the rest of LH IIIA2 early legs, and has a flattened-oval section.

There are also examples of much bigger cooking pots, most probably jars. Fragment 1554-2-8 (Fig. 11.11) belongs to a very large cooking pot, exceeding 30 cm in rim diameter,[83] and has a short, sharply flaring rim. Another large rim (Diam. 25 cm) was inventoried as

83. The rim might have been distorted by the handle attachment, and this might have affected the diameter reading.

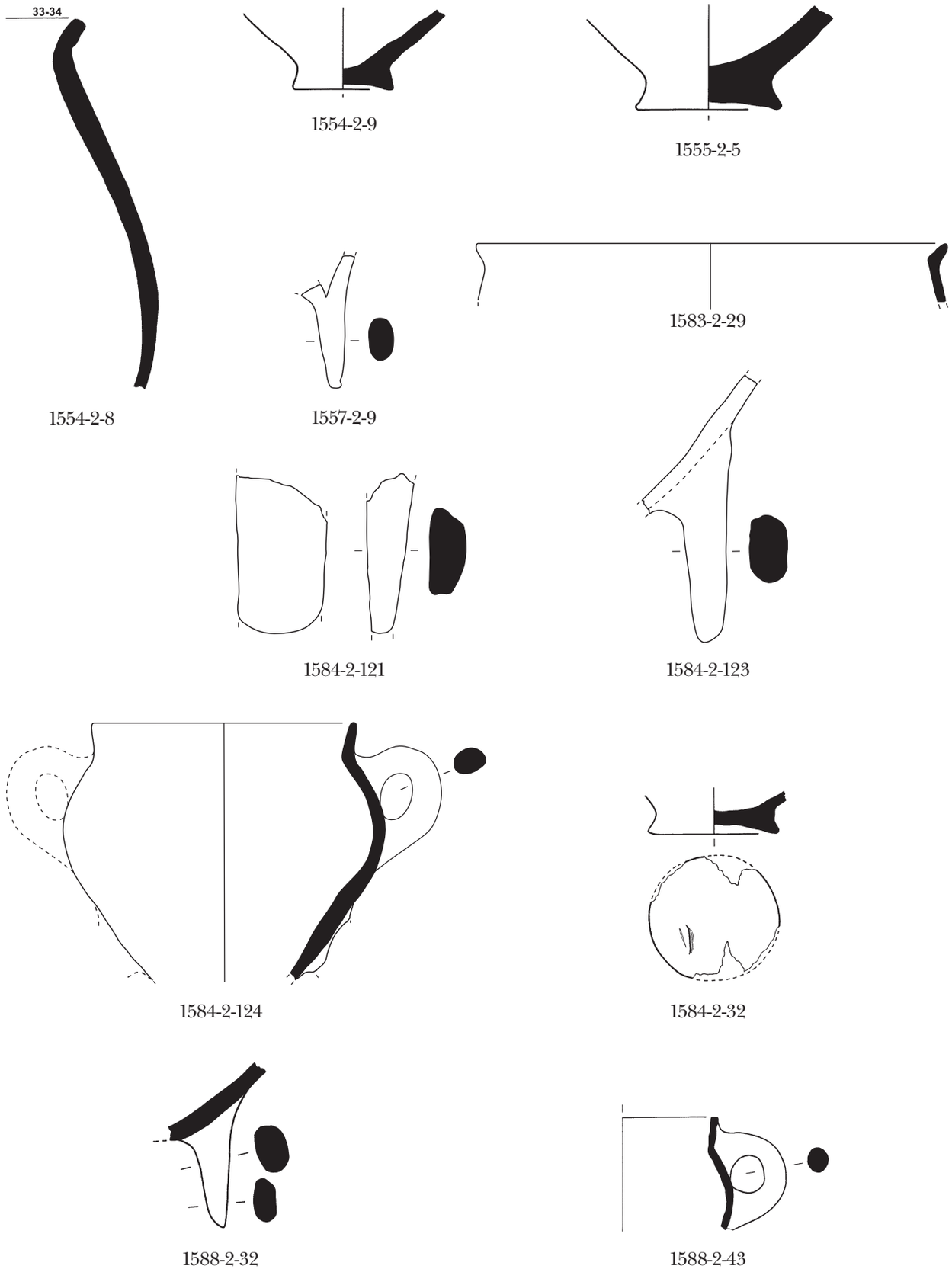

Figure 11.11. LH IIIA2 early cooking pots of fabric family 2. *Scale 1:3. B. Lis; Thomas 2011a, pp. 217, 220, nos. 280, 284, 291, 295, 296, 299, figs. 25, 26*

1583-2-29 (Fig. 11.11), and its profile is similar, yet more everted. Other features in MFG 2.3 include bases belonging to jars. The most interesting is a base (1584-2-32; Fig. 11.11), which is rather substantial (Diam. 7.2 cm) and has a profile so far not encountered in Tsoungizan material. It is splaying and hollowed, which is a usual trait of bases at Tsoungiza, but it becomes rather thin in the middle. What makes it highly unusual, however, is a pot mark consisting of two roughly parallel finger-nail impressions. Two other bases in this fabric group, 1554-2-9 and 1555-2-5 (Fig. 11.11), are more similar to the already known types. They are both splaying and hollowed, rather thick in the middle. The latter base is substantial in size (8 cm). The presence of two bases in this fabric that are larger than most of those attested in earlier deposits may testify to an increasing concern with the stability of vessels, similar to a tendency observed at contemporary Mitrou.[84]

MFG 2.0 is distinguished by a high frequency of tripod legs, reaching almost 40% (15 out of 38 total recorded features belonged to tripod legs). Nevertheless, there is a certain bias, as cooking pots produced in this pale fabric can be recognized only based on burning marks and/or presence of legs, since they indicate tripods.[85] A mended fragment, 1588-2-32 (Fig. 11.11), preserves two complete legs with parts of the body. This allows the reconstruction of a peculiar form, with narrowly spaced legs that are short (L. 5 cm) and broaden in width but taper in thickness at the end. It would be virtually impossible to place anything between those legs or underneath the base. A very similar leg, in both profile and length, was inventoried as 1557-2-9 (Fig. 11.11). It is not, however, the only type of leg present in this fabric: 1584-2-121(Fig. 11.11) is a tripod leg with a narrow section and a slightly rounded end.

There are two rim fragments (one of them mended) belonging probably to tripods, as suggested by better-preserved examples. Both 1540-2-1 (Fig. 11.12) and 1588-2-72 (Fig. 11.12) have similar rim diameters (13 and 12 cm, respectively) and profiles. They are not dissimilar to examples executed in MFGs 1.0 and 2.3, but the differences are clear. The rims are not everted, but only slightly flaring, and their outline is almost vertical.

Quite a different rim profile is attested on the mended cooking pot 1584-2-60 (Fig. 11.12). It is of short, everted type and has a considerable diameter (22 cm). Both size and profile have good matches in the two most frequent fabric groups of LH IIIA2 early Tsoungiza. It therefore seems to be clear that larger cooking pots had a different profile, irrespective of the fabric.

There is also at least one base belonging to a small jar—1583-2-26 (Fig. 11.12). It has a diameter of 5 cm and can be described as a ring base. Finally, 1583-2-25 (Fig. 11.12) is an interesting feature, probably a handle with a roughly round section, which preserves a long vertical cut. Although far from certain, it may be a pot mark, another one in this fabric family (see 1584-2-32; Fig. 11.11).

Another small tripod cooking pot, inventoried as 1584-2-23 (Fig. 11.12), is executed in MFG 2.4. Its attribution is interesting, as this is the fabric group that included two out of three tripod fragments during the LH IIB period. The share of legs in this fabric is high (35%), and two additional bases probably belong to tripods as well. Tripod 1584-2-23 has a very small base (Diam. 2.7 cm), which, in contrast to 1588-2-67, is flat with a slight hollowing. This fragment represents thus a second type of tripod base attested during LH IIIA2 early, after the irregular round type. In the same fabric group, there is also a tripod leg of so far unattested profile, 1584-2-127 (Fig. 11.12). It features straight sides and a round section.

84. Lis 2015, p. 105.

85. The equation between tripod and cooking pot might not always be valid, but instances of tripod vessels made in coarse fabric that were not used for cooking are not known to me.

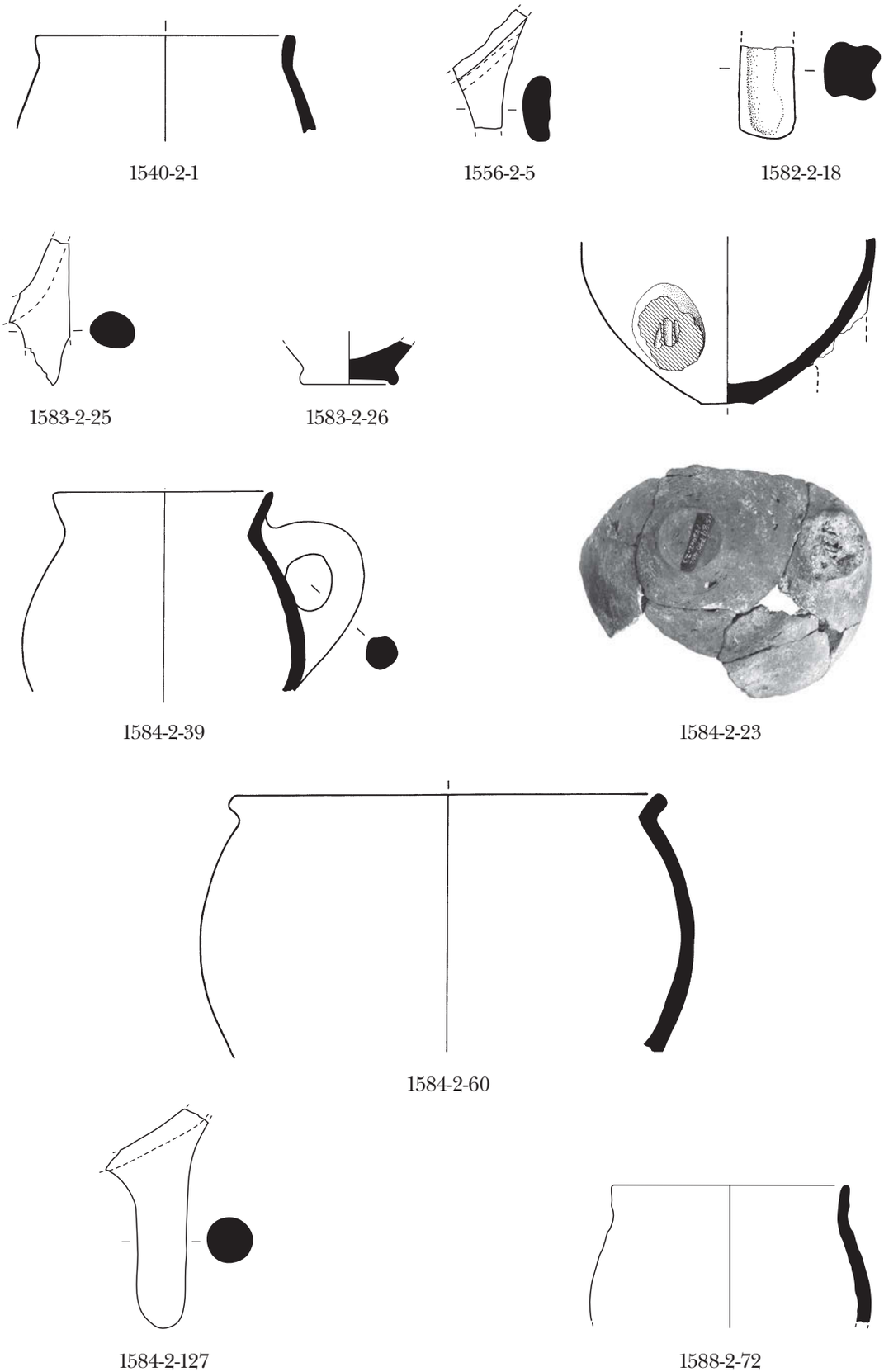

Figure 11.12. LH IIIA2 early cooking pots. *Scale 1:3.*
B. Lis; Thomas 2011a, pp. 217, 220, nos. 281, 283, 286, 294, 300, figs. 25, 26

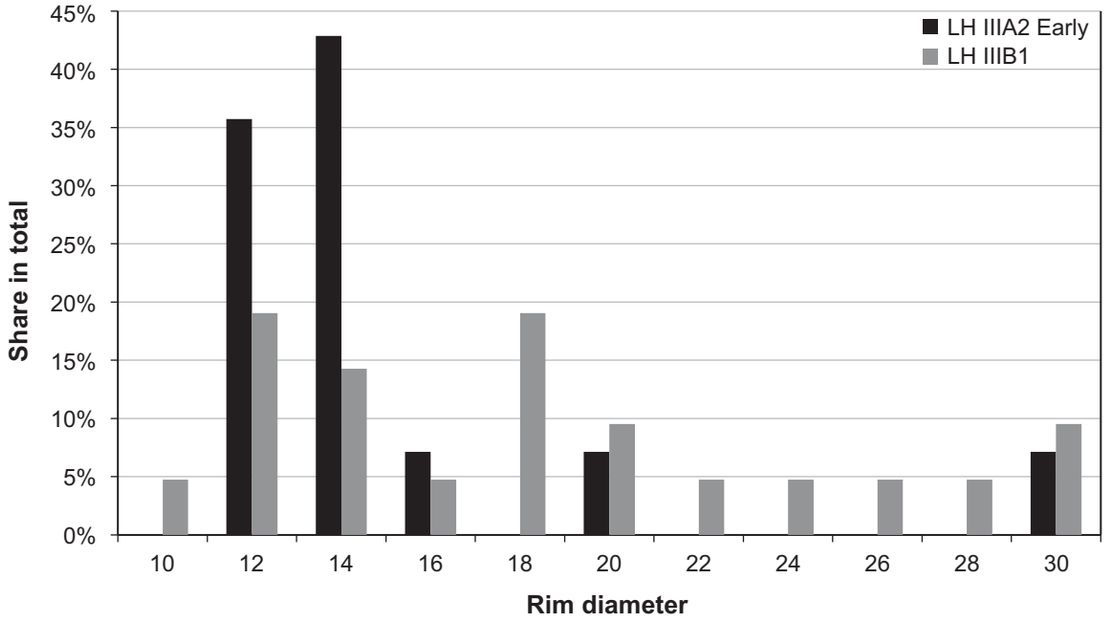

Figure 11.13. Histogram of rim diameters for non-Aiginetan cooking pottery during the LH IIIA2 early (n = 29) and LH IIIB1 (n = 21) periods. *B. Lis*

In the fabric defined as Mix MFG, there is a substantial fragment of a rim (1584-2-39; Fig. 11.12), preserving also a complete shoulder handle. In terms of size (Diam. of rim 11 cm) and profile, this cooking pot is a very good counterpart to small cooking pots executed in MFGs 1.0 and 2.3. The only substantial difference is that this example has thicker walls.

Finally, there is a single tripod leg (1582-2-18; Fig. 11.12) belonging to Unclassified fragments, containing possibly quartz and fragments of schist, which stands out from all other legs of the LH IIIA2 early period. It is squared in profile, with three concave sides and one convex side. Two similar legs derive from a small group of LH IIIA2 late material found within the same pit.[86] They seem to be made in a similar, if not identical, fabric. Interestingly, 1579-2-14 appears to be partly painted.

The size distribution of LH IIIA2 early rims for the entire non-Aiginetan cooking pottery (Fig. 11.13) shows, as already mentioned, a very strong preference for small forms (up to 14 cm, probably mostly tripods) and a very small number of larger pots. The distribution is very similar to that of MFG 1.0 (compare Figs. 11.10 and 11.13), although in contrast to the following (LH IIIB1) period, this MFG does not have such a dominant position (14 out of 29 measured rims for LH IIIA2 early belonged to MFG 1.0). In my opinion this similarity demonstrates that despite differences in fabric, plausibly representing different production units and locations, there was a striking uniformity as to the preferred size of the cooking pot.

Aiginetan

Aiginetan material deriving from the LH IIIA2 early deposit has already been discussed, also in relation to its formal characteristics. Here it suffices to say that the only fragments which can be considered contemporary with the deposits are small pieces of two tripod bases deriving from SU 1583 730/460, and SU 1584 730/461. They are small in diameter, and slightly

86. 1579-2-14 and 1579-2-15; Thomas 2011a, p. 182, figs. 6:27 and 6:28.

convex in the middle. Comparable examples derive from Asine,[87] Mitrou (LM783-063-011), and Lerna.[88]

Manufacture

The LH IIIA2 early cooking pottery from Tsoungiza is an intriguing assemblage also with regard to manufacturing techniques. Already during the LH IIB period there was an increase in the number of wheelmade fragments, which is significant, since earlier deposits did not contain any wheelmade cooking pots. The overview of the LH IIIA2 early material suggests that the share of wheelmade pottery was either equal or even greater than during the LH IIB period. However, there are still both wheelmade and handmade examples in the same fabric group, as in the case of 1588-2-67 and 1582-2-7, executed in the same MFG 1.0. Just as during the LH IIB period, the use of the wheel is not restricted to particular fabric groups. The application of the wheel is always a second step in the manufacturing process, after coil-building. Remarkably, even rather coarse and crudely made cooking pots, like 1584-2-39, display traces of wheel use. An impression after comparison with wheelmade cooking pots of LH IIIB1 and LH IIB is that wheel marks are less pronounced, and there are more irregularities on the interior surfaces than during earlier and later periods. This might indicate that production using the wheel was either done more hastily or by potters who did not have comparable levels of skill, or that the wheel was introduced at a different stage of manufacture. On a general level, cooking pots made in MFG 1.0 are distinguished by their very careful manufacture and regular appearance.

Tripod bases were sometimes attached separately, and they are usually thicker than the walls. The joining of the two parts obliterates traces of wheel use, as in the case of 1588-2-67. An interesting detail of manufacture is the deep scoring of the body prior to the attachment of legs (see 1584-2-23; Fig. 11.12). This feature is also observed on the LH II tripods from Mitrou. Interestingly, like this deposit at Tsoungiza, the LH II period at Mitrou marks the first common use of tripods. Possibly, the scoring, which disappears in the later periods at both sites, indicates a certain degree of insecurity among the potters in dealing with the new structural element of their products. Finally, one of the legs (1556-2-5; Fig. 11.12) is pierced. This rare practice may indicate concern with the proper firing of this thick part of the vessel's body.

Most of the surfaces of the LH IIIA2 early cooking pots are wiped. There are no instances of vessels with burnished surfaces.

Use of the Vessels

Although the material is much better preserved than in the case of earlier deposits, and the number of mended vessels is comparatively high, insights into the use of cooking pots can be gained from a few examples only.

Tripod base 1588-2-67 has the entire base blackened, although the very center of the base appears to be less burnt. Probably the fire was not placed directly underneath the pot, as is also suggested by its short legs. One leg is burnt all around its perimeter, while the front of the other leg is free of burning marks, indicating probably that it was consistently placed away from the source of fire.

87. Lindblom 2001, p. 81, pl. 42:919.
88. Lindblom 2007, p. 127, fig. 10.

Another well-preserved tripod base, 1584-2-23, has a very peculiar burning pattern that is difficult to interpret (Fig. 11.12). The entire exterior surface appears to be blackened to varying degrees. The slightest burning can be found on the base, possibly indicating again that the fuel was not placed underneath the cooking pot. Above the base, at the height of leg attachments, there is an almost horizontal stripe of very intense burning. The interior is also heavily blackened, and these marks do not fully correspond to the burning marks on the exterior. Only the interior base is free of blackening, while the heaviest marks are located in the upper part of the preserved fragment.

The only lid from the deposits has, surprisingly, its entire underside burnt. Given its fragmentary preservation, it is difficult to offer a plausible explanation for this pattern.

Summary

The evidence of this period is shaped by the fact that the studied deposit is not of a type usual for LBA Tsoungiza—that is, household rubbish—but represents material discarded after ritual feasting.[89] Is the special nature of the deposit indicated in any way in the cooking pottery assemblage? In other words, is it possible through the analysis of the cooking pottery alone to identify this deposit as the remains of a special event?[90] The answer is not straightforward, although the unusual character of the cooking assemblage is clear, especially upon comparison with other periods and sites. It appears that the analysis of cooking pottery can reinforce the proposed interpretation of evidence, but cannot stand as the sole argument for such an interpretation.

The clear bias toward small cooking pots, with an average capacity of only 1 liter, suggests that food was not cooked in large quantities, unless the meat was prepared in a different way (grilled). In an earlier article, I combined this evidence with a small share of cooking pottery in the total assemblage and likewise with a small share of typical eating dishes, like shallow angular bowls, to claim that cooked food was not indeed available in quantity.[91] This claim was in line with the evidence of the animal bones analyzed by Paul Halstead, who suggested that the meat was not consumed in quantity at the feast, but rather distributed among participants, who took it to their home villages.[92]

The domination of tripods in the assemblage is a very special characteristic, as at that time tripods were only beginning to become commonly used cooking equipment. Apart from the size distribution of cooking pots, the fact that they were probably mostly placed on three legs is another feature that may disclose the intentions of the sponsors of the feast. One practical consideration might have been that tripods are particularly useful for outdoor cooking, which may partly explain their popularity in this deposit. But surely it was also their still "exotic" nature that dictated such a choice. An accumulation of a fair number of novel forms was probably one means of impressing participants in the feast.

It has been assumed that organizers of the feast, in all probability the elites of Mycenae, provided not only food and drink but also the pottery that was discarded later on.[93] Therefore, most of the pottery had to have been imported from an Argive workshop. A substantial number of cooking pots, indeed, were manufactured in MFGs 1.0 and 1.1, which I would tentatively associate with a production unit located in the Argolid (see below). Yet an equally

89. It is, however, not excluded that part of the deposit is made of another stream of waste, deriving from daily use; see Dabney, Halstead, and Thomas 2004, p. 204.

90. In the original publication, cooking pots have been mentioned among the criteria for identification of a deposit resulting from feasting: "Cooking pots of various sorts should be prevalent, especially if meat was prepared in stews" (Dabney, Halstead, and Thomas 2004, p. 202). However, the share of cooking pots in this deposit is comparatively low (Lis 2008a, pp. 144–146).

91. Lis 2008a.

92. Dabney, Halstead, and Thomas 2004, p. 201.

93. Dabney, Halstead, and Thomas 2004, p. 213.

substantial number were manufactured in fabric family 2, and thus were presumably local. What is even more important is that there is a formal similarity between products in the two fabric families, and that tripods are equally, if not more, common among the presumably local MFF 2. It is therefore possible that the sponsors did not bring all the pottery from remote workshops but also commissioned some of the pottery to be produced at local workshops. Alternatively, some pottery may have been provided by local communities as part of a tribute or contribution to the feast. It would be very interesting to subject fine pottery to scientific analyses to establish its provenance and thus to see if it is all associated with Argive production centers.

On a general level, there seem to be two mutually contradictory tendencies at play in the LH IIIA2 early cooking assemblage. On the one hand, there is a progressive homogenization, or standardization, reflected in a proliferation of a certain type of cooking pot with everted rim and shoulder handle and equipped with a flat base or three legs. Larger cooking pots are less standardized but tend to have similar, though shorter everted rims. On the other hand, there is still a variety of fabrics, and within the established types there is a lot of internal variation. Variety is also apparent in the manufacture. All this points to a still very dynamic production sphere with quite a few different workshops operating.

A hint about the organization of production is provided by a pot mark on 1584-2-32, executed in MFG 2.3. If the hypothesis associating simple pot marks placed in inconspicuous parts of the pot with the production sphere and in particular with the need to distinguish products in the case of shared facilities is correct,[94] then this would point to a probable small-scale production of vessels, as only then is sharing of facilities, like kilns, useful or even necessary. However, such a scenario does not fit well with the observed use of the wheel for cooking pots in the same fabric, suggesting specialized full-time production. Once again this seems to point to a situation in which there is still a fair degree of heterogeneity in the organization of production, where professional, or semiprofessional, workshops flourish alongside family-based production units.

LH IIIB1

A major deposit of early LH IIIB1 date (Table 11.5) was recovered from a pit excavated in EU 2, adjacent to a house occupied in LH IIIA2/IIIB1. According to Thomas, the pit is best viewed as a dump, and it is likely that its formation was directly connected with occupation of the adjacent house. It is not clear whether the pit was filled gradually over many years or received material that accumulated in other areas that was deposited at once. Much of the material exhibits a high degree of wear. Sometimes pieces coming from a single vessel differed in this respect. It should be stressed that the contents of the pit were extremely homogeneous in chronological terms, with only 1% of the material being earlier than LH IIIB1, as estimated by Thomas.[95]

Fabric Group Frequencies

The situation at LH IIIB1 Tsoungiza is pretty straightforward with respect to the fabric groups (Table 11.5). The assemblage is dominated by two major groups, MFG 1.0 and Aiginetan, the former being roughly three times more frequent than the latter. Together

94. For interpretation of similar marks on Aiginetan pottery, and a survey of ethnographic evidence, see Lindblom 2001.

95. Thomas 2005, pp. 451–457.

TABLE 11.5. FREQUENCY OF MAIN FABRIC GROUPS DURING THE LH IIIB1 PERIOD

MFG	*Feature Count (%)*	*Feature Weight (%)*	*Rim EVE (%)*	*Base EVE (%)*
Aiginetan	14	27	20	20
1.0	66	44	60	51
1.1	3	6	1	6
1.2	0	0	0	3
2.0	2	1	8	4
2.3	11	16	9	9
2.4	1	2	0	3
Mix	1	0	0	1
Unclassified	3	3	2	4

they make up 70%–80% of the total assemblage, irrespective of the counting method. MFG 1.0 alone constitutes 60% of the cooking pottery according to the rim EVE. This points to the dominating position of what seems to be a principal source of supply for Tsoungiza. Among other fabric groups, only MFG 2.3 reaches the threshold of 10% in any of the counts. The almost total disappearance of MFG 1.1 can be explained as its displacement by MFG 1.0 or a development toward a finer paste containing only quartz. The lack of any substantial quantities of MFG 2.0 (apart from the mended jar 209-2-184, which explains the relatively high score of this fabric group in frequencies based on rim EVE) can be understood as a progressive specialization in fabric functions, and the use of MFG 2.0 predominantly for storage purposes and only very rarely for cooking.

The Aiginetan component constitutes 20% of the total cooking assemblage and thus is the second most frequent fabric group. Its frequency is close to the initial peak during the LH I period and almost identical with the frequency recorded for the LH IIA period. The evidence from Tsoungiza is very important with respect to the chronological distribution of Aiginetan pottery. Apart from Mitrou,[96] Tsoungiza is the only site during the Mycenaean palatial era (LH IIIA2–B) that has produced substantial quantities of imported Aiginetan pottery prior to the LH IIIB2 period. This material demonstrates that shortly after a breakdown of Aiginetan production and a substantial change in the formal repertoire of cooking pottery,[97] Aiginetan cooking pottery again reaches even small inland sites in respectable quantities.

Shapes and Features

Fabric Family 1

The discussion will be centered upon MFG 1.0, because of its dominant position among LH IIIB1 cooking pottery. There appears to be a major group of small to medium cooking pots equipped with a vertical narrow neck and a shoulder handle, produced in the form of either a globular tripod or a more elongated flat-based jar. The other, less numerous group is made up of wider-mouthed jars of larger diameter, which feature much shorter, everted rims. They are probably associated with larger bases, yet the entire form cannot be reconstructed based on this deposit. The gap between 14.1 and 17 cm in the distribution of rim diameters for MFG 1.0 (Fig. 11.10) may represent the size and type differentiation within

96. Lis 2012a.
97. Lis 2012a; Gauss et al., 2017.

cooking pots of this fabric group. Such a division was already clear during the LH IIIA2 early period, in both fabric families.

The best-preserved example of a MFG 1.0 cooking pot is the one-handled tripod 228-2-235 (Fig. 11.14). It has a vertical neck 12.5 cm in diameter, a round-sectioned shoulder handle, and legs of a very flat section. The shape of the upper part of this cooking pot appears to be a simple continuation of a standard cooking pot of the LH IIIA2 period. In fact, there is an even closer similarity between LH IIIB1 cooking pots and LH IIB specimens (see **G137** in the same fabric). However, the leg section and a completely round base are two new developments that were not present before. Another type of tripod leg is attested by fragment 228-2-270 (Fig. 11.14). The leg is oval in section, which recalls contemporary Aiginetan tripods (see below). However, since the upper part of the handle is not preserved, it is not possible to say whether the upper profile was more similar to non-Aiginetan or Aiginetan cooking pots.

The other type of standard cooking pot equipped with a flat base is best exemplified by 209-2-165 (Fig. 11.14). The form was probably more globular and not so elongated, as is evidenced by similar cooking pots from other sites.[98] The upper part is very similar to the tripod 228-2-235, but the neck is taller and has a slightly smaller diameter (11.2 cm). There are not enough well-preserved examples to say whether this is a consistent difference between flat-based jars and tripods. In comparison with the narrow rim/neck, the base diameter (8 cm) is substantial, suggesting the continuation of a development toward more stable cooking pots,[99] attested also at other sites. Concern with the stability of cooking pots was already visible in the LH IIIA2 early deposit, but now it seems even stronger. The base is raised and flat on the underside.

There are a number of inventoried rims, sometimes with handles, that may belong either to tripods or to flat-based jars. Only the large handle fragment 209-2-208 (Fig. 11.14) can be ascribed to a tripod, because of its globular or even biconical body profile. The necks all have very thin walls and are usually almost vertical. The rim diameters vary from 10 to 14 cm. The two inventoried bases executed in MFG 1.0, 228-2-253 and 228-2-238 (Fig. 11.14), have diameters of 6.7 and 8.9 cm, respectively, and are either hollowed (228-2-253) or slightly convex (228-2-238) on the underside, in contrast to the flat base of 209-2-165 (Fig. 11.14). Yet another kind of base, a ring type, is exemplified by 209-2-289 (Fig. 11.14). It also has a substantial diameter (8.3 cm).

The other type of cooking pot, with a short, everted rim, is represented by 228-2-250, 228-2-126, and 228-2-214 (Fig. 11.15).[100] These fragments preserve only rim parts, and their actual shape is unknown, nor do we know the type and number of handles. Their diameters are 17, 18, and 24 cm, respectively. The three rims have a general resemblance to Aiginetan cooking pots of that period. An interesting feature of 228-2-126 is a spout, attested for the first time among the cooking pots at Tsoungiza. Object 228-2-214 has a hollowed interior rim, as though designed to receive a lid. In fact, the only secure example of a lid, 228-2-273 (Fig. 11.15), has a diameter of ca. 19 cm, which would almost match this cooking pot. It is only the second cooking pot lid attested at LBA Tsoungiza.

Finally, probably the most distinct shape in MFG 1.0 in this deposit is the griddle (228-2-48; Fig. 11.15). The form and controversies connected to its function have been discussed elsewhere.[101] The example from Tsoungiza is one of the earliest on the mainland,[102] predating

98. See, for example, nos. 138, 140, from the Panagia Houses at Mycenae; Mylonas-Shear 1987, fig. 20.

99. Lis 2015.

100. The stance of 228-2-214, according to my judgment, should be more similar to the other two jars.

101. Lis 2008a; see also Hruby 2017 and Gulizio and Shelmerdine 2017.

102. Only Menelaion, Iklaina, and Athens yielded earlier examples of a griddle; see Lis 2017a.

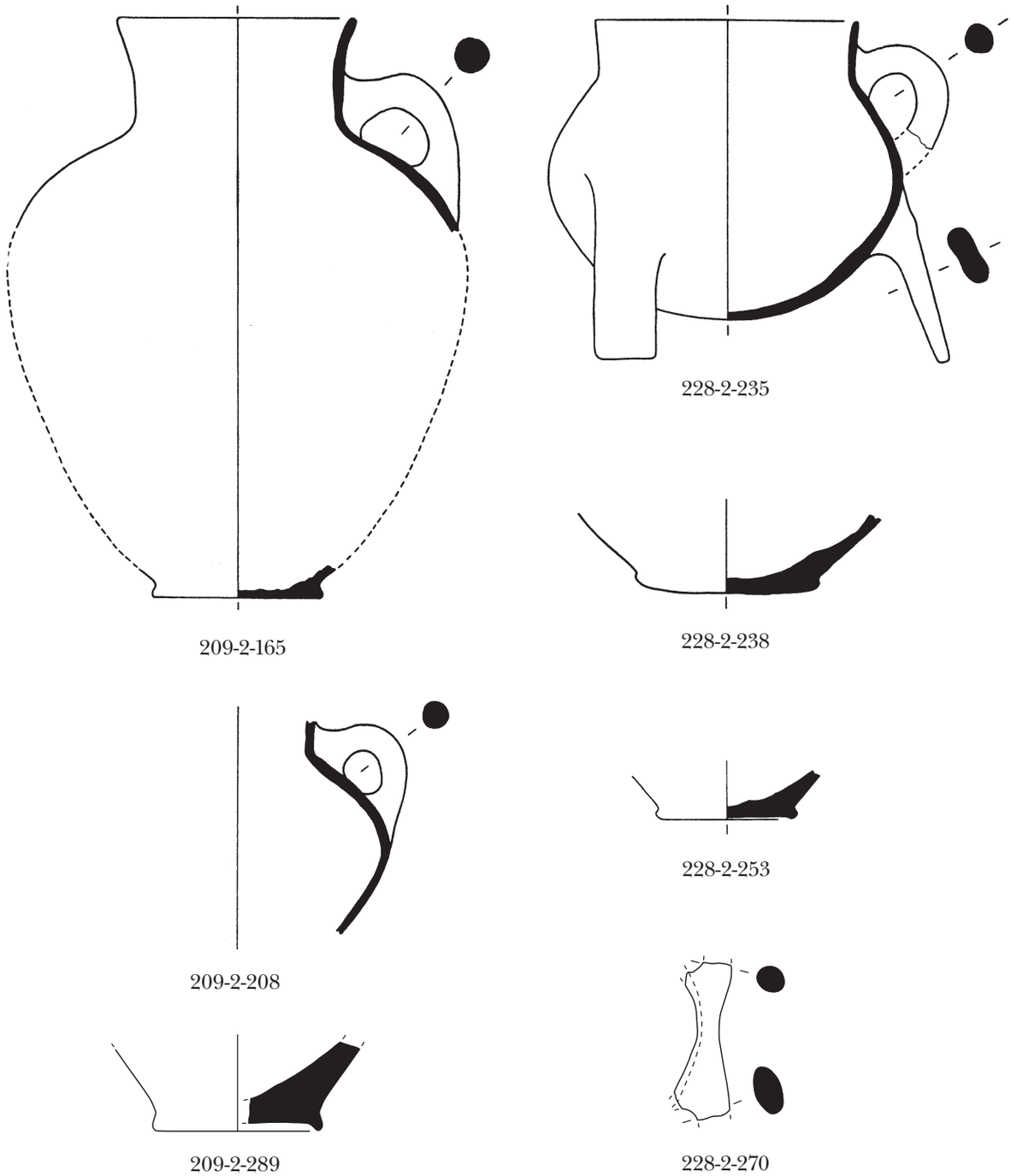

Figure 11.14. LH IIIB1 cooking pots of fabric family 1. *Scale 1:3. B. Lis; Thomas 2005, pp. 520, 522, 525, nos. 408, 414, 415, 434, 437, figs. 30:1, 31:1, 2, 32:9, 13*

the frequent appearance of griddles close to the end of the palatial period. It should be stressed that despite the substantial size of the deposit, only pieces of a single griddle were identified. Therefore, in contrast to the palatial sites, griddles appear to have been much rarer at settlements of lesser importance. An important feature of the griddle from Tsoungiza, indicated on the published drawing, is a leg scar, leaving little doubt as to the orienta-

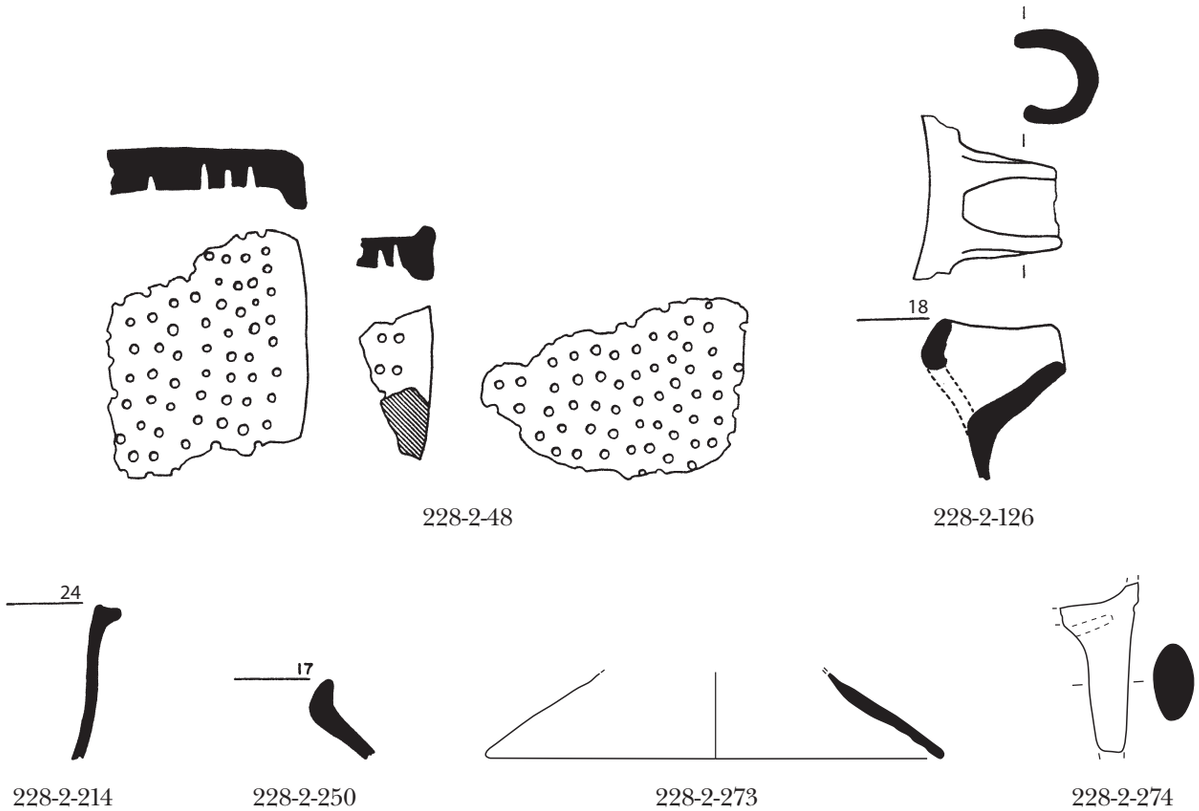

Figure 11.15. LH IIIB1 cooking pots of fabric family 1. *Scale 1:3. B. Lis; Thomas 2005, pp. 520, 522, 525, nos. 420, 427, 429, 430, figs. 30:9, 11, 31:7, 32:1*

tion of the griddle, with the punctured side facing down.[103] The diameter of the griddle is substantial (45 cm).

Another intriguing cooking utensil, this time without clear counterparts on the Greek mainland, is a tray (228-2-274; Fig. 11.15). Only a leg and part of a wall and base are preserved, but not much doubt remains as to the identification of the shape. Theoretically, it could have been a legged griddle, but the base is much thinner than on any of the known examples of this form. The leg is pierced from the interior side, but the hole stops at some point, without reaching the exterior side. Trays with such legs are not known to me from the Greek mainland.[104] Legged trays of different types are known from Asine,[105] the islet of Modi,[106] and Tiryns.[107]

There are very few inventoried features in MFG 1.1, reflecting its rarity in the deposit. Most notable is a mended base (228-2-255; Fig. 11.16), which has a diameter of 12.5 cm. It is possible that in this case MFG 1.1 is just a coarser version of MFG 1.0, appropriate for larger vessels. The profile of the base is splaying and slightly hollowed. The other base in this fabric group, 228-2-254 (Fig. 11.16), is similar to earlier fragments executed in MFG 1.1 (in particular from LH IIB), and is possibly one of the very few kickups in the deposit. It has a substantial diameter of 8 cm. Base 209-2-292 (Fig. 11.16) is another good candi-

103. Thus it should be oriented as in Fig. 11.15.

104. Trays of this type are quite popular on Crete; see Betancourt 1980, p. 7, fig. 4; Yasur-Landau 2006, p. 53, fig. 2:1.

105. Frizell 1986, p. 44, fig. 29:300.

106. Konsolaki 2003, p. 430, fig. 13.

107. Hiesel 1982, p. 438, fig. 57.

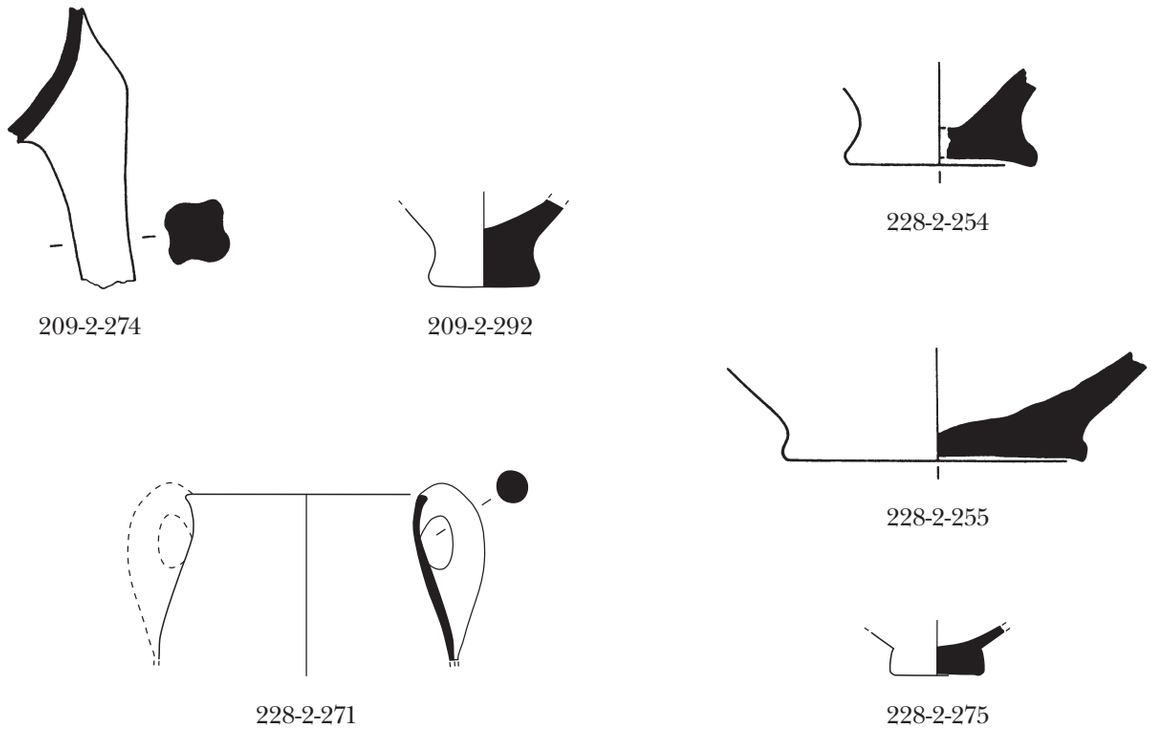

Figure 11.16. LH IIIB1 cooking pots of fabric family 1. *Scale 1:3. B. Lis; Thomas 2005, pp. 522, 525, nos. 424, 435, 436, figs. 31:11, 32:10, 11*

date for a kickup. It is very thick and narrow (4.6 cm), similar to the early LBA bases from Tsoungiza.

The only other inventoried tripod leg in MFG 1.1 (209-2-274; Fig. 11.16) has a very peculiar shape. In section it is squared, with four fluted sides, thus somewhat similar to the examples from LH IIIA2 (see above). However, the earlier legs are made in different fabric and have one of the four sides bulged. In the upper course, the leg has a pronounced carination. The overall impression is that of an imitation of metal counterparts.

A so-far unprecedented rim profile was inventoried as 228-2-271 (Fig. 11.16). It is a slightly flaring rim with a thickened lip, to which a round-section handle is attached. The diameter of this pot cannot be estimated, but it seems that it was a small one.

The only feature in MFG 1.2, the fabric group that almost disappeared after the LH I period, is a thick and very narrow (3.9 cm) base (228-2-275; Fig. 11.16). Given these characteristics it is best interpreted as a kickup.

Fabric Family 2

The most distinct vessel in fabric family 2 at Tsoungiza is definitely the two-handled jar 209-2-184 (Fig. 11.17). First, it is the only securely attested two-handled cooking pot in this deposit. Most probably such pots were rather common, but it is very difficult to prove this with such fragmented material. Second, the jar provides by far the clearest evidence for continuous use of a very pale fabric MFG 2.0, termed "orange" by Thomas, for manufacture of cooking pots. In the general form it is not dissimilar to the standard cooking pots manufactured in MFG 1.0, although it is definitely more globular than the flat-based jars in the latter fabric group. Similar rims are plentiful in this deposit, but none of them could be qualified as a

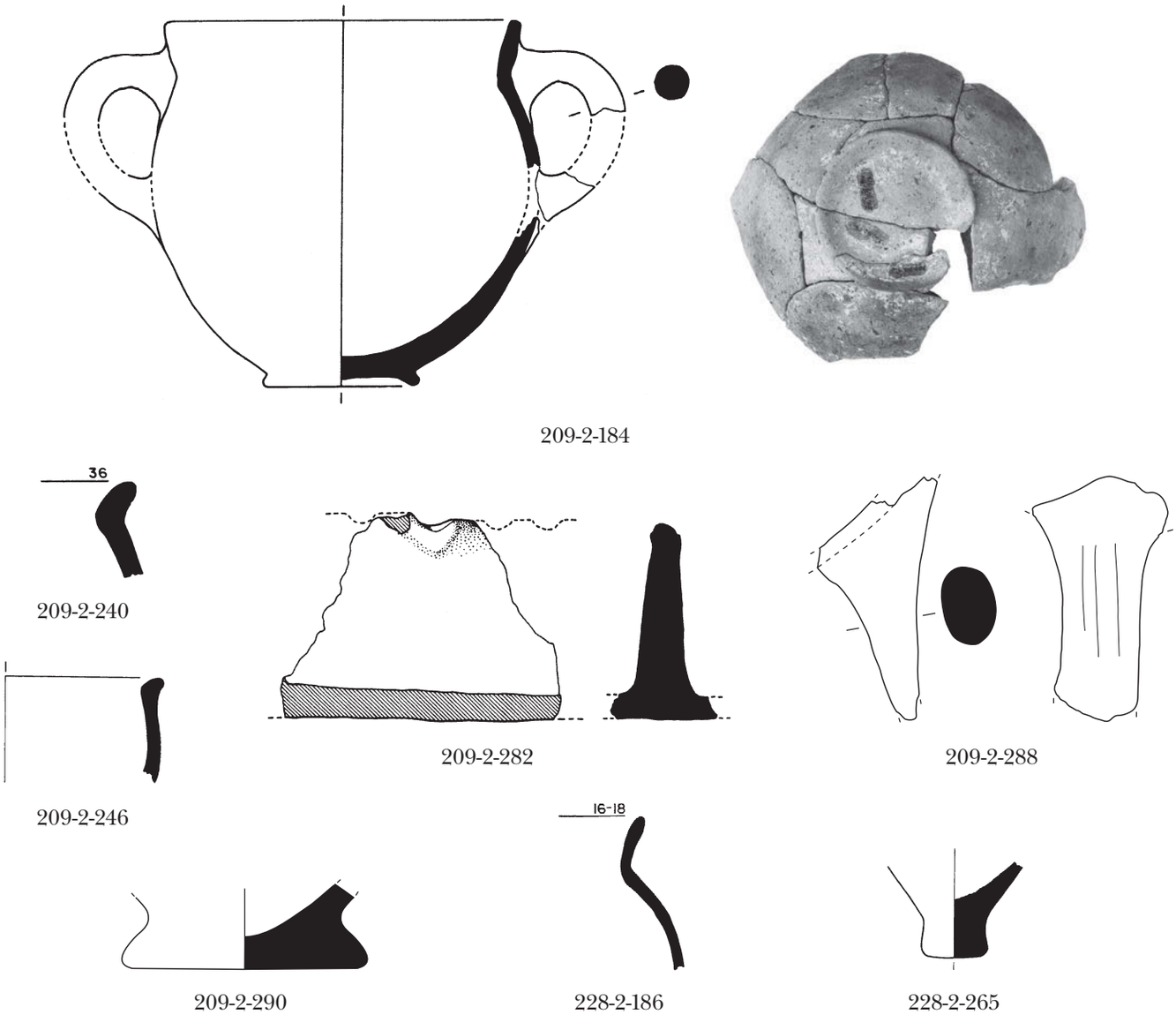

Figure 11.17. LH IIIB1 cooking pots of fabric family 2. *Scale 1:3. B. Lis; Thomas 2005, pp. 517, 525, 527, nos. 431, 438, 443, 446, 450, 464, figs. 29:1, 6, 9, 32:2, 33:1, 15*

cooking pot as they lacked burning marks. The burning marks on 209-2-184 are probably the clearest burning marks found on any cooking pot from Tsoungiza (Fig. 11.17). They consist of two patches opposite each other, in a zone between the handles.

It appears that all "orange" jars of LH IIIB1 are similar in form to the cooking pots of MFG 1.0.[108] Also the larger cooking pots, with short, everted rims, have counterparts among "orange" jars. One of them, 209-2-240 (Fig. 11.17), has burning marks and can be listed among secure examples of cooking pots within MFG 2.0. Its diameter was estimated at 36 cm.

MFG 2.3, which yielded on average the highest frequencies in this fabric family, has only a few inventoried fragments, but they represent an interesting mixture. Probably the most notable is a small part of a souvlaki stand (209-2-282; Fig. 11.17). Preserved is a complete

108. Thomas 2005, p. 527, fig. 33.

profile of the vertical side, with a single impression designed to hold a skewer. At its lower part, there are scars on both sides, most likely from small horizontal protrusions providing stability to this device. Such objects were used in pairs, unless the two parallel stands were incorporated into a tray placed on legs.[109] Souvlaki stands are, like griddles, widespread during the latest part of the palatial period and are found most frequently at palatial sites. Like griddles, souvlaki stands appear to be much rarer at sites of lesser importance, as the single example from Tsoungiza illustrates. At Mitrou this shape is not represented at all.

The cooking pot 228-2-186 (Fig. 11.17) is quite different in its form from other contemporary cooking pots. It has a high flaring rim, perhaps reminiscent of the almost vertical necks of jars in MFG 1.0, and, most importantly, it is handmade. Given these peculiarities it is tempting to interpret it as a kickup, but since the deposit contains minimal amounts of earlier material, and this cooking pot is mended from six sherds, it is most probably of LH IIIB1 date. Its rim diameter is ca. 17 cm.

Another peculiar shape is 209-2-246 (Fig. 11.17), which has a profile of an open bowl with a very short, everted rim 15 cm in diameter. Thomas identified this shape as a dipper or a ladle, which is probable.[110] Finally, there is a large splaying base (209-2-290; Fig. 11.17) with a diameter of 11.5 cm. Its profile and thickness recall some earlier bases, but it might be contemporary as well.

MFG 2.4 is represented in only two inventoried features. One is a tripod leg (209-2-288; Fig. 11.17), which is rather short and broadens at the end. This used to be a characteristic feature of LH IIIA2 early tripod legs made in this fabric group. The other fragment, 228-2-265 (Fig. 11.17), may be an earlier fragment as well. It is a very tall and extremely narrow base (Diam. 3.8 cm), much different from the standard LH IIIB1 bases.

The distribution of rim diameters for all non-Aiginetan cooking pots (Fig. 11.13) shows a profile similar to that of MFG 1.0 (Fig. 11.10). Two size-groups seem to be clearly defined, one for rim diameters of 12 and 14 cm, the other concentrated around 18 and 20 cm. This second group is clearly missing on the histogram for the preceding (LH IIIA2 early) period. The histogram for LH IIIB1 is also characterized by another feature—it is very long on the right side, showing that there are a number of cooking pots with diameters greater than those of the second size-group.

Aiginetan

Both tripods and flat-based jars are present,[111] but no other shapes were found that are known to have been produced on Aigina during the later part of the Late Bronze Age (basins, lids, and spouted cooking kraters[112]). Despite a substantial number of fragments, no pot marks have been found in the main deposit. This suggests rather low marking frequency among the LH IIIB1 Aiginetan cooking pots from Tsoungiza. Nevertheless, a restorable example of a two-handled Aiginetan cooking tripod (**274**) has been recovered from occupation debris on floor 3 in EU 3, spaces 3 and 4, dated to LH IIIA2–B, and at one of the lower handle attachments it features a simple pot mark (type I11).

During the first peak in popularity of Aiginetan cooking pots at Tsoungiza in the LH I period, the size distribution was skewed in comparison with the general histogram for Aiginetan cooking pottery as it was dominated by large specimens (Fig. 11.18). However, the size distribution for the LH IIIB1 period does not diverge from the one established for all measured examples of the late LBA Aiginetan cooking pots. There is a distinct peak between 15 and 18 cm of rim diameter, which has a perfect counterpart on the general histo-

109. Tzedakis and Martlew 1999, p. 134, fig. 117.
110. Thomas 2005, p. 528.
111. Thomas 2005, pp. 522–523.
112. See Gauss et al. 2017, p. 53, fig. 6.9.

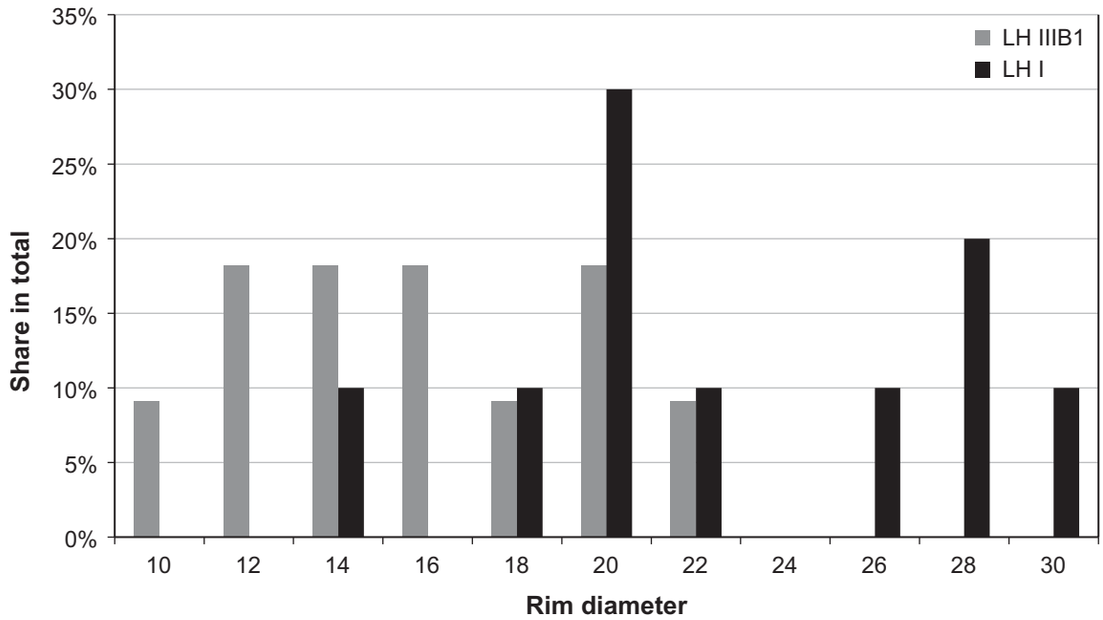

Figure 11.18. Histogram of rim diameters for Aiginetan cooking pottery during the LH I (n = 10) and LH IIIB1 (n = 11) periods. *B. Lis*

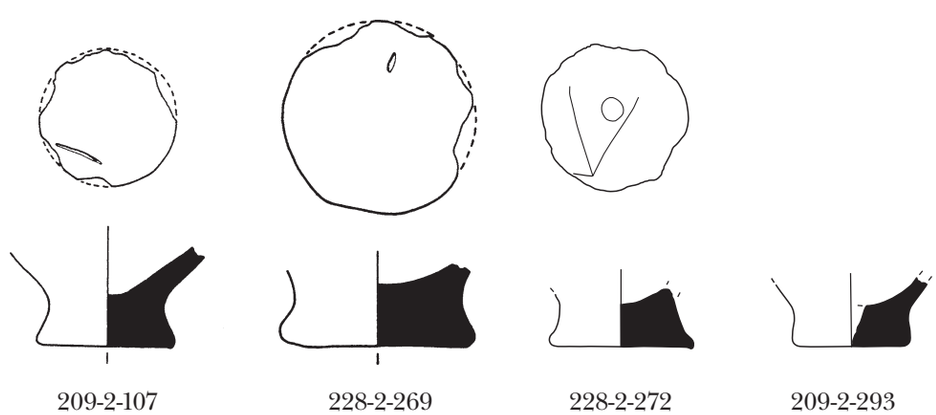

Figure 11.19. LH IIIB1 cooking pots. *Scale 1:3. B. Lis; Thomas 2005, p. 525, nos. 432, 433, fig. 32:7, 8*

gram. In addition, there are some rims that are larger[113] and very few smaller rims. Thus, it seems that consumers had no particular preference or did not have much of a choice. The rim diameters are not particularly large, yet the estimated capacity of Aiginetan cooking pots from Tsoungiza is rather substantial. For the most popular range of rim diameters (15–18 cm), the capacity can be estimated at 6–8 liters.[114] For the only restorable Aiginetan cooking pot, tripod **274**, the calculated capacity was 8.9 liters.

Among the LH IIIB1 material there are three fairly well-preserved bases that clearly belong to a type common during the early part of the Late Bronze Age (209-2-107, 228-2-269, 228-2-272; Fig. 11.19). Even more than in the case of earlier deposits I would like to consider

113. The restorable cooking pot **274** has a diameter of 20 cm.
114. Lis 2012b.

them as kickups.[115] As they are fairly complete, they were usable as stoppers, for example. The presence of as many as three earlier bases among Aiginetan pottery may seem contradictory to the view of Thomas on the very high chronological homogeneity of the deposit. However, if they were reused as stoppers (or found another secondary use), then they should not be considered standard intrusions, as are, for example, earlier sherds coming from mudbricks, because the bases were most probably in contemporaneous use with the rest of the deposit.

The only feature in Mix MFG is a fragment of a base (209-2-293; Fig. 11.19). It is rather thick and small (Diam. 5.5 cm), with almost vertical sides. Given its formal characteristics it is possible that we are dealing with an earlier kickup.

Manufacture

In the case of almost all cooking pots for which identification of a manufacturing method was possible, it is a combination of coil-building and wheel-finishing. This method was used not only for MFG 1.0 cooking pots, but also for the "orange" jars produced in MFG 2.0 that were used as cooking pots. The only notable exception is 228-2-186, which probably continues the tradition of handmade manufacture of cooking pots (or domestic pottery in general) in MFG 2.3 from the LH IIIA2 early period. Object 228-2-209[116] is a mended example of a domestic pot (probably a coarse spouted basin) made in the same tradition—that is, without use of the wheel.

Use of the Vessels

The material from the LH IIIB1 pit is more fragmented and worn than is the case for the previously described cooking pots from the LH IIIA2 early context, and hence inferences as to the use of the vessels are even more limited. Nevertheless, there are three fragments that can be subjected to such an analysis.

The fairly well-preserved tripod (228-2-235; Fig. 11.14) has most of its base burnt, including a blackening on part of the interior, possibly indicating charred food. Two of its legs are preserved. One has only a blackened ring around the attachment and is next to a part of the base that is not burnt. The other leg is almost entirely burnt. This pattern suggests that the source of fire was placed between the two legs that were opposite the handle, probably also partly underneath the base. The ring around the other leg was likely caused by escaping smoke.

The "orange" jar (209-2-184) was already mentioned with respect to its interesting and very clear burning pattern (Fig. 11.17). This two-handled jar has two burnt patches, both of them located between the handles. There is no doubt that these sides were facing the fire, and in order to heat the entire contents equally the side exposed was frequently changed.[117]

The base of a jar (228-2-253) is burnt on one side, indicating a one-handled cooking pot. In fact, its small size (for the period—Diam. 6.7 cm) is in line with this conjecture.

Summary

If Tsoungiza, following the expansionist politics of Mycenae evidenced by the feasting deposit of LH IIIA2 early, became totally dependent upon Mycenae, cooking pottery provides quite a strong corroboration of this notion. The assemblage of LH IIIB1 cooking pottery is

115. See also Thomas 2005, p. 523.

116. Thomas 2005, p. 517, no. 445, fig. 29:8.

117. Nevertheless, it is also possible that this pot was exposed with only one side toward the fire in each cooking episode, and sides were changed only during separate episodes.

almost monopolized by tripods and flat-based jars manufactured in MFG 1.0, which were probably all wheel-finished. Only Aiginetan cooking pottery constituted a real alternative. The question about the source of pottery associated with MFG 1.0 is therefore of major importance for understanding the supply and consumption of cooking pottery at LH IIIB1 Tsoungiza. This pottery is wheelmade and appears to be highly standardized, which suggests workshop(s) with high-volume output. Such production could not have developed to serve only small settlements like Tsoungiza; it must have supplied a much bigger market, probably associated with large centers. In fact, profiles of contemporary cooking pots from the Argolid are very similar to cooking pots from Tsoungiza. Personal examination of material from Tiryns[118] demonstrated that the major fabric group there is similar, if not identical, to MFG 1.0 at Tsoungiza. Therefore it is possible that the workshop supplying the majority of cooking pots for consumers at Tsoungiza was located somewhere in the Argolid. This may appear surprising, yet the evidence of fine pottery is corroborative. It shows that the inhabitants of Tsoungiza had access to the full range of Mycenaean pottery, comparable to that found at the contemporary palatial site of Mycenae, and this pottery (at Tsoungiza) was in all probability not locally made.[119]

Another sign of the possible involvement of Tsoungiza in the palatial economy is the presence of rare cooking utensils, such as griddles and souvlaki stands. Their rarity in the otherwise extensive deposit suggests that the occasions on which these utensils were used were infrequent. The use of griddles and souvlaki stands, much more common in the palatial environment, might have been perceived as a sign of relation to the palatial administration, and used to reinforce social standing. According to fabric analysis, the griddle was produced in the same Argive workshop that supplied most of the pottery used at Tsoungiza for cooking.

An important addition to the repertoire of LH IIIB1 cooking pots at Tsoungiza is the Aiginetan cooking pottery, reappearing in substantial quantities for the first time after the LH IIA period. It may be interpreted as a sign of independent (i.e., not controlled by palaces) exchange in pottery that reached the site of Tsoungiza. However, if the recently discovered site of Kalamianos on the coast of the Saronic Gulf was indeed an establishment of Mycenae,[120] then even the exchange in Aiginetan pottery might have been partly or entirely controlled by Mycenae. Still, such a reconstruction can be questioned, as the amounts of Aiginetan pottery at the site of Mycenae seem to be very low, and it is difficult to reconcile this with the assumed Mycenaean control over the production center of these popular cooking pots. More quantitative data on cooking pottery from the site of Mycenae is needed in order to understand these developments better.

"Orange" jars represent a ceramic peculiarity of Tsoungiza, which is apparently not present in the Argolid, and therefore local production is more plausible. Although only a few of these jars were used as cooking pots for certain,[121] they clearly copied forms current in this functional group in a very similar way to the pale-slipped jars of the LH I period. Their production involved use of the wheel and appears to be rather standardized, pointing to a high level of production organization for workshop(s) producing this type of pottery. It seems rather improbable that such workshop(s) were supplying only Tsoungiza, but contemporary published material from other Corinthian sites is inadequate. The site of Zygouries, ca. 10 km from Tsoungiza, yielded a rich LH IIIB1 deposit in its so-called Potter's House.[122] Among hundreds of cooking pots there are only two types, and none of them is similar to those found at Tsoungiza. However, this formal austerity may be due simply to the suggested specialized function of that deposit.[123]

118. I would like to acknowledge the permission of Joseph Maran to study this material.

119. Thomas 2005, p. 537; see also p. 365, above.

120. Tartaron et al. 2011.

121. This, as mentioned above, suggests progressing specialization of particular fabrics.

122. Blegen 1928; Thomas 1992.

123. Thomas 1992; Lis 2008b.

Much different is the output of a production unit responsible for MFG 2.3. Within the range of cooking pots is found the only souvlaki stand attested at Tsoungiza. The presence of a handmade cooking pot is also important, clearly showing that this method of manufacture was still performed, though on a limited scale. It seems that this MFG may represent a more local, and small-scale, manufacture.

CONCLUSIONS

The LBA cooking pottery from Tsoungiza is characterized by a comparatively slow pace of development and strong continuity, in terms of both shapes and fabrics. This is in accordance with what most people tend to think of cooking pottery, and it is a notion that sometimes prevents greater in-depth study of this pottery group. However, this does not mean that cooking pottery is not a dynamic group and that it lacks interpretative potential. On the contrary, the combined study of shapes, fabrics, and technology reveals significant developments within this group. Seen from various, complementary perspectives, cooking pottery appears as no less dynamic or informative than fine pottery.[124] However, since much of the cooking pottery used at Tsoungiza appears to be imported, either from the nearby Argolid or the island of Aigina, a considerable part of the observed developments, especially with respect to forms or fabrics, refers to these regions and not to Tsoungiza or its immediate surroundings and cannot be interpreted against the political and socioeconomic changes at the site. Only pottery consumption—that is, particular consumer choices—has such a potential, yet it appears that in most cases inhabitants of Tsoungiza accepted what was available rather than shaped their repertoire of cooking pottery to their own needs.[125] Even during the LH IIIA2 early period, when the repertoire is distinctly different from both that of previous periods and that of other contemporary settlement deposits, this is probably only due to the direct intervention of Mycenae, the plausible sponsor of the feast(s). The only clear exception is the LH I period with its very particular distribution of Aiginetan cooking pot sizes. No matter how such demand for larger Aiginetan cooking pots was satisfied, it is a very plausible sign of consumer choices and preferences.

The great value of the sequence at Tsoungiza is that it documents the development not only of local pottery (plausibly represented by MFF 2), but also of both Argive cooking pottery (MFF 1) and Aiginetan pottery. The development of cooking pottery produced in the Argolid is especially important, as the majority of published cooking pots from that area date relatively late in the Late Bronze Age. Thanks to Tsoungiza, the development of the basic LH IIIB Argive cooking pot with a vertical neck can be traced back to the beginnings of the Mycenaean period and ascribed to the influence of Aiginetan pottery.[126] Aiginetan pottery is also very well documented at Tsoungiza. In particular, the LH IIA, IIB, and IIIB1 deposits cover the gaps in our knowledge of ceramics from that production center. It is intriguing that the trade routes by which Aiginetan pottery reached Tsoungiza were in all probability different from those by which most other pottery arrived there. The lack of substantial quantities of Aiginetan pottery at Mycenae, at least as suggested by the evidence published so far, may indicate that the trade in Aiginetan ceramics functioned outside of Mycenae's direct supervision or control, at least during some parts of the LBA.

124. Lis 2017a, 2017b.

125. In order to discuss consumer choices in detail, one would need a good comparative data set from a number of contemporary settlements. The data at the moment are in most cases insufficient.

126. Lis 2017b, p. 42, fig. 5.3.

TABLE 11.6. UNCATALOGUED COOKING POTTERY

Inv. No.	*Date*	*MFG*	*Rim (%)*	*Rim Diam. (cm)*	*Base (%)*	*Base Diam. (cm)*	*Total No. of Features*	*No. of Body Sherds*	*Total No. of Frr.*	*Wgt. (g)*	*Description*
1764-2-2	LH IIA	1.1					1		1	125	Leg
223-2-10	LH IIB	2.3	7	21			1		1	20	Rim fr.
308-2-58	LH IIB	1.1					2	3	5	245	Handle and body sherd
308-2-59	LH IIB	2.4			37	5	2		2	50	Base
1536-2-3	LH IIIA2 early	1.1	2				1		1	70	Rim and complete handle
1556-2-5	LH IIIA2 early	1.1					1		1	80	Leg
1557-2-9	LH IIIA2 early	2.0					1		1	35	Leg
1581-2-11	LH IIIA2 early	1.1					1		1	50	Rim with knobs
1581-2-12	LH IIIA2 early	1.1			25	11.5	1		1	180	Base fr.
1583-2-25	LH IIIA2 early	2.0					1		1	20	Handle
1583-2-26	LH IIIA2 early	2.0			20	5	1		1	15	Base fr.
1583-2-27	LH IIIA2 early	1.0			100	5	1		1	45	Base
1583-2-28	LH IIIA2 early	1.1			100	6.8	1		1	115	Base
1583-2-29	LH IIIA2 early	2.3	7	25			1		1	15	Rim
1584-2-121	LH IIIA2 early	2.0					1		1	260	Leg
1584-2-122	LH IIIA2 early	1.1			100		3		3	45	Base and body frr.
1584-2-123	LH IIIA2 early	2.3					2	1	3	260	Leg
1584-2-124	LH IIIA2 early	2.3	17	14			5	1	6	220	Rim, complete handle, and leg scar
1584-2-125	LH IIIA2 early	1.0					1		1	50	Handle to a lid
1584-2-126	LH IIIA2 early	1.1	9	28			2		2	25	Rim
1584-2-127	LH IIIA2 early	2.4					1		1	115	Leg
1588-2-72	LH IIIA2 early	2.0	15	12			2	1	3	45	Rim and body frr.
1588-2-73	LH IIIA2 early	1.0					1		1	95	Leg
209-2-288	LH IIIB1	2.4					2		2	210	Leg
209-2-289	LH IIIB1	1.0			40	8.3	1		1	130	Base fr.
209-2-290	LH IIIB1	2.3			65	11.5	1		1	350	Base fr.
209-2-292	LH IIIB1	1.1			100	4.6	1		1	60	Base
209-2-293	LH IIIB1	Mix			20	5.5	1		1	20	Base fr.
228-2-270	LH IIIB1	1.0					1		1	50	Leg and handle fr.
228-2-271	LH IIIB1	1.1	2				1		1	55	Rim and complete handle
228-2-272	LH IIIB1	Aiginetan			100	6.2	1		1	100	Base
228-2-273	LH IIIB1	1.0	7	19			1		1	25	Rim to a lid
228-2-274	LH IIIB1	1.0					1		1	70	Leg
228-2-275	LH IIIB1	1.2			100	3.9	1		1	25	Base