THE URBANISTIC PROJECT ON THE PREVIOUSLY UNEXCAVATED AREAS OF OSTIA (DAI-AAR 1996–2001)

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1. Introduction

In 2001 the project begun in 1996 by the Deutsches Archäologisches Institut Rom (DAI), which has had the American Academy in Rome (AAR) as a cosponsor since 1999, concluded its first phase of work in the field.1 It is now entering the second phase of study and preparation of the final publication. This is envisioned to consist of two parts: one focused on the fieldwork with contributions from the study of the various classes of finds insofar as they serve to help understand the architectural and stratigraphical elements being interpreted; the other concerned with the finds as such.

Currently work is proceeding on both aspects. On the field operations side the general implications of the work have been drawn, and now the documentation produced in the field is being elaborated and stratigraphical interpretations drawn up.2 Pottery constitutes the major part of the finds, of course: an estimated 6 metric tons. This has all been cleaned and sorted provisionally in order to provide dating evidence and to determine which contexts merit detailed study.3 The study of the inscriptions is nearly complete.4 The coins have also been classified and will be analyzed in the light of a larger study of numismatic material at Ostia.5 The analysis of animal bones is well advanced (10,000 fragments analyzed), with interesting results on the diet and the animal population, which included camels (probably as pack animals) in the second century.6 The area of the Constantinian basilica gave a relatively large amount of window glass, which will help in understanding this

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1 We thank the Soprintendenza Archeologica di Ostia, and especially Professor Anna Gallina Zevi, for the continuous support of the project. It is financed principally by the Fritz Thyssen Stiftung, with further support from Professor Anna Marguerite McCann and the two sponsoring institutions. For previous reports, see Heinzelmann et al. 1997; Heinzelmann 1998; Bauer et al. 1999; Bauer and Heinzelmann 1999; Bauer et al. 2000; Heinzelmann and Martin 2000; Heinzelmann 2001; Heinzelmann and Martin 2002.

2 This aspect is the responsibility of Michael Heinzelmann.

3 During the 1998 season Archer Martin worked alone. Nina Fenn, then a student at the Universität Freiburg, provided invaluable assistance in the seasons from 1999 to 2001. Eric C. De Sena, laboratory assistant at the AAR, joined the team in 2001; see his contribution below. Raffaele Donnaruma and Catello Imperatore, students at the Istituto Universitario Suor Orsola Benincasa at Naples, and Novella Tarantino, a graduate of the same institute, helped enthusiastically in 2001.

4 The two scholars concerned are Franca Taglietti of the Università di Roma “La Sapienza” for the tile stamps and Maria Grazia Granino Cecere of the Università di Siena for the other epigraphic evidence; see the latter’s contribution below.

5 Emanuela Spagnoli of Rome is undertaking this work.

6 Michael MacKinnon of the University of Winnipeg is carrying out the archaeozoological analysis.
part of the furnishing of early Christian churches. Further studies in progress concern painted wall plaster and sculptural fragments. The sections of the current report were originally given as papers at the third Ostia symposium, held on 12–14 November 2001 at the American Academy in Rome, the Deutsches Archäologisches Institut Rom, the British School at Rome, and Ostia itself. Their presentation here is intended to constitute a more extended preliminary report than has been the case in previous years, looking both back over all the first phase and forward with anticipations of what the study phase may bring. The first section gives an account of the fieldwork carried out over the years, with its methodology, results, and preliminary considerations on how it contributes to our knowledge of the urbanistic history of Ostia. Following that come two ceromological studies. The first shows an important side of the pottery analysis: the experimentation of statistical methods to investigate questions of importation and local production in meeting the demands of consumption at Ostia. The second highlights the evidence that the project can bring to our understanding of the latest phases of the city, leading to considerations on trade in those times. Finally, an epigraphic contribution places an inscription on a lead pipe, already of interest in the topographical analysis, in the wider picture of the late prosopography of Ostia and Rome.

Archer Martin


The scope of the project was to investigate as widely as possible the previously unexcavated parts of the city of Ostia, on the one hand nonintrusively with the help of geophysical surveys and the systematic analysis of aerial photographs, and on the other through the stratigraphic excavation of selected sondages.

Methodology: Geophysical Surveys, Aerial Photographs, Stratigraphic Excavations (fig. 1)

In the first phase of the project, between 1996 and 1998, several unexcavated areas were investigated by means of magnetometry, while a final geophysical survey was conducted in the autumn of 2001. Thus, large parts of the area of the ancient city south of the Tiber have been documented. The magnetometry surveys proved to be particularly useful in areas in which the distance between the present ground level and the original virgin soil, made up of highly magnetic sand, was greater than c. 2 m. This method turned out to be less useful in Regio IV because this neighborhood was occupied mostly by residential buildings of one or two stories, which produced less debris after they were abandoned. The present ground level of this area is only about 1.8–2.0 m above the sand upon which the archaeological structures were built. As a result, it was impossible to detect any subsurface archaeological features due to the strong magnetic interference caused by the sand. Surveys were also carried out in certain selected areas with electro-resistivity. The results were no better than those obtained through magnetometry, and thus we did not proceed with this technique on a large scale.

The second important source of information besides geophysical surveying consisted of the analysis of numerous aerial photographs. Altogether about thirty photographs, taken

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7 Francesca Dell’Acqua, Fulbright Fellow at the AAR in 1999–2000, is carrying out this study.  
8 These studies are being done respectively by Stephan Mols, formerly of the Dutch Institute in Rome, and Bjoern Ewald of Yale University.
between 1911 and 1998 and preserved in various archives in Italy and England, were collected and studied. From an archaeological point of view, the quality of a photo taken in 1985 by a Roman mapping firm and neglected until now is sensational.

The Institute for Photogrammetry of the Technische Universität München transformed all the aerial photographs into digital orthophotographs; that is, the photos were broken down according to the flight information pertaining to the flight and type of camera, transformed into a scaled representation, and made compatible with the results of the geophysical survey.

Even if the geophysical surveys and aerial photographs allow more or less detailed maps to be elaborated, they lack any sort of chronological information. Therefore, the project entered into a second phase in 1998 whereby sondages were excavated stratigraphically based upon the results of the aerial photographs and the geophysical survey (fig. 2). The two principal objectives were: to clarify several key issues concerning the chronology of single buildings by excavating systematically deep sondages with a limited surface area within structures of interest; to obtain more precise information on the settlement sequence, and hence on the processes of urban development of the areas under investigation, by analyzing the stratigraphic record from the oldest phases of occupation until the latest use.

The precise positioning on the terrain is particularly important for this approach, so that the Institute for Photogrammetry first established a network of fixed points in relation to the Italian geodetic system. The exact data on the buildings and the sondages were then elaborated on the computer and reconstructed. This procedure proved to be surprisingly precise. The excavations showed that the deviations of the data elaborated by the computer from the actual line of the walls were less than 10 cm in most cases.
Fig. 2. Overall plan of Ostia with the stratigraphic sondages.

Fig. 3. Regio V, overall plan of the Constantinian episcopal basilica with the preceding structures.
Altogether thirty-seven sondages of various dimensions were carried out between 1998 and 2001 in Regiones II, IV, and V.

**Basilica and Preceding Buildings**

The campaigns of 1998 and 1999 focused on the analysis of the early Christian basilica in Regio V (fig. 3). Altogether nine sondages were carried out in the area of the church and its atrium. In spite of the building’s very poor state of preservation, it was possible not only to reconstruct its structural characteristics but also the main lines of its development. The complex of the basilica with a nave, three aisles, and an atrium was founded at the beginning of the fourth century. The foundations were created completely ex novo, following considerable leveling works, above a larger insula. Its date, dimensions, and structural volumes allow the church to be identified as the episcopal church erected by Constantine and mentioned in the Liber Pontificalis. During the fourth and fifth centuries the church was given a new mosaic floor and a baptistery south of the atrium. Both in the atrium and in the church numerous remains of burials were discovered, nearly all of which had been destroyed by recent depredations. During the sixth century it was apparently not possible to maintain the entire church complex, and the building was abandoned gradually from west to east. In this period simple structures were erected in the northern ambulacrum of the atrium and on the south side of the church, partly with sunken floors of beaten earth and hearths on the floor, while the apse of the church was restored again at the beginning of the seventh century. The total abandonment of the church and the surrounding dwellings appears to have begun in the second half of the seventh century and the definitive and systematic spoliation only during the Carolingian period.

Various sondages have yielded important information on the preceding buildings. The discovery of coins and pottery shows that the large insula under the basilica dates to the time of Trajan or Hadrian. Surprisingly, however, the remains of another, earlier building of the Flavian period were discovered a meter lower, founded directly on virgin soil. Therefore, it appears that this area within the walls in the southeast was built up only in the Flavian period. In short, the excavations revealed a long sequence of settlement in the zone around the church, running from the first to the seventh centuries A.D.

**Streets**

The excavations also concentrated on analyzing various streets in Regiones V and III. With a total of eight sondages the late antique phases of the most recent preserved levels of the streets were investigated in particular, as these layers were for the most part destroyed without documentation in the excavated areas of the city. The picture that emerges is very homogeneous. Thus it was demonstrated, for example, that such important roads as Via del Sabazoeo (fig. 4), Via degli Aurighi, and Via della Fosse remained in use without interruption until the seventh century, and in these cases there are respectively from eight to nineteen late antique and early medieval layers. It was noted various times, as here in the case of Via del Sabazoeo, that the buildings that flanked the street during the fifth century collapsed onto the street and were covered by further street levels. The late remains of settlement in the area of the church must therefore have existed in a landscape of ruins. It is also to be noted that the streets outside the city walls served as tips for debris and butchers’ remains in the imperial period.

Fig. 4. Regio V, Sondage 12, section through Via del Sabazeo.

Fig. 5. Regio V, Sondage 10, section through the city wall and a street just to the south.
CITY WALLS

Research was then concentrated on the city walls and two previously unknown gates. As the city walls are dated variously between Sulla and Augustus, two deep sondages were excavated in an attempt to obtain new information about their execution.\textsuperscript{10} In the case of a sondage in Regio V (fig. 5), not enough ceramic material was yielded in the foundation trenches of the walls to provide a clear chronological definition, but about 20 cm above the original ground level of the city walls another level of use was discovered, which is certainly ascribable to the early Augustan period on the basis of the abundant terra sigillata found. The walls appear, therefore, to have been built before the Augustan age, even if the relatively modest change in height between the two levels suggests that the walls were not built in the Sullan period but rather lends support to the hypothesis recently proposed by Fausto Zevi that they date to just before the middle of the first century b.c.\textsuperscript{11}

Completely surprising results were obtained in two sondages on the city gates in Via del Sabazeo (fig. 6) and Via degli Aurighi (fig. 7). Both gates were inserted into the walls after their construction, in the case of Via del Sabazeo in the Augustan period, and at first they had no doors. It is interesting to note that clear signs were found of repairs to the city gates in the form of thresholds and work on the nearby stretches of wall. These date to the late third century A.D. and, judging by the discovery of a coin, probably to the reign of Aurelian. With these two repairs one has the first indications of a late antique defensive system at Ostia. In both cases the gates remained in use for a relatively short period, as new levels overlaid the thresholds already in the fourth century, putting them out of use.

DOMUS AND SUBURBAN VILLA

The aerial photos and surveys gave various indications of the existence of large residential buildings in the outskirts of the city. In the last three campaigns a building in Regio III, one in IV, and one in V were investigated through stratigraphically excavated sondages.\textsuperscript{12} In Regio V an almost square domus of c. 60 × 60 m is located south of the Terme del Nuotatore, with access from the north (fig. 8). It seems to lack an atrium and to consist of a large square peristyle surrounded by various rooms. The sondages demonstrated that this domus was built in the Flavian period, toward the end of the first century A.D., above previous structures of the early imperial period. It is notable for the luxury of its furnishings. The domus had rich opus sectile floors from the beginning in the main southern triclinium (fig. 9) and an elegant mosaic floor in the ambulacrum of the peristyle. The building remained in use without interruption, judging by a succession of decorative phases, until the fourth century. Then, in the fifth and sixth centuries it suffered great destruction, after which rustic buildings were established on the ruins as in the area of the basilica.

The situation of the large building in Regio IV, analyzed in 2001 with four sondages (fig. 10), is very similar. Unlike the domus just mentioned, this building, which is easily recognizable on the 1985 aerial photo, is located just outside the city walls and occupies a large residential block. There is a nearly square peristyle and a stadium-garden set parallel to the sea that is c. 150 m long. These characteristics indicate that the complex was undoubtedly a large suburban villa.


A sondage at the eastern end of the stadium-garden, where there is a sort of pavilion with niches (fig. 11), is particularly indicative for the dating. On the basis of the pottery found there and in other sondages, the construction of the villa can be dated to A.D. 60–80, approximately the same time as the *domus* in Regio V. The villa underwent a general phase of redecoration in the time of Trajan or Hadrian. Unlike the *domus*, the villa was completely destroyed in the final decades of the third century, when it was still almost intact, which the collapse of a wall and ceiling
Fig. 7. Regio III, Sondage 28, city wall with late antique gate.

Fig. 8. Regio V, overall plan of the domus with preceding structures.

Fig. 9. Regio V, Sondage 14, main triclinium and outer passageway of the domus.
shows. The causes of this destruction are still an open question. Perhaps they are to be attributed to an earthquake. On the other hand, the period of destruction coincides with the restoration of the city walls (see above), so that it will be necessary to see if there are any possible connections.

In the following period the area of the villa remained uninhabited for several decades, until simple rustic structures were built in the area of the former peristyle during the first half of the fourth century. These structures take no notice of the villa. The fourth-century structures,
which also have various phases, were completely destroyed, in turn, toward the end of the fourth century or the beginning of the fifth. On their ruins further simple structures were erected, for which it was not possible to establish how long they remained in use, as they were just below the humus and largely plowed out.

To sum up, this suburban villa seems to have constituted an isolated building outside the walls with a sea view. Probably shortly after the building was erected, the synagogue building and the Via Severiana, dated by Carlo Pavolini to the Domitianic period, were created. During the second century the villa was surrounded on all sides by development, thus becoming almost an urban domus.

**Horrea and Commercial Buildings**

The surveys and the analysis of aerial photos, particularly in the northern part of Regio III, showed a considerable density of commercial buildings, especially horrea (fig. 12). Three of them were investigated with sondages in the 2000 season, and it was shown that they date without exception to the beginning of the second century and that at least two were abandoned in late antiquity. These horrea are further evidence of the extraordinary multiplicity of commercial and economic activities at Ostia parallel to the enlargement of the Trajanic harbor.

**Extramural Construction**

In the southern part of Regio III two residential structures built against the outside of the city walls were investigated. It was shown that the area outside the walls here near the beach remained without buildings until the Flavian period. The older building seems to date to the second half of the first century A.D. Only during the second century was a second building added in the eastern part. The results of this sondage are paralleled in the area excavated in front of Porta Marina: here too the oldest building is Flavian, while the coast was previously protected by a dike but had no buildings except for a few tombs.

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Fig. 13. Regio III, reconstructive overall plan of the harbor area based on analysis of aerial photography and geophysical surveys.

Fig. 14. Regio III, overall plan of the navalia-temple complex.

Fig. 15. Regio III, Reconstruction of the area of the harbor with the navalia-temple complex.
Harbor—Navalia—Harbor Temple

The most important discovery from an urbanistic point of view is undoubtedly the evidence for a large river basin in Regio III with an extraordinary complex of buildings, probably navalia and a harbor temple (figs. 13–15). In terms of the river basin, aerial photos and geophysical surveys show a strange empty space between the so-called Palazzo Imperiale and what was presumably the ancient lighthouse. Furthermore, the terrain is characterized by an obvious depression and the total absence of archaeological material on the surface. The strange deformation of the terrain has long been noted: L. Canina, for example, reconstructed a large semicircular emporium here.\textsuperscript{14} In the sondages excavated on the east side of the depression a strange structure came to light. It is important to note that the architectural elements in the western part of this structure show considerable traces of erosion through wave action. There can be no doubt, therefore, that there was water in the area and that we have here a harbor basin that was subsequently filled after antiquity with a mixture of sand, debris, and flood matter from the Tiber. Unfortunately, the southern limit of the basin could not be identified clearly because this part of the river was evidently subject after antiquity to greater erosion. It appears, however, that the basin was flanked by a street, attested in some places by a sondage excavated in 2000. The basin was about 150 m long and 80–100 m wide.

The building on the eastern part of the basin is especially interesting (fig. 14). The façade of this building toward the basin is not constituted by a closed wall but rather by various chambers with ample openings. It is unusual that these openings reached the ancient water level. This particular discovery made us think of putting these structures in relation with some remains excavated in the nineteenth century by C. Visconti northwest of the Palazzo Imperiale.\textsuperscript{15} These remains consisted of tufa arches, against which some tabernae on the back side were built oriented to the east of the Palazzo Imperiale and a further series of long vaulted chambers open to the north toward the Tiber. They present the same building characteristics as the chambers we excavated. Visconti and, later, particularly L. Paschetto saw in these chambers the remains of the navalia mentioned by inscriptions—an interpretation called into doubt by R. Meiggs and finally abandoned.\textsuperscript{16} The architectural elements found in the sondage mentioned seem to us to confirm the old interpretation that the navalia opened not only to the north toward the Tiber but also to the west toward the harbor basin. The complex would thus be approximately square, with external dimensions of about 70 x 70 m, which means that the side toward the harbor could accommodate twelve vaulted chambers. The building is noteworthy, however, for another aspect. Already Paschetto has observed correctly that above the vaults of the single chambers there is a thick layer of impermeable mortar upon which rests opus spicatum. Paschetto concluded rightly that there was no further story above the chambers but rather a large terrace at about 5 m above the level of the river. From various indications, including the remains of foundations and numerous fragments of columns and entablature, it is probable that this terrace was bordered on three sides by a portico.

At the center of this structure various monumental elements in Luna marble have been known since the nineteenth century but never properly studied, among which is a large base with a diameter of more than a meter, a fluted three-quarter column, and a large marble block

\textsuperscript{14} Cf. Calza 1953, 50, fig. 12 (C) and 53, fig. 13 (N).
\textsuperscript{15} Cf. Visconti 1857, 337–339; Lanciani 1868, 148; Paschetto 1912, 346–348; Turchetti 1994, 121, fig. 27.75; Carcopino 1911, 214–216, figs. 1–2.
\textsuperscript{16} Meiggs 1973, 126; also critical is Ashby 1912, 188–189.
with a thickness of 0.45 m, whose outer surface shows pseudo-isodomic masonry and whose inner surface is finely smoothed. These fragments are to be seen as elements of the large temple hypothesized here.

In the 2001 season ample parts of the foundation of a podium temple exactly in the middle of the terrace were brought to light. These foundations are made of concrete and opus reticulatum, forming a rectangle of 20 x 10 m. The short side on the west has a section of 3.5 m, meaning that a façade with a staircase in front of it must be supposed here. The temple was, therefore, oriented to the west toward the harbor basin, more precisely exactly toward the mouth of the Tiber, and thus was the first building encountered by all the ships coming upriver. The base of the column preserved indicates a façade about 18 m high with four columns on the front.

The foundation of the temple was subdivided internally into two parallel longitudinal chambers that were originally vaulted. From various indications it can be deduced that the level of the flooring of the temple was originally about 2.5 m above the level of the navalia terrace and, thus, approximately 8 m above the level of the river. As far as the internal subdivision of the temple is concerned, the northern foundation of the cella wall and the intrados of the northern door of the cella were brought to light. Furthermore, the foundation of a podium for the cult statue was found in the back or eastern part. It is extraordinarily large, about 3.5 x 3.5 m.

While the parts of the foundations described so far belong undoubtedly to the first structural phase, the remains of a later restoration are preserved in the cult statue's podium and inside the northern chamber of the main podium. It was noted that the podium was reinforced with a massive cement fill up to the height of about 2 m above sea level. Unlike the original foundations, this cement has a high percentage of brick and marble fragments. In the surface of this cement reinforcement were found two coins in mint state of Marcus Aurelius and Caracalla.

There are no definite elements to date the first phase. The lack of brick fragments in the cement indicates a time before Domitian. The opus reticulatum finds parallels in the early imperial period. Furthermore, the marble elements preserved—in particular the base—recall the only slightly larger temple of Roma and Augustus in the Forum, probably erected under Tiberius. The resemblances are such as to suggest that the two temples were erected within a short time of each other.

The question of the identification of the temple is closely linked to that of its date. Research into the navalia, with which the temple forms a structural unit, leads to a well-known inscription of L. Gamala (CIL 14.376), heir to one of the most important and oldest families of Ostia, who lived under Marcus Aurelius and restored many buildings. In this inscription the restoration of an as yet unidentified temple dedicated to Castor and Pollux is mentioned first and then, lower down, the restoration of the navalia, built by a certain L. Colius but evidently to a large extent collapsed.

The archaeological discoveries correspond well to the data on the inscription. The navalia have a first structural phase in the early imperial period but underwent ample reconstruction in the mid-second century, judging from masonry technique. The temple, for its part, has only limited restorations, dated by the coins precisely to the time of the inscription. To this may be added that the podium of the cult statue is too large for a single statue, considering the size of the temple.

It is proposed, therefore, to identify this building with the temple of the Dioscuri mentioned in the inscription. The particular depth of the podium could allow the reconstruction of

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a cult group with horses. The identification of this sanctuary with the temple of Castor and Pollux would seem sensible also because of the traditional relation of the two deities to seafaring. The connection between the temple described here and seafaring is made obvious by the architectural relation to the *navalia*, the dominating position over the harbor basin, and the orientation toward the mouth of the Tiber and all the ships entering the river (fig. 15).

As various sources attest, the temple of Castor and Pollux at Ostia constituted, along with the also unidentified temple of Vulcan, the most important cult site of the city, closely connected with Rome itself. Here, every year on 27 January, the date on which the city temple to Castor and Pollux was inaugurated, sacrifices and *ludi Castorum* were staged with a *praetor* or *consul* who came from Rome and represented the population of that city. The importance of the cult was still maintained in late antiquity. Thus, Ammianus Marcellinus (19.10.4) says that the urban praefect Tertullus went to Ostia when famine threatened in 359 to offer sacrifices at the temple of the Dioscuri for the protection of the grain fleet that could not enter into port because of unfavorable winds.

Independently of the question of the identification of the cult, the discovery of the harbor basin and the *navalia* complex constitutes an important complement to the previously known picture of Ostia.

**LATE ANTIQUE BATH**

In a sondage just south of the *navalia* complex a small, late antique bath complex came to light with a small rectangular room, a small apse to the east, and an indication of a second apse to the north (fig. 16). The establishment had hypocausts and was completely covered in marble. On the

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basis of the masonry and for stratigraphic reasons it should be dated to the fourth century. Because of its modest dimensions it was probably not a public establishment but rather private baths to be seen in connection with a domus not yet identified by surveys and aerial photos.

The building is especially interesting as a lead water pipe was found in situ with the name of a praefectus urbi for A.D. 351. The complex of the temple and the navalia and its importance, which remained unchanged until late antiquity, show this discovery in a new light. It seems that there was a domus in the immediate vicinity of the harbor basin and the navalia that could have been the residence of the praefectus urbi or of a single prefect (and therefore his private property).

Michael Heinzelmann

3. Reflections on the Supply of Domestic Pottery in Ostia, A.D. 50–450:

INTRODUCTION

Over the course of the twentieth century, excavations conducted at Ostia Antica have provided some of the most important evidence for many issues pertaining to Roman-period pottery. Detailed ceramic typologies and chronological information were presented by some of the most illustrious figures in the Italian school of archaeology in the four volumes of the Terme del Nuotatore project. Evidence from the same excavations formed the basis for a series of articles by Panella and others in which provenance and patterns of trade are discussed. At the same time Zevi and colleagues published typologies of pottery from several different excavations in the ancient city. More recently, volume 13 of the Scavi di Ostia Antica series is a long anticipated analysis of the fine-bodied common wares by Pavolini (2000). It is the intention of the ceramics specialists of the DAI-AAR excavations to follow suit and publish a detailed ceramic typology of the excavated materials and utilize the same information in order to address broader questions regarding the ceramic industry and the supply of goods to Ostia over time. This paper concerns the latter subject and is treated in two sections: the first addresses the overall supply of domestic pottery to Ostia over time based upon the numerical data from a limited number of contexts excavated by the German-American team; the second considers the market value of this pottery based upon factors such as how common individual classes of pottery were in antiquity and the range of forms included in the repertory of each ware.

RESEARCH METHODS

In four field seasons, 1998–2001, the German-American archaeological team, directed by Michael Heinzelmann and Archer Martin, has explored a number of different areas of the ancient city of Ostia in order to address questions of urbanization synchronically and diachronically. These efforts have resulted in the unearthing of a large quantity of pottery:

19 See M. G. Granino Cecere below.
20 For example, Panella 1985 and Anselmino et al. 1986.
22 Martin and De Sena 2002; De Sena in preparation.
23 Bauer et al. 2000; Martin and Heinzelmann 2000; Heinzelmann in this volume.
approximately six metric tons of transport amphorae, domestic wares, and lamps. The great majority of the ceramic material derived from secondary deposits—that is, construction fills—although several primary deposits—rubbish dumps—were excavated as well. The pottery studied for this paper derives from sixteen stratigraphic units excavated in eight different areas of the city, generally weighing about 25–30 kg apiece, although US 3402 alone measures in excess of 200 kg. In all, more than 680 kg of pottery were studied for this report. The fact that we are dealing with secondary deposits from nonindustrial and noncommercial areas of the city, that there is a rich blend of domestic pottery, transport amphorae, lamps, glass, bone, building debris, and other material, and that the range of ceramics is akin to that from other excavations in Ostia and Rome, leads me to believe that this assemblage can be used to study overall patterns of supply for the ancient city of Ostia.24

All of the pottery under investigation was sorted into classes and quantified according to several methods (counts and weights of rims, bases, handles, and body sherds in each class; calculations of the minimum and maximum estimated vessels counts; and estimated vessel equivalents whereby the percentages of rims are measured).23 The author is currently reevaluating the methods involved in examining pottery and, hence, wished to use this assemblage as an exercise to compare the various methods of quantification. For the purposes of this study, all figures represent the average percentage of seven different methods of quantification, with extremely high or low values discarded. All methods of quantification, whether raw counts, weights, estimated vessel counts, etc., are inherently problematic—for example, the average sherd of a fine-ware bowl will clearly weigh less than a fragment of a transport amphora—and thus average values were deemed to be most suitable for the kinds of arguments presented here.26 Considering the difficulties involved in establishing the most objective and accurate way to present numerical information, together with the fact that only a very small portion of the material culture of ancient Ostia has been studied for this report, the author suggests that the quantitative data presented here are a good reflection of general trends in the economy of ancient Ostia but should not be regarded as concrete historical fact.27

The dates of the sixteen individual stratigraphic units considered for this study are based upon the range of pottery contained within them and the stratigraphic relationships between contexts. In order to study supply patterns over time, a system involving five phases has been implemented: phase I dates between C. A.D. 50 and 100; phase II dates to C. A.D. 100–150; phase III dates to C. A.D. 280–325; phase IV dates to C. A.D. 325–375; phase V dates to C. A.D. 375–450. The reader will note a conspicuous gap in the chronological sequence—while we have excavated contexts dating to the period between the mid-second and later third centuries, the pottery evidence is too scarce to permit statistical analysis.

**THE OVERALL SUPPLY PATTERNS OF DOMESTIC WARES**

It has been noted in a companion article that until recently domestic pottery has been treated in a segmented manner with a net distinction between the so-called fine wares and common wares.28 This distinction is understandable given the traditionally strong interest in red-slipped,

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26 Gareggini 2000, 98.

25 For a more complete discussion of the methods of quantification followed, see Martin and De Sena 2002.

28 For a more detailed discussion of this phenomenon, see Martin and De Sena 2002.
imported tablewares and the low appeal of undecorated, regionally produced and distributed wares that endured until less than two decades ago. Studies in this tradition presented grossly skewed impressions of ancient supply trends, suggesting that imported pottery far outweighed regionally manufactured wares in Rome, Ostia, and other urban centers. Recently, pottery specialists have realized that more meaningful patterns of supply are demonstrated when these functionally similar imported and regionally manufactured wares are treated together.29

Phases I and II (c. A.D. 50–150) represent a crucial period of transition in western Mediterranean supply patterns and the ancient economy in general. The late republican period and the reign of Augustus ushered in greater political and economic uniformity in the western Mediterranean, which led to the development of both productive and commercial systems and greater accessibility to extraregional goods, particularly in the coastal zones of Italy, Gaul, Hispania, and North Africa.30 While the city of Rome demanded raw materials and certain agricultural goods from the provinces by the later second century B.C., it was not until the 60s B.C., when Pompey ensured a steady supply of grain from North Africa, that long-distance commerce became more regular.31 With the “Romanization” of the indigenous peoples of Gaul and Hispania under Julius Caesar and Augustus and the reorganization of the provinces by the latter, there was tremendous economic growth in the provinces and, hence, a greater flow of agricultural and craft goods in the western Mediterranean as well as in the Aegean. African olive oil and fish sauce arrived sporadically in Italy by the late second and first centuries B.C.;32 Spanish oil and fish products began to arrive in Rome and other Italian centers by the late first century B.C.;33 Gallic and Aegean wine reached Italy somewhat later, in the first century A.D.;34 in addition to Italian (Arretine) sigillata, high-quality, decorative tablewares were imported to Italy from Gaul, Hispania, Asia Minor, Cyprus, and other areas. By the mid-first century A.D., both a red-slip tableware and a high-quality cookware manufactured in modern-day Tunisia entered the Italian market.35

This pattern in the supply of domestic pottery is clearly illustrated by the numerical tables (tables 1 and 2). In phase I, Italian sigillata was the predominant fine-bodied service/storage ware, while Gallic, Eastern (from Asia Minor), Cypriot, and Hispanic sigillata and African red-slip ware are represented collectively with a percentage of 4 percent. Thin-walled ware, a broad family of ceramics manufactured in Italy, Spain, and other areas of the western Mediterranean, was also very common.36 Early glazed pottery, probably of central Italian origin, is represented by less than 1 percent of the assemblage.37 Among the cooking wares, too, there were several imports: internal red-slip cookware,38 Aegean cookware,39 and African cookware40 represent nearly one-fifth of all cooking wares collectively. It is crucial to bear in mind, however, that while a significant proportion of the pottery used in Ostia at this time derived from

30 Recently, various authors in Keay and Terrenato 2001 and Martingly and Salmon 2001.
31 Garnsey 1988, 182.
32 De Sena and Ikiheimo 2003 (in press).
33 Peacock and Williams 1986, 113–121.
34 Peacock and Williams 1986, 103, 143–150, 179.
37 Martin 1992, 324.
38 Chiosi 1996.
39 Recently, Martin 1997.
40 Tortorella 1981.
extraregional sources, including Arezzo and Campania, regionally manufactured pottery was by far the most common class: 59 percent of the service/storage wares and 83 percent of the cooking wares were manufactured in or near Ostia.

The importation of a broad variety of goods continued during the first half of the second century A.D. (phase II), although an important change occurred at this time: the tremendous development of the North African economy. North Africa had always enjoyed strong agricultural production, which Rome began to exploit in the mid-first century B.C., particularly for the grain dole. Certain other commodities, as previously mentioned, were also imported to Italy, probably as so-called piggy-back cargo—that is, secondary merchandise that was shipped along with bulk supplies. The most archaeologically visible goods were olive oil, fish sauce (both transported in ceramic amphorae), and crockery. For a variety of reasons, including climatic and geographic conditions that favored production and transport and the establishment of massive agricultural holdings by Roman elites, the late first and early second centuries A.D.

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The term *regional* is preferred to describe the common wares found in Ostia since there is no direct evidence for the manufacture of such pottery in Ostia. The fabric is very similar to the common wares found in and around the city of Rome, where pottery workshops are known. Due to the similar geology of this region of central Latium, the possibility that workshops existed in or near Ostia cannot be dismissed.
witnessed a tremendous boom in the production of agricultural goods in North Africa, olive oil in particular. Thus at this time we note a sharp rise in the quantities of North African amphorae in the archaeological record of Ostia, Rome, and other centers. In terms of domestic pottery, this trend is apparent in an increase in the utilization of African red-slip ware, representing 6 percent of all service/storage wares, and African cookware, which accounted for nearly one-third of all cookwares. The range of other pottery was virtually unchanged, although we detect a notable decline in their relative proportions. The level of consumption of Italian sigillata and the class of pottery frequently referred to as “common ware” (i.e., regionally made pottery) declined considerably.

While we do not have sufficient archaeological data from the DAI-AAR excavations to discuss the period between the mid-second and the late third century, suffice it to say that the North African economy flourished through the Antonine and Severan periods and appears not to have been greatly affected by the political upheavals of the third century. Fairly recent studies of amphorae and African red-slip ware indicate high percentages of North African commodities on Italian soil throughout this period. Spanish oil was in high demand at this time, attested most dramatically by the fact that a considerable portion of Monte Testaccio was created between A.D. 140 and 250. This period also witnessed a significant increase in the proportion of wine from the Aegean Sea—Kápitah I and II amphorae were very common, representing close to 10 percent of all amphorae. By this time, the only domestic pottery imported in significant amounts derived from North Africa (African red-slip ware and African cookware).

The trends observed in the phase III pottery assemblage reflect these changes. African red-slip wares C and D represented about a quarter of all service/storage wares, while African cookware leapt to more than two-thirds of the cooking ware assemblage. Regionally manufactured service/storage wares still represented the majority of this functional group at 70 percent, while the regional cookwares represented just 29 percent. Of minor statistical importance is Central Tiber red-slip ware—a variety of pottery whose repertory appears to have been limited to a series of small bowl/cups, manufactured in the vicinity of Orte and often transported down the Tiber River to Rome and Ostia. The presence of this pottery is of some historical significance because it lends further proof to the notion that there was not an economic/agricultural crisis in Italy around the time of Trajan. Rather, a number of scholars are beginning to discuss a transformation toward economic regionalism—the socioeconomic development of territories within the Roman Empire that were generally able to maintain themselves and did not rely upon surplus production from extraregional sources. This was the case in many areas of rural Italy, as attested by surveys and excavations in the upper Tiber River valley, the central Apennines, and southern Latium, to name just a few locations.

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46 Various authors in Mattingly and Salmon 2001 have reconsidered Finley’s (1973) concept of self-sufficiency.
47 Martin 2002.
50 Wightman and Hayes 1994; De Sena 1998.
Occasionally, these territories supplied outside markets with specialty goods, such as pottery or, in the case of late antique Calabria, wine.  

Phases IV and V can be discussed together since the patterns are so similar. There is essentially no variation among the cookwares, except for the modest introduction of what is termed “hand-built cookware,” a late Roman phenomenon that is still not well understood.  

Hand-built cookware refers to a family of pottery whose formal repertory is limited to rather crude-looking casseroles and ollae manufactured without the use of a fast potter’s wheel, often with a highly micaceous ceramic paste whose surfaces were smoothed or burnished; Sardinia or Anatolia are likely sources, given the strong presence of mica. A related ware from Pantelleria is not represented at Ostia. African red-slip ware flourished through the fourth and fifth centuries, with a slight reduction in proportion in phase V. Late Roman glazed pottery, which was manufactured in many parts of Italy, possibly even in Latium and Campania, represents about 1 percent of the service/storage ware assemblage. Despite the fact that the Roman East played an increasingly important role in the supply of goods such as wine and olive oil, there is no domestic pottery from this region in Ostia or Rome; curiously, eastern coarse ware was shipped to the coastal regions of Gaul at this time, albeit in modest proportions. Regional service/storage ware stands in the range of 40 to 50 percent, while the regional cookware maintained its presence at about one-third. These patterns are comparable to other studies of fourth- and fifth-century contexts in Rome and Ostia.

One type of pottery was present throughout this four-century-long segment of history, namely African white-surface ware. This pottery was also manufactured in modern-day Tunisia and has been recognized by scholars in the last few decades but has not been discussed to a great extent by researchers not working in North Africa. The formal repertory of African white-surface ware was quite broad, as we shall see, and appears in the archaeological record of Italy in small proportions—generally on the order of 1 to 2 percent.

The Market Value of Domestic Pottery

Archaeologists have demonstrated that there was differentiation in the functional and aesthetic quality of the various ceramic wares available on the Italian market, but exactly what these differences meant in terms of market prices has yet to be determined. While a fair amount of evidence exists for the prices of many kinds of raw materials, finished products, agricultural goods, and services during the Roman period, especially for those goods listed in Diocletian’s Edict of Prices, there are very few sources of information that refer to the cost of domestic pottery. Although the DAI-AAR excavations at Ostia have revealed no direct evidence

55 Reynolds 1995, 98.
56 Montana et al. 2002.
57 For this pottery in the area of Rome, see Meneghini and Staffa 1992.
58 Martin and De Sena 2002.
59 Waksman 2002.
62 While the statistics presented here are consistent with previous studies and should be considered valid, the figure of 8 percent for African white-surface ware in phase V appears to be anomalous and is, thus, not an accurate reflection of fourth- and fifth-century supply patterns in this author’s view.
63 A brief discussion is presented in Peña 1999, 36–37.
regarding the price of domestic pottery manufactured and consumed during the Roman period, it is, however, possible to posit differences in price based upon an analysis of factors such as the volume of consumption and the variability and breadth of distinct vessel forms (i.e., repertory) of the various wares. According to the arguments presented below, there appear to have been two basic levels in the economic hierarchy of Roman pottery, which do not simply correspond to the division between imports and local pottery.

The ancient Romans certainly perceived qualitative and monetary differences among functionally similar goods manufactured in different materials: implements crafted in precious metal and stone, such as alabaster, were viewed as more valuable and prestigious than crystal and glass vessels, which, in turn, were considered to be more valuable than crockery, wood, and basketry. Vickers indicates that in antiquity a silver vessel would have cost 750 to 1,000 times more than a comparable ceramic vessel, while the price ratio of silver to gold was about 12:1. We cannot, however, simply assert that wealthy inhabitants of the Roman Empire utilized precious materials and that the poor used crockery, basketry, and other lower-end materials. Archaeological evidence indicates that common graves sometimes contained gold, silver, and bronze jewelry during the Roman period, while Pliny (HN 33.23) remarks that even slaves possessed gold-plate jewelry. Archaeological and literary sources indicate that ceramic cooking wares and service/storage wares were utilized by all classes of society, including the elite. The same kinds of imported and regionally made ceramic vessels that are found in the late first-century refuse dumps in Ostia have also been found in the destruction levels of elite houses in Pompeii, Herculaneum, and other villas in the Bay of Naples devastated by the eruption of Vesuvius. Moreover, the ancient sources frequently report the use of pottery by members of the upper class.

The Latin authors also hint at qualitative differences among classes of pottery, with Surrentine and Murrine wares (possibly varieties of thin-walled ware) at the higher end and, surprisingly, Arretine sigillata at the lower end of the hierarchy, along with what we would term common ware. Based upon what little has survived in historical and archaeological sources, pottery appears to have been quite inexpensive in the Graeco-Roman period. Gill notes that the highest reported price for a large decorated Greek vessel was three drachmae and that an Attic red-figure bell krater may have cost as little as four obels, while Vickers recalls an instance whereby thirty-two unspecified vessels dated to the Hellenistic period were priced at 16.5 obels. For the Roman period, evidence is quite scarce: Juvenal (11.145) indicates that a pair of common ware jars could be purchased for a few asses, while Martial (9.59) narrates a situation whereby a pair of (Arretine?) cups was purchased for an as. Three papyri unearthed at Oxyrhynchus, dating to the mid-third century A.D., record contractual agreements between potters and estate owners who required thousands of ceramic containers per year for the storage and transport of agricultural goods. These documents indicate that the sigillata" was manufactured, a less carefully produced derivative of classic "Arretine sigillata."


For example, Felle et al. 1994.

Recently, De Caro 1994, 131–197.


Cockle 1981.
production cost of three large vessels was approximately one drachma. In order to compensate for the lack of this type of information, Peña has recently addressed the question of the economic value of pottery by proposing a model wherein factors such as the size and complexity of ceramic vessels are considered. This is clearly a step in the right direction, for this is a problem that calls for merging historical and archaeological sources with theoretical modeling.

The previous section of this article reveals that certain classes of pottery were far more common than others: regional service/storage wares represent about half of the overall assemblage through time; thin-walled ware and Italian sigillata stand at 18 percent apiece in the first phase; African red-slip ware represents between 25 percent and 58 percent in the late Roman period; regional cookware was far more common in the late first century but still represented about one-third of all cookwares in the late Roman period; African cookware represented between one- and two-thirds of all cooking wares. Other varieties of pottery were rather uncommon: early and late Roman glazed pottery, various kinds of sigillata, African white-surface ware, hand-built cookware generally accounted for a percent or two, at best, of the overall assemblage. These patterns demonstrate the shifts in general supply trends of domestic pottery over four centuries; however, there were qualitative differences among the wares that cannot be fully appreciated without discussing the formal repertoires of the individual pottery classes. That is to say, we cannot simply state that in a given period of time “pottery class X” held a particular share of the market: the manufacturers and distributors of the various wares available on the Ostian/Roman market made very important decisions about their products based, in part, upon the availability and quality of other ceramic wares and nonceramic vessels, such as glass.

Figures 17–20 indicate that there were clear distinctions among the formal repertoires of the various wares in question. Among the cooking wares in Ostian contexts, the formal repertory of internal red-slip cookware (IRSC), most of which was imported from the region of Campania, was limited to pans, while Aegean cookware occurred in a small variety of specialized forms, such as a small pot and a pitcher-shaped boiler with a trefoil rim. African cookware consisted of casseroles, small or medium-sized pans, and lids, while the regional cookware generally consisted of large pans and casseroles, ollae, lids, and other specialty forms. Finally, hand-built cookware, when present, generally consists of large casseroles. We note similar patterns among the service/storage wares: in the early phases Italian, Gallic, Eastern, and the other varieties of sigillata occurred almost exclusively in the form of cups, bowls, and plates; thin-walled ware occurs in the form of mugs, cups, bowls, and occasional closed forms; African red-slip ware is represented by cups, bowls, and plates, with occasional mugs and closed forms in the early phases and mortaria (Hayes 91) and rare platters (Hayes 54) in the late Roman period; with the exception of the first two phases, the regionally manufactured pottery is represented almost exclusively by large open vessels, closed vessels, or specialized forms (e.g., vasi ovoidi). The remaining wares—early and late Roman glazed and African white surface ware—occur in a much wider variety of forms that overlap the aforementioned classes of pottery (closed forms are particularly common). In the data presented here, this is fairly clear with early Roman glazed pottery and African white-surface ware. Late Roman glazed pottery, represented here by a single bowl/cup, had a very broad formal repertory consisting of both open and closed containers. This reveals an obvious but important distinction—certain wares occurred in abundance but

73 Only four figures are presented here so as not to over-whelm the reader with a great deal of mostly repetitive information.
had limited repertories, while other kinds of pottery were uncommon but occurred in a broad variety of forms or were highly specialized. I propose that the general market value of these wares should be viewed in light of these trends, with the regional wares, Italian sigillata, African red-slip ware, and African cookware on the lower side of the price scale and the remaining wares on the upper end of the price scale.

First, assuming that Roman households possessed a complete set of ceramic cooking and service/storage wares, it was necessary to purchase vessels manufactured in different places; in contrast with the modern period, it appears that the manufacturers of Roman-period pottery did not furnish complete household sets. Among the cooking wares, this meant that consumers would have possessed IRSC pans from Campania (phases I and II), casseroles and pans of North African origin (phases II–V), and deep pots (ollae and large casseroles), large pans, and other specialty forms (e.g., elibani) of regional manufacture. In terms of service/storage wares, Roman kitchens would have contained cups, bowls, and plates in Italian sigillata and African red-slip ware (depending upon the period in question) and large open vessels,
closed vessels, and other specialty forms in the regional wares. The minimal overlap in the formal repertoires of these popular wares and, hence, the need to possess both higher- and lower-quality vessels to form a household set implies that the somewhat higher aesthetic and functional properties of the Italian sigillata and African wares were insignificant from a monetary point of view. We must bear in mind that certain attributes that are meaningful to modern scholars, such as the presence/absence of a slip or the provenance of pottery, may not have been significant to Roman consumers.

Second, central Italian and North African potters made conscious decisions as to the range of vessels to manufacture and, in the case of the African craftsmen, to place on foreign markets. The range of African red-slip ware and African cookware forms imported to Italy did not typically include large, cumbersome vessels, even though these were manufactured for their respective local/regional markets. Beginning in the later first century A.D., regional pottery manufacturers chose not to compete with North African and other extraregional potters, essentially limiting their repertoires to what was not imported. Since regional potters
were certainly capable of manufacturing forms such as bowls, plates, and pans, the only logical reason for limiting production appears to be that they were unable to manufacture cheaper bowls, plates, pans, etc., because prices for the extraregional goods were already low. Assuming, then, that African red-slip ware and African cookware were inexpensive (saleable ballast, some would say), in order for vendors to make a profit it would have been necessary to ship large quantities of small, easily stacked vessels to foreign markets, as opposed to fewer cumbersome vessels that were more prone to breakage during transport; this would account for the high volume of African pottery abroad.

Alternatively, the remaining wares that occur infrequently in Ostia, whose form repertoires were either highly specialized or broad and overlapping with all of the aforementioned classes of pottery (Aegean and hand-built cookware, Gallic, Eastern, and other sigillatas, early and late Roman glazed pottery and African white-surface ware), should probably be viewed as more costly than the African and Italian wares mentioned above. Aegean cookware was manufactured, together with a broad range of service/storage wares, in numerous locations on the Aegean Sea, yet only a few forms are known abroad. Hand-built cookware appears in the archaeological record of late Roman contexts in Ostia and Rome quite infrequently and only in highly specialized forms (generally large casseroles). African white-surface ware was extremely common in North Africa but was only shipped abroad in small quantities—apart from mortaria, most vessels found in Italian contexts do not appear to have been mass-produced but were manufactured with a certain amount of attention to form and decoration. The two glazed wares are considered higher-end products because of the additional resources (lead) and technical knowledge necessary for production, as well as the highly artistic nature of many vessels. While the forms of Gallic sigillata were extremely limited, its aesthetic qualities were much higher than similar coeval forms of late Italian sigillata. Eastern, Hispanic, Cypriot, and other red-slip wares occurred in significantly lower proportions and hence may have been viewed as novelty items.

Thin-walled ware, the only variety of pottery referred to here that was manufactured in many different parts of the empire, including the Aegean Sea and Lusitania, should be split between these two levels. The majority of the thin-walled ware marketed in Ostia (c. 75 percent) was of regional origin, sometimes manufactured in the same workshops where cookwares and service/storage wares were produced. This group of thin-walled ware was generally undecorated, save for a color coat and, perhaps, incised decorative schemes, and occurred in a modest variety of standardized forms; it should thus be placed alongside the lower-priced types of pottery. Other extraregional kinds of thin-walled ware were exported to Italy in much smaller quantities and were often highly decorated with barbotine features, high-quality slips, and rouletting. According to the scheme proposed here, these latter varieties should be equated with the higher-priced wares.

**CONCLUSION**

To reiterate, the ceramic evidence from the DAI-AAR excavations in Ostia confirms many points that have been previously demonstrated by archaeologists such as Panella, Pavolini,

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74 Martin 1997.

75 Fulford and Peacock 1984, 155–231.

76 Martin 1994.

77 For a kiln site just to the north of Rome along the Via Flaminia where thin-walled wares were manufactured alongside common wares, see Carbonara and Messineo 1991–1992.
and others. While the statistics provided here are imperfect, they offer a more refined vision of the dynamics involved in the supply of domestic pottery to the city of Ostia and Rome between the late Julio-Claudian and late antique periods. In terms of overall supply, we note a pattern of consolidation between the second and fourth centuries A.D. This consolidation involved a significant reduction in the number of pottery sources (most products were either manufactured in the region of Ostia/Rome or in North Africa in the late Roman period) and greater specialization in the formal repertoires of the major wares (i.e., little overlap between the repertoires). Pottery imported from North Africa and other regions of the Mediterranean represented a significant proportion of the overall domestic ware assemblage, but the regional Ostian/Roman pottery industry was also quite strong, represented by roughly half the service/storage wares and one-third of the cookwares.

A combination of factors, including the relative proportion of individual classes of pottery, their formal repertoires, and aesthetic and functional properties, leads the present writer to propose that there were differences in market values but that the differences were not based upon the distances of transport (i.e., that long distance meant higher prices). It appears that regional and North African potters monopolized the mass market with their standardized goods and earned sufficient profit through economy of scale, while the manufacturers of other kinds of pottery (e.g., Aegean and hand-built cookware, glazed pottery, African white-surface ware, etc.) appear to have offered more specialized products on a much smaller scale that bore a higher price tag. These thoughts on the market value of pottery are speculative and must be verified through a far more rigorous and lengthy study of the scarce comments in historical sources, the distribution of finds in primary household contexts, and the use of models such as that developed by Peña.

Eric C. De Sena

4. Pottery from the Late Layers of the Constantinian Basilica

INTRODUCTION

One of the particular features of the project carried out by the Deutsches Archäologisches Institut Rom and the American Academy in Rome is the discovery of remains of the last phases of Ostia, as work concerns sectors not touched in the great clearances of 1938–1942. This was the case with the area of the Constantinian basilica, for which the pottery from contexts associated with its history after its construction in the first half of the fourth century is discussed here.

SUNKEN-FLOOR STRUCTURE

The most striking element is a sunken-floor structure (Grubenhaus) leaned against the south side of the church. It was possible to excavate a large part of it, but it had been unfortunately disturbed by modern pits. It was built after the closure of the side entrance to the south aisle, as it abuts the infill of the door. It had a tiled roof and a simple beaten earth floor. There is only a general terminus post quem in the fifth century for its construction, given by the scarce material in the layers (US 222 and 223) whose surfaces make up the ground level. However, they do not appear to be layers laid down for the purpose but rather ones cut in order to create the structure. The destruction layer (US 215), caused by the
Fig. 21. US 215: African red-slip ware D dish Hayes 104A (left); African red-slip D dish Hayes 109 (right).

Fig. 22. US 215: amphora Kveq XXV, Freed A9 (left); Carthage Late Roman Amphora 4 (right).

collapse of the tile roof, can be dated no earlier than the late sixth century or the beginning of the seventh by the presence of an African red-slip D plate Hayes 109, whose date range was once placed between 580/600 and 650 but which it has been proposed to shift to 610/620–680/700 (fig. 21, right). 78

The context is particularly interesting because it contains pottery sealed while in use; thus it is the equivalent of a shipwreck. The vessels cannot always be completely mended, undoubt-edly because of the partial nature of the excavation and disturbance from the modern features. However, it is reasonable to consider that the vessels for which significant portions remain belonged to the structure’s furnishings. Amphorae make up the largest part of the assemblage, besides four pieces of fine tableware, two common domestic vessels, and a cooking vessel.

78 Tortorella 1981, 214.
The amphorae come from various parts of the Mediterranean and cover a rather wide chronological range. From Africa there is a Keay XXV with a rim attributable to Freed’s category A9 (fig. 22, left), as well as one or two large containers not reconstructed because the diagnostic parts are missing. Keay XXV is a type datable between the fourth century and mid-fifth century. Almagro 51/Keay XIX, a container produced in Lusitania and southern Spain and current from the second half of the third century to the mid-fifth, is represented by a southern Spanish example (fig. 23). The Keay LII amphora, imported from the area of the Strait of Messina between the mid-fourth century and the seventh, is attested by one almost complete example and fragments of others (fig. 24). Among the eastern amphorae current from c. 400 to the seventh century there are two Carthage LRA 3 from the Meander valley (fig. 25) and one Carthage LRA 4 from Gaza (fig. 22, right). The latter belongs to Remolà’s subtype 4a, typical of the fifth century. The Crypta Balbi 2 amphora completes the picture with a container probably from the area of the Strait of Messina that is well represented in seventh-century contexts but whose origins seem to date perhaps as early as the late fourth century (fig. 26). The presence in a seventh-century context of so many amphorae of different dates, going back in some cases possibly to the fourth century and certainly at least to the fifth, introduces the problem of the reuse of amphorae after their primary utilization as containers for overseas transport. Clearly some of the vessels found in the sunken-floor structure must not have preserved their original contents.

The fine tableware consists of late African red-slip ware D vessels. Four examples of Hayes 91B (fig. 27) and one each of 104A/Mackensen 33.1 and Hayes 109 (fig. 21) can be largely reconstructed. The few other fragments of older D ware, as well as those of A and C wares, must come from the underlying layers. The last type has already been discussed with regard to the dating of the context. The second is attested between the beginning of the sixth century and the third quarter or possibly the end of it; thus, it could be contemporary with the formation of

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79 Remolà Vallverdú 2000, 130–133. See Freed 1995, 181 for her proposed articulation of the rim forms.
80 Remolà Vallverdú 2000, 192–196; Bernal Casasola 2000, 282–284. I thank the latter for the attribution of this example to southern Spain.
81 Remolà Vallverdú 2000, 202–204.
82 Remolà Vallverdú 2000, 209–212.
83 Remolà Vallverdú 2000, 226–228.
85 Mackensen 1993, 410–413.
the context. The first type was produced for a long time, starting in 400/420 and ending at the middle of the sixth century\textsuperscript{86}—thus well before the formation of the context. One could be tempted to propose changes to the chronology of these types found in association, if there were not the example of the amphorae from the same context to suggest caution. Perhaps we have rather an indication of the longevity of fine-ware vessels.

\textsuperscript{86}Mackensen 1993, 430–432.
The common domestic ware consists of a mortar (fig. 28) and a closed vessel, of which only the lower part survives (fig. 29). They appear to be local products.

A hand-built casserole in a micaceous fabric represents cooking wares. This is undoubtedly an import at Ostia (fig. 30). Perhaps vessels of this sort served first as containers for transporting tuna and then, once the fish was removed, for cooking.\footnote{I thank E. Jane Shepherd for the suggestion.}

**OTHER DOMESTIC TRACES**

It was possible to make out some traces of another structure on the outer north side of the atrium, which can be understood less well architecturally but for which the layers of use can be dated. These are a wall (US 509) that abuts that of the atrium, a layer that filled its foundation trench (US 522), and two layers (US 502 and US 503) whose surfaces constituted the successive
ground levels associated with the wall. The foundation trench fill can be no earlier than shortly before the middle of the fifth century because of the presence of fragments of African red-slip D Hayes 81B\textsuperscript{88} and Hayes 76.\textsuperscript{89} An approximately contemporary date for the earlier ground level, made up by US 502, is given by several sherds of an African red-slip D dish Hayes 87A of the

\textsuperscript{88} Carandini et al. 1981, 104.

\textsuperscript{89} Mackensen 1993, 405-406.
second half of the fifth century. The later ground level, that of US 503, is dated to the sixth century by fragments of an African red-slip D Hayes 104B vessel, for which production begins c. 520/530.

African red-slip ware is by far the dominant fine ware in these contexts. It is attested not only by the examples used for dating but also by other sherds whose production ranges reach that late. There is little evidence for other fine wares of this date: a Roman red-slip A handle and a rim sherd of a Central Tiber red-slip dish, both found in US 502.

African fragments dominate among the amphorae, although mostly with undiagnostic body sherds. The area of the Strait of Messina is also attested by a Keay LII fragment and body sherds in the same fabric. Eastern amphorae are represented by a few sherds of Carthage LRA 3, as Kapitân I and II sherds are probably to be considered residual in a western context although these types continue to circulate in the east until the sixth century.

There are African imports among the cooking ware and lamp fragments. Many cooking ware fragments will undoubtedly be residual, but some could be contemporary, as could also the lamp fragments.

RENOSATION OF THE APSE OF THE CHURCH

In order to underline the complexity of the situations that can be found in this period, one may mention the enormous fill layer that raised the level of the apse of the church (US 2 and US 8). A trench cut into a small portion of it gave a huge quantity of material—some 20 crates full—almost all comparable in date to that from the layers associated with the construction of the church (between the late second and early fourth centuries). The dating evidence is provided by two fragments of lamps of Sicilian type from the end of the sixth or the seventh century

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92 Peña 1999, 159.
96 Pavolini 1998, 125–126.
(fig. 31). A few fragments of eastern amphorae could be from that time and are in any case later than the bulk of the material. Because of the extremely high proportion of residual pieces this assemblage will not be analyzed in detail.

**ABANDONMENT OF THE CHURCH**

The abandonment of the church is marked by a layer that accumulated over a situation of spoliation of the building (US 302 and 303). It was possible to investigate it on the south side, where it was protected from the plow by the greater depth of the topsoil.

There is a good sample of material of various classes of the Carolingian period, comparable to finds elsewhere in the area of Rome. Forum Ware (ceramica a vetrina pesante) is

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97 Romei 2001a.
represented by five pieces, four with the characteristic pinecone decoration (figs. 32 and 33). 98 Early medieval common ware is relatively abundant, including a small vessel with a vertical rim and two fragments with combed decoration (fig. 34). 99 There are also early medieval cooking fragments, among which are the rim sherds of a pot and a lid (fig. 35), 100 as well as the rim sherd of a pot that can be dated to around 700. 101 Finally, some sherds belong to eighth-century globular transport amphorae, which are known to have been produced in various parts of southern Italy (fig. 36). 102 All this material, with the possible exception of the amphorae, is of local or regional origin.

98 Romei 2001c.
99 Romei 2001d.
100 Ricci 2001a, 304, no. II.3.246.
101 Romei 2001b.
102 Ricci 2001b. The pot can be compared to no. IV.5.46.
CONCLUSION

The late pottery from the area of the basilica comes from contexts formed in different ways. On the one hand, there is the large-scale operation of the renovation of the apse involving the moving of considerable quantities of fill comparable to what is observed at Ostia in the early and mid-imperial period. On the other hand, one can see the contemporary creation of flimsy structures, such as the sunken-floor structure and the hearths, that have nothing to do with the monumental nature of the church.

It is notable, however, that even the pottery associated with these features of little pretension shows how integrated Ostia was in the Mediterranean systems of exchange between the late fifth and the early seventh centuries. Until the seventh century, amphorae arrived from Africa, the area of the Strait of Messina, and the east. African red-slip ware remained
the usual fine tableware, continuing a centuries-old tradition. There are imports among the lamps and cooking ware as well. This contrasts with the situation observed in the Carolingian assemblage, where, as in Rome itself, local and regional products dominate almost exclusively.

This fits into a picture that has been developed in recent years of the ancient pattern of overseas supply that lasted through late antiquity until the late seventh century. Coastal sites such as Portus and the cemetery church at Pianabella gave some of the first evidence.\textsuperscript{103} Now there is a considerable body of data for Rome as well, from the Crypta Balbi and other excavations.\textsuperscript{104} Research on these and other late layers excavated by the DAI-AAR project allows us to extend our knowledge to the city of Ostia itself and to compare Rome and Portus with it.

\textit{Archer Martin}

\textbf{5. Valerius Faltonius Adelfius and Anicia Italica on Ostian Fistulae}

In the course of the recent excavations near the so-called Palazzo Imperiale a long length of a lead \textit{fistula} was discovered. Its curved course was determined by the curve of the apse of the building that was once supplied by the water.\textsuperscript{105} As this building was not uncovered, it is not possible to establish whether it belonged to a separate bath structure or was part of a \textit{domus}. Nevertheless, the modest capacity\textsuperscript{106} of the \textit{fistula} suggests that it was more suitable for the needs of a private \textit{domus}. Furthermore, the structure served by it stands in an area of particular urbanistic interest for Ostia, where people of high social and political status could have lived, at least occasionally, such as the one whose name appears on the pipe. This length of \textit{fistula} presents two stamps, apparently from the same mold, on the two sides of the pipe. One is preserved for the entire length of the inscribed field,\textsuperscript{107} while the other lacks the termination.\textsuperscript{108} A number, rendered in considerably higher letters, is present only on stamp \textit{a} (fig. 37).\textsuperscript{109}

\begin{itemize}
\item[(a)] \textit{XI} Clodi\textit{(i)} Adelf\textit{(i)} c\textit{(larissimi)} v\textit{(iri)} et Falton\textit{(iae) Probae c\textit{(larissimae) f\textit{(eminiae)}}}
\item[(b)] Clodi\textit{(i)} Adelf\textit{(i)} c\textit{(larissimi)} v\textit{(iri)} et Falto\textit{(niae) Probae c\textit{(larissimae) f\textit{(eminiae)}}}
\end{itemize}

The genitive names stamped on the \textit{fistula} belong to two well-known personages, both belonging to the senatorial order, as the appellations \textit{clarissimus vir} and \textit{clarissima femina} themselves indicate. They are Clodius Celsinus Adelfius, \textit{praefectus urbi} in A.D. 351, and his wife, the noble Christian poet Faltonia Betititia Proba. Both figures have been discussed elsewhere, particularly in connection with the dramatic episodes of the husband's prefecture under the usurper Magnentius and his pardon, perhaps wrongly considered to have been obtained from Constantius by the wife.\textsuperscript{110}

\textsuperscript{103} Ciarrocchi et al. 1993; Ciarrocchi et al. 1998.

\textsuperscript{104} Sagui 1998; Arena et al. 2001, with various contributions, particularly Sagui 2001a; Panella and Sagui 2001.

\textsuperscript{105} When it was discovered, the \textit{fistula} had an ancient break on the right; then it was sawed off on the left so that it could be removed to the storeroom where it is now kept.

\textsuperscript{106} The preserved part, 192 cm long, presents a maximum diameter of 9.2 cm externally and 7.5 internally.

\textsuperscript{107} Length 76 cm, height of letters 2.8--2.5 cm.

\textsuperscript{108} Length 52 cm.

\textsuperscript{109} Height of letters 7.0--7.5 cm. It does not seem worthwhile to consider the interpretation of this number, as it is an isolated find for now and the interpretation of such numeric elements remains uncertain even in clearer contexts.

\textsuperscript{110} Granino Cecere 2001.
Here it is interesting to note that their two names may be added to the long list of members of the senatorial order present on Ostian fistulae, particularly in late antiquity. Previously they had not been attested in the colony, but a descendant of theirs had been identified in Valerius Faltonius Adelphius, who appears as a v(ir) c(larissimus) et in(la)stris, the recipient of a grant of water on a fistula, of which there are multiple examples found at Ostia. The onomastic elements undoubtedly connect this senator with Clodius Celsinus Adelphius and Faltonia Betitia Proba. G. Barbieri noted this when he edited three Ostian examples,\textsuperscript{111} of which one was certainly found in the Terme del Faro.\textsuperscript{112} It reads (figs. 38 and 39):

\textbf{Valeri Faltoni Adelfi v(iri) c(larissimi) et in(la)stris}

Another example, which was considered by Dressel to be of Roman provenance\textsuperscript{113} but now can be certainly attributed to Ostia, can be associated with these three examples. Until now the association could be made\textsuperscript{114} only on the relation to the illustration in CIL based on the copies made by Mommsen and Detlefsen. Here, in fact, bederae distinguentes appear between the various onomastic elements, before and after VC but not between these two letters and not between ET and the following IN, abbreviation of in(la)stris). H. Dressel states that at the time the CIL was produced the fistula, then in two pieces, was preserved at Milan in the Brera, where it came “ex museo pictoris Rossi.” It is no longer in the Brera but rather in the Castello Sforzesco, where it has been added to the archaeological and numismatic collections of the city of Milan (fig. 40).\textsuperscript{115}

\textsuperscript{111} Barbieri 1953, 170–171 no. 32a = AE 1954, 180; all three examples of the fistula present an external diameter of 12–12.5 cm, an internal one of c. 10 cm, with the height of letters 4.5 cm.

\textsuperscript{112} It was found on 20 February 1940, as can be read in the “Giornale di scavo” 3:78 for that date (cf. Geremia Nucci 1999–2000, 386, n. 14).

\textsuperscript{113} CIL 15.7571 and Lanciani 1880, 279, no. 498.

\textsuperscript{114} Barbieri 1953, 170 did not express a clear opinion, while already in PLRE 2 s.v. “Adelphius” 3 an Ostian origin is proposed.

\textsuperscript{115} State property from 29 December 1864 (cat. no. A.0000.999.31957); the two fragments measure 8.5 × 32 and 9 × 35 cm respectively; the thickness varies from 1 to 3 cm; height of letters 4.5 cm. According to the use of the time, as can be seen for example for the numerous stamps on fistulae from the Kircheriano held in the
The *dominus aquarum* Valerius Faltonius Adelfius has been identified correctly as the consul ordinary for 451;¹¹⁶ his name appears by itself on contemporary documents and not accompanied by that of Marcianus, who became Augustus in the east in July 450 but was recognized in the west only at the end of March 452,¹¹⁷ so that none of his official acts or functions, published by Mennella 1994, 403–404, no. 4.

¹¹⁶ For the person, see *PLRE* 2 s.v. “Adelfius” 3 and in particular for the sources concerning the consulate, Bagnall et al. 1987, 436, to which may be added the brick

¹¹⁷ The name of Marcianus appears in the *fasti* because they were drawn up later, while it is not present in the *subscriptiones* of the *constitutores* and in the contemporary epigraphic documentation.
including the consulate, was valid before that date in the other pars imperii. Adelfius also held the urban prefecture, perhaps some time before the consulate, although it is not to be excluded that he assumed both these important offices in the same year.

In spite of his belonging to one of the most illustrious gentes of the time, it is not possible because of the lack of documentation to define satisfactorily his family connections. Perhaps he was the son of Valerius Adelphius Bassus, consularis Venetiae et Histiae in the years 383–392 and a brother of Adelfia, possibly the wife of Anicius Probus, vir illustris known from an inscription at Aquileia, whose authenticity has been doubted, probably incorrectly. Then there is his marriage

118 The only exception appears to be the date post consulatum d(omini) n(ostri) Marciani Aug(usti) et Adelsi v(iri) c(lerissimi), present in a funerary inscription at Caesari (Février 1962–1963, 210 and 214, who considers that the document should be dated to 452).

119 PLRE 2 s.v. “Adelfius” 3.

120 Orlandi 1997, 38 observes that in the inscription CIL 6.41392 (for which see below) Adelfius is mentioned as pr(ae)fectus—and not ex praefecto—urb(ani), cons(ul) ord(inarius). I owe the image of the example now at Milan to the kindness of my friend Antonio Sartori.

121 PLRE 1 s.v. “Bassus” 9.

122 PLRE 2 s.v. “Adelfia” 2.

123 PLRE 2 s.v. “Anicius Probus” 7, provided that the Adeleta in the text, transcribed but not preserved, is to be read Adelfia. The inscription, CIL 5.47*, has been
to Anicia Italica in the context of the matrimonial alliances between the most powerful and noble families of the time. In fact, the woman’s name appears joined to that of Faltonius on one of the examples of Ostian fistulae published by Barbieri (fig. 41). The name of Adelfius can also be integrated easily beside that of Italica in the dedication of a cylindrical altar for relics found in an excavation by the south wall of the transept of the basilica of St. John in Lateran at Rome and currently preserved on the north side of the cloister.

[Valerius Faltonius Adelfius] s v(ir) c(larissimus) et in(lustris), p(raefectus) u(rbi), p(atricius), cons(ul) ord(inarius) et Italica in(lustris) f(eminina).

The presence in Ostia of both these personages belonging to the highest social ranks can have many explanations, considering the now documented presence of the predecessors of Valerius Faltonius Adelfius, the better-known presence of the Anicii, and the proven economic interests in the colony of members of the senatorial order (particularly in late antiquity).

Returning to the four examples of fistulae mentioning Valerius Faltonius Adelfius and Anicia Italica, one can see that all four of the stamps present the same characteristics, so that we may be certain that they all were produced in the same workshop, although they did not all necessarily belong to the same tract. Only one of the three examples published by Barbieri has a known provenance, the Terme del Faro. Nothing, it appears, is known about the other two. For the fourth example at Milan the only element available is its presence in the Brera in 1864, if not already in 1862, as there is no trace of it in the archives of the painter Rossi’s bequest, who does not appear to be easily identifiable. It must have been found in any case before that date, probably not during the papal excavations of 1802–1804 under the direction of Giuseppe Pettrini in the central area of the colony, for which there is no account, but rather during the Cartoni or Pacca-Campana excavations between 1824 and 1835, which covered various parts of the city.

Maria Grazia Granino Cecere


124 PLRE 2 s.v. “Italica” 2.
125 One of the three Ostian examples published by Barbieri is soldered to another pipe bearing the stamp et Aniciet Italicae (170, no. 328) to be read with the one bearing the name of Faltonius.

126 CIL 6.41392; Josi et al. 1957, 97–98 suggest identifying the Italica donor of the altar with the noble Christian of the same name, who received letters from John Chrysostom (ep. 170) in 406 and Augustine (ep. 92 and 99) in 409 and was an intimate friend of Symmachus, as can be seen in his letter (ep. 9.40; Roda 1981, 165–166). In PLRE 2 s.v. “Italica” 2 for chronological reasons she too is considered possibly the mother of the wife of Faltonius Adelfius.

127 Inv. no. 229.
129 The photographs show that the stamping is partially duplicated because of the slippage of the mold. They are the stamps ET ANICIA ITALICA (fig. 41) and one of the examples with the name Adelfius (fig. 39). It is to be noted that in the latter case the mold was in two parts, one with VALERI FALTIONI and the other with ADELEI VC ET IN, and only the first slipped.

130 The Brera administration, when asked, declared that it has no information.
131 The very common surname and the lack of a first name make it very difficult to identify the person with certainty; no painter among those of any fame, excluding Antonio Rossi, who lived at Bologna in the first half of the 1700s, seems suitable.

132 Paschetto 1912, 504–507; lead (and therefore fistulae) were found in great quantities, as it gave the sum of 127.35 scudi upon sale at 4.5 baioecchi per pound.

133 Paschetto 1912, 525–527; perhaps the two fistula fragments were among the abundant material that Cardinal Pacca took to Rome to his property near Porta Cavalleggeri and later dispersed. For chronological reasons it is more difficult to think that the find took place during the excavations promoted by Pius IX, begun in 1855 by Visconti. Finally, it is unlikely that the fragments came from clandestine excavations.
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ABBREVIATIONS

AE       L’Année épigraphique
CIL      Corpus Inscriptionum Latinarum (Berlin 1862–)
PLRE     The Prosopography of the Later Roman Empire (Cambridge 1971–)

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