



LAMPS IN CERAMIC ASSEMBLAGES: A CASE STUDY IN LATE REPUBLICAN AND EARLY IMPERIAL CENTRAL ITALY

Archer Martin

Howard Comfort FAAR '29 Summer School in Roman Pottery (American Academy in Rome)

ABSTRACT

The examination of the percentages of functional groups in the composition of ceramic assemblages has been shown to be a useful approach to interpreting a site. This was particularly clear with transport vessels. This study focuses on lamps in central Italy between the late republican and early imperial periods. As the least well represented group, lamps may seem to offer little. Nevertheless, it emerges that there is a normal range of percentages that can be expected for lamps in assemblages of that date range and region, against which unusual results can be evaluated, leading to considerations about the nature of the site where they were found. While series will have to be constructed for other times and places, a brief look at some percentages from 5th-century CE sites from the same region and from a site with a similar date range in Egypt suggests that they will be in the same order of magnitude.

INTRODUCTION

I believe that considering ceramic assemblages as a whole can offer information or raise questions about sites beyond what the examination of single wares or groups brings and in a way that is not possible otherwise. Therefore, for some time, I have been interested in the composition of assemblages by functional groups (fine wares, coarse wares, cooking wares, lamps, transport vessels). Preliminary work shows that this line of analysis can indeed give fruitful results.

In a first study, I compared four 5th-century CE assemblages of similar formation, ranging from Ostia at the mouth of the Tiber to Rome to Lugnano in Teverina on a navigable stretch of the Tiber upstream from Rome and finally to Chianciano above a non-navigable tributary of the Tiber (the last two sites excavated by David Soren).¹ It could be seen that the main variation from one site to another concerned the percentage of amphorae, which fell from nearly 2/3 or even almost 3/4 of the assemblages in contexts at major nodes of trade networks (such as Ostia and Rome) to about 1/3 at a less well connected site (such as Lugnano) and to much less than that on a site as landlocked as can probably be expected on the Italian Peninsula (such as Chianciano). Thus, it could be seen that the percentage of amphorae in an assemblage offers an indication of the openness to trade of a site compared to others of similar date.

A later study investigated the change in percentages of amphorae from late republican to early imperial times in two cities that must have been important sites for trade—

Pompeii and Ostia.² There the percentages of transport vessels rose from below 10% to nearly 50% over the course of the 1st century BCE and the 1st century CE. This can be considered evidence for increasing levels of integration in the trade networks to which they belonged.

My attention so far has been focused particularly on transport vessels as the element with the most obvious variation, undoubtedly because their primary function, unlike the other groups, was not domestic but rather to carry goods in trade. Even here questions remain. The first studies involve only a few centers, all in Tyrrhenian central Italy. How do the percentages of transport vessels in assemblages of various dates in other parts of Italy and the Mediterranean compare to the picture drawn for Tyrrhenian central Italy? What little comparative evidence there is suggests that amphorae constitute the majority of assemblages of the imperial period throughout the Mediterranean and that there is a general rise in their attestation from the late republican to the imperial period. Do other regions reach similar levels to Tyrrhenian central Italy, at the core of the Empire? Is there some delay in the trends even when they appear elsewhere? Thus, that amphorae represent some 70% or more of the pottery in late-antique Schedia, a major river port in the western Delta of Egypt, is not a surprising result in the light of the data from Italy.³ Percentages there in the 2nd and 3rd centuries CE, ranging from approximately 1/3 to somewhat less than 60%,⁴ probably indicate that the levels of trade in that part of the Empire rose later than in Tyrrhenian central Italy. Otherwise, Schedia must have

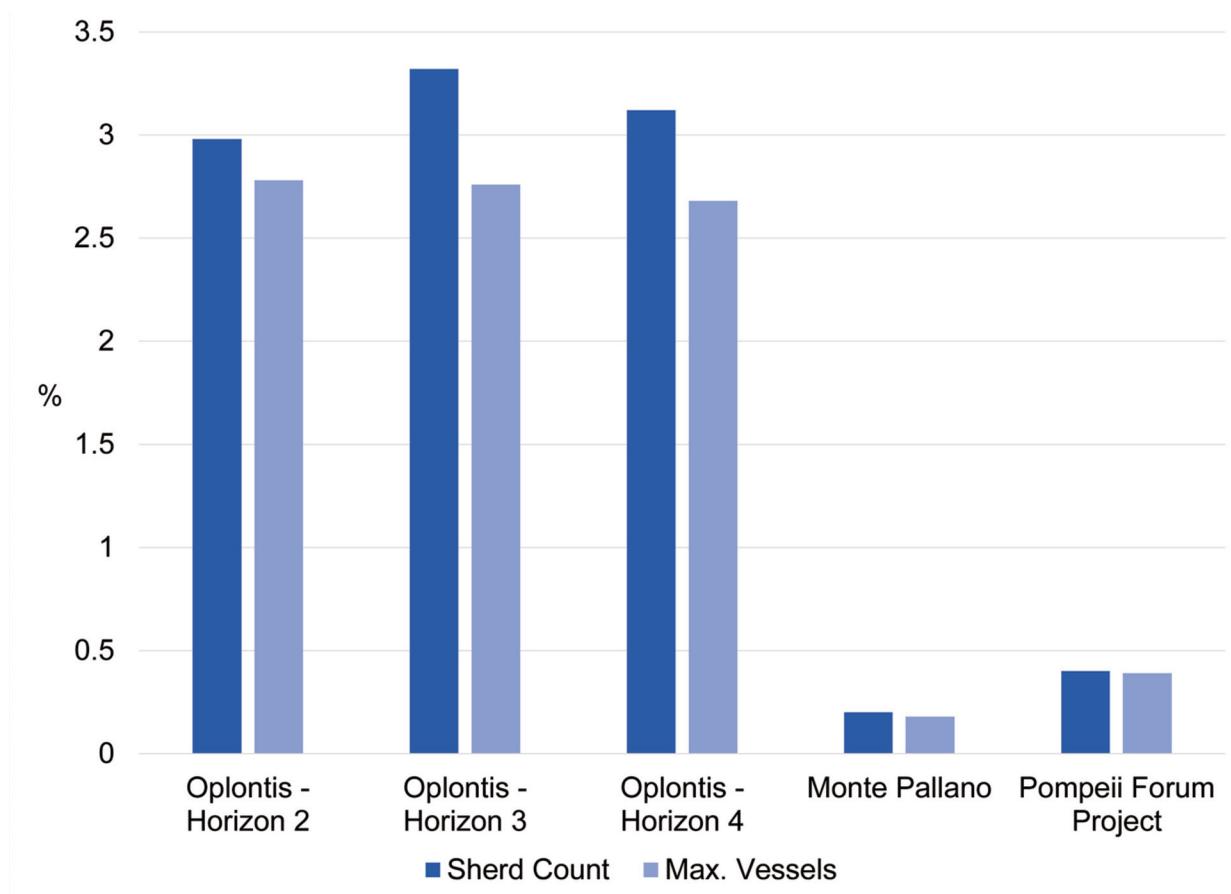


FIGURE 1: Percentages of Lamps in Ceramic Assemblages from Oplontis, Monte Pallano and the Pompeii Forum Project.

been less involved in trade in those centuries than later. Transport vessels are attested at only 8% in a 6th-century context at Olympia, which may indicate low participation in trade networks by what was then a country town some way from the coast on a stretch without good harbors, but the containers come from a variety of sources, which could suggest on the contrary that the site was an active participant in trade.⁵ A much larger basis for comparison is required.

Another question concerns the other functional groups. In the first studies, their percentages were interpreted as varying mostly in relation to the percentages of transport vessels. In a calculation of the percentages on the sites from Ostia to Chianciano in which amphorae were excluded, they were indeed fairly similar. Some differences could be observed, however. Fine wares appear, for instance, in almost the same percentages from Ostia to Rome and to Lugnano. On the first two sites, however, they consist almost exclusively of widespread, standardized wares, while at Lugnano a regional ware made up a significant part. Apparently, import substitution could best take place when there was some barrier to penetration from the outside but still sufficient circulation to warrant specialization on the part of some potters. At Chianciano,

only a few pieces of fine ware were attested, all standardized items with widespread distributions, suggesting that when circulation was too limited a site may not have had recourse to regional import substitution but largely did without. Still ongoing research gives evidence of yet other situations. For example, Monte Pallano, a site on a mountain in Abruzzo, was able to ensure itself a good supply of fine wares in successive assemblages dating from the 2nd century BCE to the 1st CE (with a shift from black-gloss wares of mostly but not exclusively local or regional origin to Italian Sigillata largely from Tyrrhenian central Italy but also from northern Italy, with some Eastern Sigillata A and B)—they constitute between 10% and more than 20%, while transport vessels never reach 4% and are often attested at much lower levels.⁶ It will be useful to determine what one can expect in various circumstances for these other functional groups.

Therefore, I was intrigued to see diverging percentages for lamps, the functional group that is always least attested, on three central Italian sites datable between the 1st century BCE and the 1st century CE that I am preparing for publication—one with high percentages, another with low percentages, and a third that falls in

between (Fig. 1). The material on all three sites has been counted and weighed, and the maximum number of vessels has been calculated on the basis of joins and other criteria, such as decoration and distinctive marks, that allow fragments to be assigned to the same vessel. The latter offers a useful corrective to the former, but the available comparanda are all based on the sherd count alone. The material has also been weighed, but that measure proved to be of little use with lamps, undoubtedly because of their low weight compared to other groups.

VILLA A AT OPLONTIS

Villa A at Oplontis (Torre Annunziata) near Pompeii was buried by the eruption of Vesuvius in 79 CE. It was excavated first by the Italian authorities between 1964 and 1983 and more recently has been the object of investigations by the Oplontis Project of the University of Texas at Austin.⁷ The discovery on an amphora found in a context of 79 CE of a *titulus pictus* that reads SECVNDO POPPAEAE led to the widely accepted attribution of the villa's ownership to the most famous female member of the *gens Poppaea*, a powerful family in the area—Nero's wife, Poppaea Sabina.⁸ It is in any case a very rich and luxurious villa. The Oplontis Project carried out excavations beneath the levels of the time of the eruption in order to clarify the villa's history. Thus, the contexts, mostly fills and other construction activities, cannot be related to the specific rooms or areas under which they were found. It is not unreasonable, however, to consider material from them a reflection of the villa as a whole.

The contexts can be grouped in four chronological horizons: Horizon 1 with material that could date between the 2nd century and the mid 1st century BCE; Horizon 2 with material dating to no earlier than c. 40 BCE or the Augustan period; Horizon 3 with material that has a *terminus post quem* of c. 25 CE; Horizon 4 with material dating from c. 50 CE to the Flavian period. Of these, Horizons 2–4 presented sufficiently large assemblages to allow statistical analysis (Horizon 2: 704 sherds from a maximum of 683 vessels; Horizon 3: 3014 sherds from a maximum of 2824 vessels; Horizon 4: 8852 sherds from a maximum of 8361 vessels).

Lamps are well represented. In Horizon 2, they constitute 2.98% by sherd count (21 fragments) and 2.78% by maximum vessels (19). In Horizon 3, the corresponding figures are 3.32% by sherd count (100 fragments) and 2.76% by maximum vessels (78). In Horizon 4, they are 3.12% by sherd count (276 fragments) and 2.68% by maximum vessels (224). At the same time, transport vessels passed from 14.06% by sherd count, and 14.2% by maximum vessels in Horizon 2 to 21.57% by sherd count and 22.7% by maximum vessels in Horizon 3 and to 29.25% by sherd count and 29.81% by maximum vessels—in other words, they more than doubled their percentage between Horizon 2 and Horizon 4. As the percentages for lamps remained approximately the same, this means that the lamps' percentages of the non-transport wares

increased—from 3.47% to 4.23% and 4.41% by sherd count and from 3.24% to 3.57% and 3.82% by maximum vessels.

MONTE PALLANO

Monte Pallano is a mountain reaching a height of nearly 1000 m, located between the Sangro and Sinello Rivers in the province of Chieti in the region of Abruzzo not far from the Adriatic coast.⁹ The site is usually considered to have begun as a proto-urban settlement as early as the 4th century BCE and to have continued under the Romans, until the 2nd century CE, perhaps as a *pagus* center. Monte Pallano appears to have been situated near the territory of several pre-Roman tribes, perhaps belonging as a central place to the northern Lucanians. Its most notable archaeological feature is a wall of polygonal masonry close to the summit, which scholars have come to see as a symbol of the settlement rather than as a purely defensive element. The settlement also included a forum and several cult areas. Thus, the settlement on Monte Pallano was a major center for the southern part of Abruzzo, integrated into the transport network.

In recent decades, two excavations have taken place on the slopes of Monte Pallano: one in the forum area conducted by the Italian authorities and the other carried out by the Sangro Valley Project not far away on terracing apparently connected with a sanctuary.¹⁰

As there is a phased stratigraphic interpretation for the Sangro Valley Project's excavation according to which the ceramic material has been quantified, it will form the object of attention here. Phase 1, datable to no earlier than 225 BCE, concerns frequentation of the site before any building took place. Phase 2, with a *terminus post quem* of 125 BCE, represents the first construction on site. Phases 3–8, considered together because of the high incidence of residuality and their fairly short date range (from 25 CE to the second half of the 1st century or possibly the early 2nd), saw renovation and further construction. These are mostly fill layers, aside from the contexts in Phase 1, of course. It is safe to assume that the material comes from somewhere in the settlement on Monte Pallano, although not necessarily from the sanctuary.

Lamps seem to have come into use rather late on Monte Pallano and then only sparingly. Neither Phase 1 nor Phase 2 produced any lamps. They appear first in Phase 3 and thereafter in Phases 5 and 8, which contain the most material. Among the material from Phases 3–8, 34 fragments come from a maximum of 29 lamps. They account for 0.20% by sherd count (of a total of 16,829) and 0.18% by maximum vessels (of a total of 16,482). Leaving aside transport vessels, as well as two pieces of kiln furniture, makes little difference, with the figures at 0.21% and 0.18% respectively.

THE POMPEII FORUM PROJECT

The Pompeii Forum Project excavated seven trenches (three in 1997 and four in 2001) in order to clarify various urban and architectural questions concerning the forum area.¹¹ The material from the contexts considered ancient

by the excavators in six trenches has been analyzed—one from 2001 was eliminated as too compromised by damage from bombing during World War II. It was possible to establish chronological horizons ranging from possibly as early as the 2nd century BCE to the second quarter of the 1st century CE. Although attempts were made to use these horizons with preliminary data,¹² the final classification of the material, showing high levels of residuality in the later contexts, advises rather to consider the material globally as a sample of the period from approximately 100 BCE to c. 25 CE. The contexts in question are mostly fills and other construction layers. As they come from six trenches, spread out over a certain area and often with a number of stratigraphic units in each one, it is likely that they offer a generic picture of supply to Pompeii.

A total of 3705 sherds was found in the contexts taken into consideration, belonging to a maximum of 3602 vessels. Of them, 15 sherds of a maximum of 14 individuals come from lamps. Therefore, they constitute 0.40% by sherd count and 0.39% by maximum vessels. Leaving transport vessels out of the calculations, lamps come to 0.51% by sherd count and 0.49% by maximum vessels.

LAMPS IN ITALY

The three horizons of Villa A at Oplontis, Phases 3–8 at Monte Pallano and the excavations of the Pompeii Forum Project differ markedly in their percentages of lamps in the composition the assemblages. In order to understand better the significance of the differences revealed on these three sites, they must first be seen in the framework of lamps in Italy in general and compared to other sites of similar date from central Italy.

Although oil lamps in the Graeco-Roman tradition were developed in the Greek motherland during the 7th and early 6th centuries BCE and spread quickly throughout the Hellenic world, including the Greek cities of southern Italy and Sicily, they came late to non-Greek Italy, only around 250 BCE.¹³ One reason for the late adoption of lamps there is perhaps that these areas had a plentiful supply of wood and pitch suitable for torches and no surplus of olive oil. In this respect, it may be significant that the Romans adopted oil lamps on a large scale when they had amply devastated their forests for shipbuilding in the Second Punic War and begun to practice more intensive, market-oriented farming, including olive-oil production. From that time onward, oil lamps were as typical of the Romans as they had long been of the Greeks. Roman lamps remained under Hellenistic influence throughout the republic, more or less closely connected with the production of black-gloss ware, and were in general conservative, continuing to be wheel-made much longer than Greek ones were, well into the 1st century BCE. In the Augustan period an important change occurred in the production of lamps in Roman Italy. Italian lamp producers, particularly in central Italy, created a new model free of Hellenistic traditions that took full advantage of the possibilities of the mold to decorate the

discus (hence the generic name *Bildlampen*).¹⁴ *Bildlampen* were widely exported and copied throughout the Roman Empire, especially around the Mediterranean, where they offered the dominant model for lamps until Late Antiquity. There were other sorts of lamps in current in Italy at the same time, including Dressel 22, a central Italian derivative of a late republican type.¹⁵ *Firmalampen* constitute an important tradition, also free of Hellenistic influences, that goes back to northern Italy.¹⁶ Although these are also mold-made lamps, they present no or at most minimal decoration. Their defining characteristic that gave them their generic name is the signature in relief obtained from the mold almost always to be found on the base, which was interpreted as an indication of a “company” rather than a single potter. *Firmalampen* were widely exported to the transalpine and Danubian provinces, where they became the standard lamp. Thus, Roman Italy moved from being a newcomer with conservative tastes in lamps during the republican period to setting the tone in lamps during the imperial period.

OTHER CONTEXTS IN CENTRAL ITALY

Fortunately, central Italy offers comparative data from a number of sites that fall in the same date range (Fig. 2).

Percentages have been given or can be calculated for some contexts at Pompeii.

- A preliminary report on the material from the trenches dug in layers preceding the eruption of 79 CE in the forum in order to install the electric system indicates lamps at 0.96% of an unspecified number of fragments.¹⁷
- In another preliminary report, on the material from layers preceding 79 CE in a non-elite neighborhood inside Port Stabia, lamps account for 0.92% of a total of 16,357 sherds.¹⁸
- A number of trenches were excavated by the Progetto *Insula* del Centenario (IX 8) in levels preceding the eruption of 79 CE.¹⁹ Among the material in layers dated generically to before 79 CE, lamps account for 0.83% of 5531 sherds. In a context dated to after 60 CE, lamps reach 1.11% of 1528 fragments. In a context dated to the second half of the 1st century BCE, lamps come to 1.65% among 121 fragments.

Percentages are available also at Rome and Ostia for lamps in contexts dating between the late 2nd century BCE and the 1st century CE.

- Period II at the Aqua Marcia at Rome, concerning the construction of the aqueduct between 144 BCE and the end of the 2nd century BCE,²⁰ gave 409 fragments of pottery.²¹ They included two lamps (0.49%).
- At Rome, in the fill dated to c. 50 BCE of a pit dug to extract *pozzolana* in the area of the *Horti Lamiani*,²² 8583 fragments of pottery were

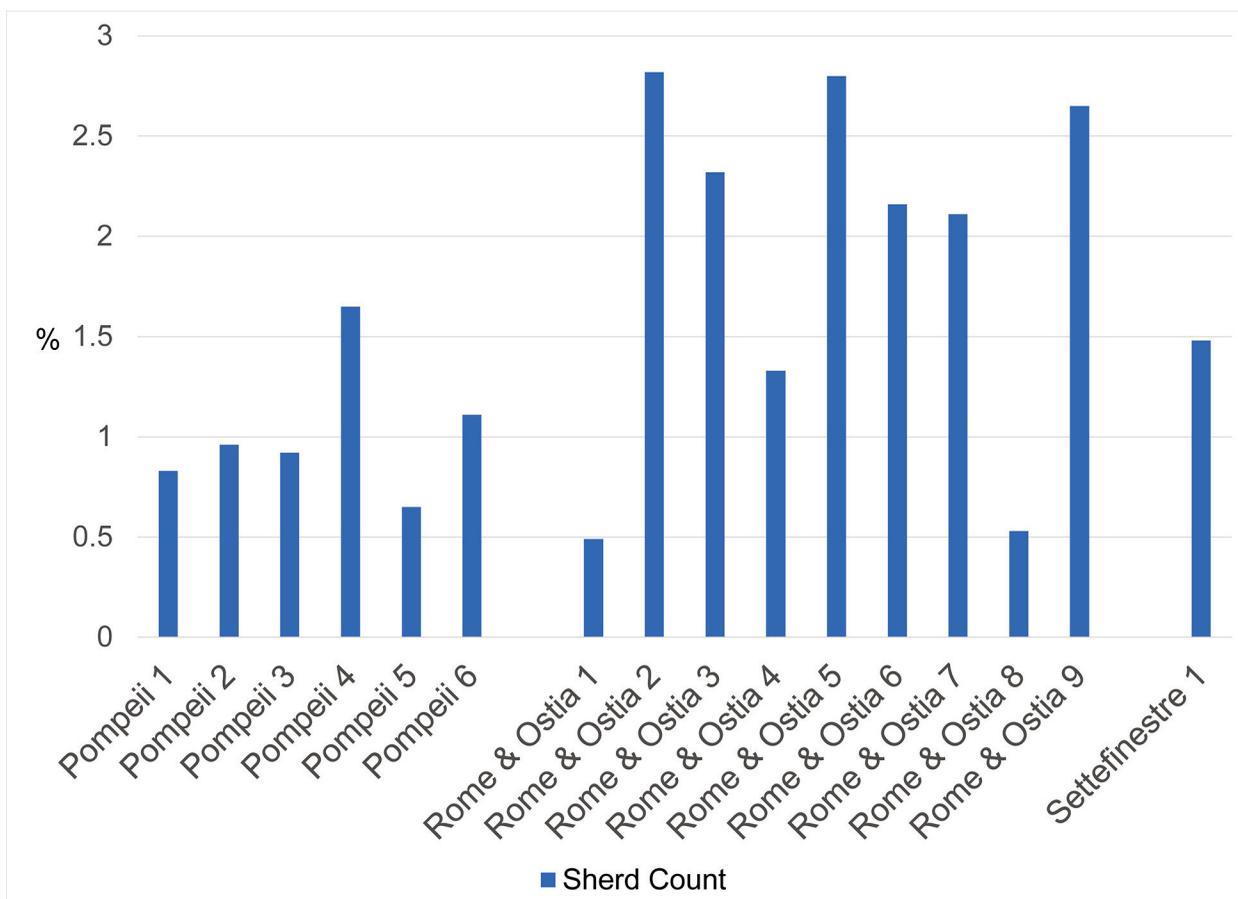


FIGURE 2: Percentages of Lamps in Ceramic Assemblages from Pompeii, Rome, Ostia and Settefinestre. For dates, see Addendum, page 78.

recorded.²³ Of them, 242 (equivalent to 2.82%) belong to lamps.

- In a much smaller assemblage of a similar date, consisting of 302 potsherds from the fill of a well put out of use in the mid 1st century BCE in the Forum of Caesar at Rome, seven lamps make up 2.32% of the total.
- Among the 3533 potsherds²⁴ found in the layers associated with the Augustan restoration of the Aqua Marcia at Rome (Period III),²⁵ there were 47 that belonged to lamps (1.33%).
- The layers associated with the restoration under Titus of the Aqua Marcia at Rome (Period IV)²⁶ held 3608 potsherds.²⁷ Of them 78 come from lamps (2.16%).
- There were 1520 fragments of pottery in the Domitianic contexts (Period IV), mostly fill layers, in the Domus Tiberiana.²⁸ The eight lamp fragments make up 0.53%.
- Excavations in the area of the Curia, Forum Iulium and Forum Transitorium at Rome produced several contexts dated to the Flavian period associated with the construction of the

Forum Transitorium.²⁹ Leaving aside the material from a context that was interpreted as a dump of unused lamps, 2366 fragments of pottery were found.³⁰ Fifty belong to lamps (2.11%).

- In excavations at Ostia under the Domus dei Pesci, two sequences were identified to raise the level of the terrain: Period 1 and Period 2.³¹ The layer constituting the first contained residual material and water-rounded pieces, suggesting that it was re-deposited from an alluvial context. The second consisted of a series of fill layers. The excavators were not entirely certain that the two sequences were distinct but considered it prudent to separate them. The finds in the first range from the 2nd century BCE to the first half of the 1st century CE, while Period 2 presents material dating more compactly to the last two decades of the 1st century CE.³² Lamps make up 2.8% of the 1036 fragments found in Period 1 and 2.61% of the 6543 fragments from Period 2.
- The villa of Settefinestre provides data from a rural site in another part of central Italy, coastal Tuscany near Cosa.³³ Period I, Phase A1 concerns

primary construction, dated between the time of Caesar or Octavian and the Julio-Claudian period.³⁴ Fifteen lamp fragments make up 1.48% of the 1013 sherds recovered.

DISCUSSION

In the light of the data examined, it appears that the percentage of lamps in ceramic assemblages dating between the late 2nd century BCE and the 1st century CE in central Italy tends to range from approximately 0.5% to c. 1.5%. This suggests that other percentages merit discussion.

Sometimes high or low percentages are patently anomalous, off the scale. There may be an obvious explanation. For instance, a context in the area of the Forum Transitorium containing almost exclusively lamps, largely unused, was attributed to the discard of a broken shipment to a lamp shop in the pre-existing Macellum or perhaps to the demolition of such a shop.³⁵ Often no need of an explanation was felt and none given in publications. In the absence of an account of the maximum number of vessels, one may wonder whether a large number of lamp sherds corresponds simply to a few, highly fragmented lamps. Is that the case with the Casa del Centenario at Pompeii in layers dated between the Augustan period and the first half of the 1st century CE,³⁶ where lamps reach 8.05% of 2819 fragments, in contrast with the other periods there? In other cases, it can be suspected that it is a question of the nature of the contexts, as probably with both the Neronian contexts (Period II) and the Vespasianic ones (Period III) in the Domus Tiberiana. The former, which includes a wall and a drainage system, gave a very low percentage of lamps—0.21% (three lamps among a total of 1416 potsherds).³⁷ In the latter, which consist of the fills of a drain and a well, the area of a praefurnium and a construction layer, 65 lamp fragments make up 6.17% of a total of 1054.³⁸ At Settefinestre, after the plausible percentage for the first construction phase (Period I, Phase A1), the nature of the contexts will certainly explain the presence only of coarse ware in Period I, Phase A2 (the first occupation phase), but there is no ready reason to suggest why the second construction phase (Period I, Phase B1) should have no lamps, while the second occupation phase (Period I, Phase B2) presents 79 (6.38% of the total of 1239).³⁹

Some, although by no means all, the sites in Rome and Ostia registered percentages above 2%. These percentages only somewhat above the usual range must indicate that lamps were used more intensively in some places there. Could this be because it was easier for at least some inhabitants of the capital and its port to obtain sufficient supplies of oil to be able to use it for illumination than it was for people in less centrally located places (thus presumably less well supplied with oil)?

The percentage of lamp fragments from the Pompeii Forum Project excavations, although low at 0.4%, can still be considered to fall within the normal range. The incidence of residuality in these contexts may help in

explaining this result, which contrasts with the percentage more than double as high reported for the material from the excavations for the electric installation in the same area. The PFP score is indeed only slightly less than the 0.49% seen in the assemblage of the late 2nd century at the Aqua Marcia at Rome. The lamps attested all present local, Vesuvian fabrics. They can all be assigned to the late republican tradition or to *Bildlampen*.

The percentages in the three horizons at Villa A at Oplontis must be counted as unusually high but not anomalous, at more or less 3% according to the horizon and measurement, surpassing even the highest percentages at Rome. It has already been noted that the villa was very rich and may have belonged to the empress at the time of Nero. Obviously, such an establishment would have had little difficulty in procuring the means necessary for as much illumination as was desired. There is, indeed, some indication of a particular interest in illumination there, at least in the time leading up to the eruption. A crate of Dressel 22 lamps was apparently acquired in block in order to renew the villa's furnishings.⁴⁰ Several exceptionally large lamps presenting two or more nozzles and fine relief were also discovered in eruption contexts.⁴¹ As a parallel, it can be noted that the amphora sent to Poppaea's slave Secundus and some fragments from the University of Texas excavations at Oplontis are for now the only ones from Lusitania known on a Vesuvian site, suggesting a desire and an ability to obtain unusual products (in this case Lusitanian fish sauce).⁴² The lamps attested in the excavations of the Oplontis Project present overwhelmingly a local, Vesuvian fabric, although there are some others, such as central Italian and in one case Milesian. *Bildlampen*, mostly not more specifically identifiable, constitute by far the majority, but there are also, for example, occasional late republican pieces and in the later contexts examples of Dressel 22. There can be little doubt that the percentages at Villa A represent the illumination of a place that effectively knew few bounds.

On the contrary, the percentages obtained from the Sangro Valley Project's excavations on Monte Pallano are exceptionally low, at c. 0.2% only half those from the Pompeii Forum Project's excavations, which, as we have seen, were otherwise the lowest taken into consideration. Nor can these results be considered anomalous, in view of the great number of sherds and maximum vessels used in the calculations. Monte Pallano's position on a mountainside may be a factor. It can plausibly be evoked to explain the very low percentages of amphorae, which it would have been bothersome to transport there. On the other hand, research has emphasized that the settlement on Monte Pallano was not isolated but rather an important center with good transport links. It has also been noted that Monte Pallano was able to guarantee a good supply of fine tableware. What lamps are attested on Monte Pallano do not suggest that the inhabitants of the settlement were out of touch with current trends in that matter. The lamps were mostly produced in the region

following models from Tyrrhenian central Italy, both in the republican period (in particular with wheel-made lamps but also with mold-made ones) and the early imperial period (with *Bildlampen*), although a minor component of the lamp assemblage consists of *Firmalampen* imported from northern Italy and an Ephesian lamp indicates an occasional opening toward Eastern products as well.⁴³ Thus, the possibility arises that the people on Monte Pallano were simply little interested in illumination with lamps. Perhaps they had an insufficient supply of oil to burn it and good enough alternatives not to need to do so. A certain conservatism may play a role as well. In their cooking wares, for instance, the inhabitants of Monte Pallano never took up the vessel that was the characteristic cooking pot not only in Tyrrhenian central Italy but throughout the western Mediterranean basin from the 2nd century BCE to the Augustan period, one presenting a heavy rim with an almond-shaped outer profile. They also seem to have been rather late adopters of Italian Sigillata, presumably using black-gloss wares well into the Augustan period. The percentages from Monte Pallano can be taken to represent a place that had few means or perhaps little desire to use lamps, for whatever reason or concourse of reasons.

This case study of the percentages of lamps at the three sites compared with those elsewhere in central Italy of the 1st century BCE and the 1st century CE suggests that there is indeed a range to be expected for the percentages of lamps in assemblages of that date and origin and that divergences require explanation. Naturally, it would be desirable to have richer series of data. With what is available, no chronological progression could be seen, as was possible with amphorae. Will further research change that? It must be borne in mind especially that we have looked at only one region and timeframe.

In the series of 5th-century assemblages from Ostia up the Tiber to Chianciano, thus also in central Italy, the percentages are somewhat lower than on the sites of the 1st century BCE and the 1st century CE. They range from highs of just above 1% in Rome to 0.13% by sherd count and 0.18% by maximum vessels at Chianciano. This may indicate that the use of oil lamps for illumination had declined in central Italy since the late republican and early imperial periods.

For a comparison in a completely different setting but also dating to the 1st century BCE and the 1st century CE, we can turn to Egypt. Contrary to non-Greek Italy, lamps have a long history in ancient Egypt. Pharaonic Egypt had lamps from the Old Kingdom onward, although candles and tapers were also used.⁴⁴ Lamps in the Greek tradition may have been present at Naukratis even before the time of Alexander.⁴⁵ The Greek colonists under Alexander and the Ptolemies continued to use the wheel-made lamps to which they were accustomed, in particular open pinched-saucer lamps and ones of Athenian inspiration.⁴⁶ Greek lamps are said to be especially well attested and imitated in the Delta and the Fayoum.⁴⁷ It is thought that Hellenistic mold-made lamps were an Alexandrian innovation,

probably dating to the 3rd century BCE.⁴⁸ The typology and dating of Egyptian lamps have been matters of debate, essentially because of the lack of reliably dated contexts.⁴⁹ There seems to have been no gap in lamp production at the end of the Ptolemaic period and the beginning of Roman rule.⁵⁰ It is unclear, however, how long Hellenistic lamp types lasted. It has been suggested that they continued to be produced well into the imperial period, even as late as the 3rd century CE.⁵¹ On the other hand, Hellenistic types are also said to have been replaced soon by copies of Italian volute lamps.⁵² In spite of the typological and chronological difficulties, it is clear that lamps constituted a well-established element in the material culture of Egypt in late Ptolemaic and early imperial times. Indeed, there are comments concerning Egyptian lamps' quantity and variety as opposed to their quality.⁵³

There is little tradition of quantification in Roman pottery studies in Egypt, and furthermore lamps are often considered in separate reports from those on the other ceramic finds, which limits the possibility of finding comparisons for the assemblages in central Italy. However, at Schedia, an important urban center in antiquity in the western Egyptian Delta (Behaira), some 40 km from Alexandria, where I lead the study of the pottery, preliminary data are available for such calculations from excavations in the outskirts of the town.⁵⁴ In particular, work in a bath complex (Sondage 3) provided a large assemblage (9587 fragments from a maximum of 9506 vessels, not including an intrusive modern piece) derived from various fill layers and other accumulations dating to the 1st century BCE and the 1st century CE. Seventeen fragments from no more than 16 individuals belong to lamps, equivalent to 0.18% by sherd count and 0.17% by maximum vessels. They are all in Egyptian fabrics typical of the Delta or of the nearby Mareotis, mostly wheel-made, pinched-saucer types. Lamps appear to be rare at Schedia—among the more than 200,000 sherds from a maximum of nearly 196,000 vessels registered in contexts dating from the Hellenistic period to Late Antiquity, lamps make up only 0.13% of the sherds and 0.06% of the maximum vessels. In the material from the excavations overall, Egyptian lamps remain dominant, although there are a few pieces imported from the Aegean, for example. This broader sample includes many mold-made lamps, often Egyptian-style types but also ones following the tradition of Italian *Bildlampen* and in later contexts African models. Generalizing much from the results of a single site would be rash. It is safe to say, however, that they suggest that the percentages of lamps in assemblages from elsewhere will be in the same order of magnitude, ranging from well under 1% to a few percent at most, as in central Italy.

CONCLUSIONS

This case study supports the idea that examining the percentage of lamps in the composition of a ceramic assemblage can be fruitful. It must not be done

mechanically. The nature of the context has to be taken into account, for example. Nevertheless, one can apparently expect a normal range of percentages of lamps (usually locally or regionally produced but often including occasional imported pieces) for a given period and region, against which results can be evaluated. High but not off-the-scale percentages may indicate a good supply of oil and a rich site and low but not anomalous ones a scant ability or desire to illuminate with oil lamps, perhaps in a more conservative location or one not well supplied with oil. Even this minor component of the ceramic record, it seems, can make its contribution to understanding a context or a site if it is included in a holistic approach.

¹ Archer Martin, "Variation in Ceramic Assemblages as an Indicator of Openness to Trade," in John Pollini (ed.), *Terra Marique: Studies in Art History and Marine Archaeology in Honor of Anna Marguerite McCann on the Receipt of the Gold Medal of the Archaeological Institute of America* (Oxford: Oxbow Books, 2005), 61–76.

² Archer Martin, "Composition by Functional Groups of Contexts at Pompeii," *Rei Cretariae Romanae Fautorum Acta* 42 (2012): 225–228.

³ Archer Martin, "The Pottery from a Late-Antique Settlement at Schedia (Western Delta, Egypt)," in Simonetta Menchelli, Sara Santoro, Marinella Pasquinucci and Gabriella Guiducci (eds.), *LRCW3 Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry: Comparison between Western and Eastern Mediterranean*, BAR International Series 2185 (Oxford: Archaeopress, 2010), 433–445.

⁴ Archer Martin, "Pottery from Schedia near Alexandria (Egypt)," *Rei Cretariae Romanae Fautorum Acta* 40 (2008): 263–269.

⁵ Archer Martin, "A Sixth-century Context at Olympia (SW Building)," in Natalia Poulou-Papadimitriou, Eleni Nodarou, and Vassilis Kilikoglou (eds.), *Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: Archaeology and Archaeometry: The Mediterranean: A Market without Frontiers I*, BAR International Series 2616 (I) (Oxford: Archaeopress, 2014), 761–768.

⁶ The study of the ceramic material by me and Jordi Principal is approaching completion.

⁷ Elaine K. Gazda and John R. Clarke (eds.), *Leisure & Luxury in the Age of Nero: The Villas of Oplontis near Pompeii*, Kelsey Museum Publication 14 (Ann Arbor, Michigan: Kelsey Museum of Archaeology, 2016); <http://www.oplontisproject.org/>.

⁸ Archer Martin, "15. Lusitanian Dressel 14 Amphora (Variant A)," in Gazda and Clarke 2016, 188.

⁹ For the site in general see Amalia Faustoferri and Paola Ricitelli, "Monte Pallano: L'urbanistica di un insediamento italo d'altura," in Peter Attema, Albert Nijboer and Andrea Zifferero (eds.) with Olaf Satijn, Luca Alessandri, Mette Bierma and Erwin Bolhuis, *Papers in Italian Archaeology VI: Communities and Settlements from the Neolithic to the Early Medieval Period: Proceedings of the 6th Conference of Italian Archaeology held at the University of Groningen, Groningen Institute of Archaeology, The Netherlands, April 15–17, 2003*, BAR International Series 1452 (Oxford: Archaeopress, 2005), 871–881; Giovanni Colonna, "Ancora su Pallanum, il suo territorio e le antiche vie tra Sangro e Sinello," *Quaderni di Archeologia d'Abruzzo. Notiziario della Soprintendenza per i Beni Archeologici dell'Abruzzo* 2 (2010): 175–202; Susan Kane, "The 'Sanctuary of the Dolphins' on Monte Pallano (Abruzzo)," *Quaderni di Archeologia d'Abruzzo. Notiziario della Soprintendenza per i Beni Archeologici dell'Abruzzo* 3 (2011): 147.

¹⁰ For the forum see Faustoferri and Ricitelli 2005, 874–877. For the sanctuary see http://www.sangro.org/sangro/Pages/project_history.html; Kane 2011.

¹¹ Larry F. Ball and John J. Dobbins 2013, "Pompeii Forum Project: Current Thinking on the Pompeii Forum," *American Journal of Archaeology* 117 (2013): 461–492.

¹² Martin 2012; Archer Martin, "Thoughts on Pompeii's Fine Ware Supply," *Rei Cretariae Romanae Fautorum Acta* 44 (forthcoming).

¹³ For overviews of lamps in Italy to the end of the republican period see Carlo Pavolini, "Le lucerne nell'Italia romana," in Andrea Giardina and Aldo Schiavone (eds.), *Società romana e produzione schiavistica II. Merci, mercati e scambi nel Mediterraneo* (Bari: Editori Laterza, 1981): 140–163, and C. Pavolini, "Lucerna. Mediterraneo occidentale," *Enciclopedia dell'Arte Antica Classica e Orientale, Secondo Supplemento 1971–1994 III* (Roma: Istituto della Enciclopedia Italiana, 1995), 454–455. For a more recent discussion see Monica Ceci, "Le Lucerne," in Daniela Gandolfi (ed.), *La ceramica e i materiali di età romana. Classi, produzioni, commerci e consumi*, Quaderni della Scuola Interdisciplinare delle Metodologie Archeologiche 2 (Bordighera: Istituto Internazionale di Studi Liguri, 2005), 312–313. See also the comments in D. M. Bailey, *A Catalogue of Lamps in the British Museum I: Greek, Hellenistic, and Early Roman Pottery Lamps* (London: British Museum Publications Ltd., 1975), 323–327.

¹⁴ Pavolini 1981, 163–167; Pavolini 1995, 456–457, 458–459; Ceci 2005, 313.

¹⁵ Pavolini 1981, 166; Ceci 2005, 313.

¹⁶ Pavolini 1995, 457; Ceci 2005, 313.

- ¹⁷ Daniela Cottica and Emanuele Curti, "Il progetto di recupero ed edizione degli scavi I.E. (Impianto Elettrico) 1980–1981 nel Foro di Pompei," in Pietro Giovanni Guzzo and Maria Paola Guidobaldi (eds.), *Nuove ricerche archeologiche nell'area vesuviana (scavi 2003–2006)*, Studi della Soprintendenza Archeologica di Pompei 25 (Roma: "L'Erma" di Bretschneider, 2008): 32, fig. 7b.
- ¹⁸ Myles McCallum and Ettore Manfredi, "An Overview of the Finds from VIII.7.1–15: 2005–2006 Seasons," *Rivista di Studi Pompeiani* 18 (2007): 125.
- ¹⁹ Sara Santoro and Daniela Scagliarini et al., "Progetto Insula del Centenario (IX 8)," *Rivista di Studi Pompeiani* 16 (2005): 211–256.
- ²⁰ Rita Volpe (ed.), *Aqua Marcia. Lo scavo di un tratto urbano* (Firenze: Edizioni All'Insegna del Giglio, 1996), 96.
- ²¹ Volpe 1996, 19–25.
- ²² Antonio F. Ferrandes, "Circolazione ceramica e approvvigionamento urbano a Roma nel I secolo a.C. Nuovi dati dall'area degli *Horti Lamiani*," *Rei Cretariae Romanae Fautorum Acta* 43 (2014): 353–355.
- ²³ Ferrandes 2014, 356 (fig. 4).
- ²⁴ Volpe 1996, 96.
- ²⁵ Volpe 1996, 20, 27–31.
- ²⁶ Volpe 1996, 20, 32–36.
- ²⁷ Volpe 1996, 96.
- ²⁸ Marie-France Meylan Krause, *Domus Tiberiana. Analyses stratigraphiques et céramologiques*, BAR International Series 1058, (Oxford: Archaeopress, 2002): 16–17, 32–33, 63, 73–75, 79–80.
- ²⁹ Chiara Morselli and Edoardo Tortorici (eds.), *Curia, Forum Iulium, Forum Transitorium*, Lavori e studi di archeologia pubblicati dalla Soprintendenza Archeologica di Roma 14 (Roma: De Luca Edizioni d'Arte, 1989), 271–273.
- ³⁰ Morselli and Tortorici 1989, 273–293.
- ³¹ F. Zevi, R. Geremia, and A. Leone, "Ostia—Sondaggio stratigrafico in uno degli ambienti della domus dei Pesci (1995 e 1996)," *Notizie degli scavi di antichità comunicate alla Accademia dal Ministero per i Beni Culturali e le Attività Culturali Serie IX* 15–16 (2004–2005): 32–38.
- ³² Zevi et al. 2004–2005, 58–109.
- ³³ Andreina Ricci (ed.), *Settefinestre. Una villa schiavistica nell'Etruria romana 2. La villa e i suoi reperti* (Modena: Edizioni Panini, 1985): 60, 89, 112–113, 116, 127, 134, 139, 144, 156, 162, 163, 169, 213, 219, 220, 222, 251.
- ³⁴ Andrea Carandini (ed.), *Settefinestre. Una villa schiavistica nell'Etruria romana 1***. *La villa nelle sue parti* (Modena: Edizioni Panini, 1985), 9.
- ³⁵ Morselli and Tortorici 1989, 216, 237, 272, 283.
- ³⁶ Santoro and Scagliarini et al. 2005, 217, 229, 241, 242, 246.
- ³⁷ Meylan Krause 2002, 14–15, 23–25, 65–67, 78.
- ³⁸ Meylan Krause 2002, 60–62, 68–69, 79.
- ³⁹ Carandini 1985, 9; Ricci 1985, 60, 89, 112–113, 116, 127, 134, 139, 144, 156, 162, 163, 169, 213, 219, 220, 222, 251.
- ⁴⁰ Lorenzo Fergola, "La villa di Poppea: la fortuna e il fascino di un monumento," in Pier Giovanni Guzzo and Lorenzo Fergola, *Oplontis. La Villa di Poppea* (Milano: Federico Motta Editore S.p.A, 2000), 27.
- ⁴¹ Fergola 2000, 27; Luana Toniolo, "10.-13. Lamp (Loeschcke Type III)," in Gazda and Clarke 2016, 186–187.
- ⁴² Archer Martin, "Lusitanian Amphorae at Ostia and in the Vesuvian Region," in I. V. Pinto, R. Almeida and A. Martin (eds.), *Lusitanian Amphorae: Production and Distribution*, Roman and Late Antique Mediterranean Pottery (Oxford: Archaeopress, forthcoming).
- ⁴³ Archer Martin, "Lamps in Abruzzo: The Evidence from Monte Pallano," in 1. *Mednarodni arheološki simpozij. Nova odkritja med Alpami in Črnim morjem. Rezultati raziskav rimskodobnih najdišč v obdobju med leti 2005 in 2015*. In memoriam Iva Mikl Curk. *Ptuj (Slovenija)*, 8. in 9. oktober 2015/ 1st International Archaeological Conference. *New Discoveries Between the Alps and the Black Sea. Results from the Roman Sites in the Period Between 2005 and 2015*. In memoriam Iva Mikl Curk. *Ptuj (Slovenia)*, 8th and 9th October 2015, forthcoming.
- ⁴⁴ Bailey 1975, 239; Arnold Provoost, "Les lampes en terre cuite trouvées en Égypte. État des recherches," *Chronique d'Égypte* 49 (1984): 159; P. Vecchio, "Lucerna. Egitto e Vicino Oriente," *Enciclopedia dell'Arte Antica Classica e Orientale, Secondo Supplemento 1971–1994 III* (Roma: Istituto della Enciclopedia Italiana, 1995), 446.
- ⁴⁵ Bailey 1975, 240.
- ⁴⁶ Bailey 1975, 240; Louise A. Shier, *Terracotta Lamps from Karanis, Egypt: Excavations of the University of Michigan*, University of Michigan, The Kelsey Museum of Archaeology Studies 3 (Ann Arbor: University of Michigan Press, 1978), 13.
- ⁴⁷ Shier 1978, 13.
- ⁴⁸ Shier 1978, 13; J. W. Hayes, *Ancient Lamps in the Royal Ontario Museum I: Greek and Roman Clay Lamps: A Catalogue* (Toronto: Royal Ontario Museum, 1980), 19; Jolanta Młynarczyk, *Alexandrian and Alexandria-Influenced Mould-Made Lamps of the Hellenistic Period*, BAR International Series 677 (Oxford: Archaeopress, 1997), 15.
- ⁴⁹ Bailey 1975, 240–241; Hayes 1980, 19; Młynarczyk

- 1997, 11.
- ⁵⁰ D. M. Bailey, *A Catalogue of Lamps in the British Museum III: Roman Provincial Lamps* (London: British Museum Publications Ltd., 1988), 217.
- ⁵¹ Bailey 1975, 241; Shier 1978, 13.
- ⁵² Bailey 1988, 217.
- ⁵³ Hayes 1980, 19; Bailey 1988, 217.
- ⁵⁴ Lucy Blue and Emad Khalil, *A Multidisciplinary Approach to Alexandria's Economic Past: The Lake Mareotis Research Project*, BAR International Series 2285 (Oxford: Archaeopress, 2011), 25–27 with previous bibliography.

ADDENDUM

DATE KEY FOR FIGURE 2

- Pompeii 1 = Insula del Centenario—before 79 CE
Pompeii 2 = Impianto Elettrico—before 79 CE
Pompeii 3 = Pompeii Archaeological Research Project:
Porta Stabia 2005–2006—before 79 CE
Pompeii 4 = Insula del Centenario—second half of 1st
century BCE
Pompeii 5 = Insula del Centenario—Augustan-Tiberian
period
Pompeii 6 = Insula del Centenario—after 60 CE
- Rome & Ostia 1 = Aqua Marcia, Period II—late 2nd century
BCE
Rome & Ostia 2 = Horti Lamiani—c. 50 BCE
Rome & Ostia 3 = Forum of Caesar, well fill—mid 1st
century BCE
Rome & Ostia 4 = Aqua Marcia, Period III—Augustan
period
Rome & Ostia 5 = Domus dei Pesci, Period 1—first half of
1st century CE
Rome & Ostia 6 = Aqua Marcia, Period IV—reign of Titus
Rome & Ostia 7 = Forum Transitorium—Flavian period
Rome & Ostia 8 = Domus Tiberiana, Period IV—
Domitianic period
Rome & Ostia 9 = Domus dei Pesci, Period 2—last two
decades of 1st century CE
- Settefinestre 1 = Period I, Phase A1—Caesar/Octavian–
Julio-Claudian period