Pottery to the people. The production, distribution and consumption of decorated pottery in the Greek world in the Archaic period (650-480 BC)
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X Secondary evidence for the status of potters and the scale and organisation of pottery production
X.1 Introduction: four additional sources of information

In the preceding chapters I have focused exclusively on primary evidence, that is, the data directly related to the work, craftsmanship or art of potters and painters. Excavated workshops, images of potters at work, signatures, dedications and stylistic characteristics can each in their own way easily be viewed in direct relation to issues of scale, organisation and status. Additional information on the same matters can also be derived from more indirect sources, as discussed below. Written references to potters and their work have always played a major role in the debate on the status of Greek potters and painters, which, in its turn, was closely linked to discussions about workshop organisation. The rather recent wave of iconographical studies connecting mythological images on pots to political events and propaganda could also shed light on the status and organisation of potters, even if the studies in question hardly raise the point. The latter applies even more emphatically to the scientific analyses of the clays and fabrics of pots, which focus so narrowly on provenance that other possible implications of the results are overlooked. And recent pottery workshops employing traditional methods in the Mediterranean and elsewhere furnish a rich variety of ethnographical evidence which, though our most indirect source of information, gives useful insights into many aspects of the potters’ work.

Each of these categories, however, is an often problematical field of scholarship in its own right and therefore cannot be thoroughly explored below. The state of research and the quality of the evidence, especially in scientific studies, and to a lesser degree in treatments of iconography and literary criticism, create additional problems. Moreover, since recent syntheses or general evaluations of the data are lacking, and since the quality and relevance of the data itself are often doubtful, I shall treat the secondary evidence only summarily.

X.2 Scientific analysis, clay management and workshop organisation

Since its inception, the scholarly study of Greek pottery had basically two aims: determining the centres of manufacture and discovering the technology of production, i.e. the secrets of black gloss.\textsuperscript{785} Now that the technique of Greek pottery production has largely been revealed, studies of origins remain as the chief goal.\textsuperscript{786} Most of these combine stylistic with chemical or physical analysis to place fabrics, but as it is usually assumed that clays were not transported over great distances (section V.3),\textsuperscript{787} the provenance of a pot’s fabric is thereby generally taken to be the

\textsuperscript{785} See Brongniart 1854, 15-18, 414, esp. 549-554; Blümmer 1879, 53-72, 75-77, 80-82, 91-95; Tonks 1908; Binns and Fraser 1929; Schumann 1942; 1943; Weickert 1942; Richter 1951; Bimson 1956; Farnsworth and Wisely 1958; Farnsworth 1959; 1960; 1964; 1970; Farnsworth and Simmons 1963; Winter 1968; 1978; Boardman and Schweizer 1973; Palmieri 1976; Farnsworth, Perlman and Asaro 1977; Noll 1977; Dupont 1983; Fillieres, Harbottle and Sayre 1983; Cuomo di Caprio 1984; 1985; Jones 1984; 1986 (with references to early studies on 798-803); Empereur and Picon 1986a; 1986b; Picon and Garlan 1986; Papadopoulos 1989; Kerschner et al. 1993; Maniatis and Aloupis 1993; Whitbread, Jones and Papadopoulos 1997; Blondé and Picon 1999; Picon 1999. Exceptionally, Belshé, Cook and Cook 1963 have done archaeomagnetical research on kiln remains, which they hoped would offer evidence for a new dating method.


\textsuperscript{787} See Jones 1986, 872.
same as its place of manufacture. Advocates of clay transport\footnote{Boardman 1980, 123; Morris 1984, 20-21; Stibbe 1984, 137-138; Benson 1985, 19-20; Möller 2000, 43, 139-140; see also Jones 1984, 26; Arafat and Morgan 1994, 109, 133-134.} are few and have hardly gained ground, mainly because firm archaeological evidence for their theories is lacking.

However, the possibility that potters altered the compositions of fabrics by mixing clays or adding small quantities of other materials (metals, salts) is rarely taken into account,\footnote{Jones 1984, 26, is an exception; see also Blondé and Picon 1999, 239-241; Picon 1999, 122.} which is surprising, as especially the first practice is common in recent traditional potteries\footnote{See Matson 1972, 221; Betancourt 1984b, 159; Jones 1986, 854-857, 859, 864, 873; also Richter 1923, 88, referring to Geoponica VI.3, a treaty of the Byzantine period.} and ancient coarse wares often contain added particles (sand, gravel, ground pottery).\footnote{See Jones 1984, 22.} The location of one Hellenistic-Roman workshop on Paros, moreover, suggests that it drew upon two different clay beds in the vicinity.\footnote{Empereur and Picon 1986a, 498-499.} Recent studies taking as their starting point pottery found at an Early Iron Age kiln in Torone, Macedonia, indicate that even during this early period and on a small site different clays were employed, perhaps even within single workshops.\footnote{Whitbread, Jones and Papadopoulos 1997, esp. 91; see also Papadopoulos 1989; Morgan 1999b, 225.} The use of different clays and the alteration of the composition of clays is probably related, at least in part, to the mixed character of the output of many local potteries, in which pots with different functions require different physical traits.\footnote{See Blondé and Picon 1999, 238-241, 245-246 and, for recent parallels, Betancourt 1984b, 159.} But there must be other explanations, since at Torone and on Thasos some pots of apparently the same shape, finish and function show considerable variations in their chemical compositions.\footnote{Whitbread, Jones and Papadopoulos 1997; Blondé and Picon 1999, 240-241.}

Even if explanations may elude us, the ambiguity of pottery fabrics in itself is a potentially disturbing phenomenon not only for the determination of production origins. If some form of deliberate selection and treatment of clays lies behind the variations, these practices have implications for the organisation of workshops.\footnote{See Blondé and Picon 1999, 240-242, 244-246.} Complicated clay refinement, which requires time, skill and perhaps extra working space, is compatible with a certain degree of professionalism. The apparent situation at Torone and Thasos adds the aspect of specialisation between workshops, which has already come up in the section on excavated workshops (IV.8). Unfortunately, the available evidence is insufficient for a specification of these vague general impressions.

Very recently, however, the application of CT-scanning (computed tomography) techniques to pottery has possibly opened the way to clarifying some details of the treatment and use of clays. Hans Koens, who performs wonders promoting archaeological CT-scanning,\footnote{See Koens and Jansen 1999; Van Duivenvoorde 2000; Brijder forthcoming.} observes that especially in Attic pottery the clay of feet and handles tends to differ from that of the bodies of the
same vessels; the clay of the latter is usually finer and more homogeneous. Similarly, the clay of Attic black and red figure pots seems to vary in consistency and composition according to the shape. All this suggests that at least in Archaic and Classical Athens clay preparation and use were very highly developed and required considerable knowledge. The technical level evokes a picture not of a primitive workshop organisation, but one of professional full-time potters and skilled specialisation in all areas, i.e. with all the tasks performed in the workshop. As to scale, the differentiation of clays between shapes and even within pots probably points to high levels of production, at least for potters who were not specialised in one or a few shapes only. The separate preparation and storage of different clays could hardly have been worth the effort and space if one kind of pot was not manufactured in a large series within a short time span.

Finally, it can be noted that the extrapolations of the CT-scans of some Siana cups supply indications that clay compositions are not only related to shapes, but also, though less distinctly, to the hands of painters or, more probably, potter-painters. This suggests that clay processing was not carried out by independent specialists supplying several potteries, but took place within the workshop organisation. If the links between distinctive clays and individual makers can be shown to be systematic, as seems probable, the most obvious conclusion would be that clay preparation was a task for the master-potters themselves. Just as I concluded in foregoing sections, advanced technology evidently went hand in hand with surprisingly simple organisation of work.

X.3 Iconography, patronage and the status of potters and painters

Besides a very large amount of stock imagery, unique scenes or rare personal interpretations are quite common in the iconography of Greek figured pottery. It is obvious that many of these scenes are highly individual, and quite a few monographs indeed reveal clear iconographical preferences within painters' oeuvres. Of course, the painters' motives usually defy explanation,
for nothing is known about their personal backgrounds, and only very little about the possible causes behind developments in Greek iconography in general.

The obstacles are well illustrated by the most influential attempt to relate the iconography of Greek pottery to a wider cultural and social context. From the early 1970s, John Boardman, among others, has argued that many mythological scenes on Attic pottery from about 550 until at least the Persian Wars conceal political messages;803 the painters are thought to have been inspired by the stories and propaganda of Peisistratos and other members of the political elite. Other scholars, however, find it difficult to see any political allusions in rather ordinary mythology. They observe that many symbolic interpretations by modern scholars require rather sophisticated readings of the imagery, and that some readings seem awkward or involve a peculiar interpretation of the evidence.804

Another possible argument against politically charged mythology leads us back to the makers and their role in the chain of events: it is difficult to envisage how the subtle messages and imagery of the political classes were communicated to pot-painters.805 This tricky point is only vaguely touched upon by Boardman and hardly mentioned by most others.806 Although some apparently still envisage the elite placing special orders or even aristocrats visiting workshops,807 the more common current view seems to be that contacts, if they existed, were less personal, more indirect.808

As long as we know virtually nothing about the education and social position and connections of Athenian potters and painters beyond the information offered by their work and the other scanty and ambiguous evidence presented in the previous sections, the whole issue of iconography and politics will remain caught in more or less circular argumentation. Political allusions presuppose well-connected and educated painters,809 while scholars who see the painters as hard working artisans with little interest in upper-class politics can simply regard the supposed political references as modern fantasies.810 A third and equally possible line of reasoning is that the imagery indeed contains political references, but that the painters adopted them simply because they were in the air, without their being intentionally suggested to the painters by the elites. Texts, recitations, oral accounts or publicly visible art (sculpture, paintings, theatrical performances)


804 Moon 1983, esp. 101-102, 113-114; Osborne 1983-1984; Cook 1987b; see also Williams 1983b, 135; Arafat and Morgan 1989, 331-332; Sparkes 1996, 131-134.


806 Boardman 1978a, 11-12, 24; 1981, 1984, 239-240, 246. See also, however, Shapiro 1983, 95; 1989, 16.

807 Shapiro 1980, 293; 1989, 16-17 (ambiguous); 72; Williams 1983b, 132; see Webster 1972, 42-48, 295-300; Rosati 1973-1974; Siebert 1978, 116-117 (following Webster); Eder 1992, 24, 34.


809 See Shapiro 1989, 16-17; and, more generally, Thompson 1984, 9-14.

810 See Moon 1983, 113-114; Cook 1987b, 167; and also Kluwe 1967, 470.
could have been enough to transmit political propaganda to pots.\textsuperscript{811} According to this explanation, even though the political preferences of painters may of course have played a role in the transmission, the depiction of hidden political imagery says very little, if anything, about their social position or level of education, not to mention the direction and organisation of their workshops.

All in all, the uncertainties of interpretation seem so fundamental that ‘political’ iconography can best be left aside here. The most anyone could conclude is that the rich and sometimes refined and detailed imagery on especially Athenian pots required considerable knowledge of traditional stories and mythology, an observation which, however, hardly takes us a step farther, as there were many ways for Athenians without formal education to acquire such knowledge, some of which are noted above. The frequency of mistaken or idiosyncratic renderings of stories only stresses this point, as does the fact that many images on pots, if not most, have a generic character, to the point that, insofar as we can judge, they lack specific meaning in the form of individual personages or a story. Curiously, the rarity and often poor quality of the writing on pots can be cited as a parallel.\textsuperscript{812} If pottery workshops were owned by members of the elites, the owners seem to have had little control over the content and quality of either the images or the words which issued from their establishments.\textsuperscript{813}

\textbf{X.4 Literary references to potters: beyond the anecdote}

In contrast to the categories of evidence discussed in the two preceding sections, the literary references to the work of potters and pots themselves are largely unproblematical. All the relevant passages were collected by Jahn in 1854 and later, more selectively, by Richter.\textsuperscript{814} Many references have regularly been quoted by other scholars as well. The modern application of these references, on the other hand, is another story: even though the ancient texts are rarely ambiguous, the scholarly interpretations of them are often less straightforward than one might wish.

First of all, commentators regularly cite the references to potters and to pottery indiscriminately. Thus, for example, a remark praising pots in a high-status context\textsuperscript{815} or the mention of pottery as one of Athens’ renowned historical assets\textsuperscript{816} is considered an indication of the esteem for potters


\textsuperscript{812} See sections VI.2, VI.4; Beazley 1944, 33-34; Vickers and Gill 1994, 164. Scheibler 1995, 132 is more positive about the capacities of painters.

\textsuperscript{813} See Moon 1983, 113-114; Eder 1992, 24-25.

\textsuperscript{814} Jahn 1854b; Richter 1923, 87-105.

\textsuperscript{815} Athenaios, XI.480; Pindar, \textit{Nemean Odes}, X.33-36; see also Plato, \textit{Hippias Maior}, 288.d, where a coarse pot is called beautiful, but evidently in some kind of paradox illustrating that even simple, but well-made, things can be appreciated. The remark says nothing about the status of pottery.

\textsuperscript{816} Athenaios, I.28.b-c (= Kritias, \textit{Elegies I}, 12-15).
or even their high status.\textsuperscript{817} The transference of meaning in this way unquestionably goes too far, since the Greeks neatly distinguished between the status of a product and that of its makers.\textsuperscript{818} In addition, some observers quote general statements praising or condemning crafts or craftsmanship as if they referred to, or included, pottery production.\textsuperscript{819} Although this is sometimes possible and in several instances even likely, caution is called for, especially if the author mentions only other crafts as examples: we simply do not know how the Greeks regarded pottery production in comparison to other crafts, which are often less dirty or yield products of greater value and status.\textsuperscript{820}

Additional confusion results from the mixed use of references which are not contemporary or which were written for different audiences. Many commonly cited observations about the potters’ work come from the Geoponica, a Byzantine treatise on agriculture.\textsuperscript{821} Similarly, most references to pottery are found in the Deipnosophistai by Athenaios, a very extensive encyclopaedic poem about luxury dining, written in the late 2\textsuperscript{nd} century AD.\textsuperscript{822} Although both authors clearly drew upon earlier sources, which in the case of Athenaios are often explicitly mentioned, probably little of their information extends back to the Archaic or even to the Classical period. The actual number of references dating from the heydays of Corinthian and Attic decorated pottery is very

\textsuperscript{817} See Jahn 1854a, XXIII, CCXLIII; 1854b, 30-32, 34, 40; Birch 1858, I 220; Rayet and Collignon 1888, V, VIII; Jamot 1896, 1124; Walters 1905, I 46; Richter 1923, 89, 91-92, 100; Sparkes and Talcott 1961, [2]; Philipp 1968, 20, 92, n. 378, 117, no. 20; Villard 1990, 28; Laurens 1995, 163; Williams 1995, 160.

\textsuperscript{818} This is not only clearly illustrated by the relative positions of sculptors and their sculpture (see Stewart 1990, 65-72), but is also explicitly stated in texts, though admittedly late, like Lucian, The Dream, 7-9; Plutarchus, Perikles, II.1-2; see Richter 1923, 98-100; Philipp 1968, 72-74; Rosati 1973-1974, 195-196; Stewart 1990, 69-70; Villard 1990, 28; Scheibler 1995, 131-133.

\textsuperscript{819} See Richter 1923, 99-101; Rosati 1973-1974, 185, 201; Boegehold 1985, 28; Arafat and Morgan 1989, 327; Villard 1990, 28; Laurens 1995, 163; Scheibler 1995, 121; Williams 1995, 139, 151. These scholars refer to Amphias, Ampeleourgos, I (a general praise of craftsmanship as a means of forgetting one’s troubles); Aristoteles, Politics, III.1278.a (‘the majority of artisans are rich’); Herodotos, II.167 (‘and the Corinthians despise the crafts least of all [Greeks]’); Xenophon, Oikonomika, IV.2-3 (a long passage on the unhealthiness of practising a craft).

\textsuperscript{820} See Philipp 1968, 74-75; Scheibler 1995, 132-133, who both seem too positive about the status of potters. See also Isokrates, XV.2 (De Permutatione), where it is taken for granted that it would be ridiculous to compare Pheidias to a statuette maker (coroplast) or Zeuxis and Parrhasios to painters of small [wooden or ceramic?] panels; see for these lines Pottier 1906, 690-691; Pfuhl 1923, 46; Richter 1923, 98; Scheibler 1995, 133.

\textsuperscript{821} See esp. Geoponica, II.49.3; VI.3.1-5; VI.4.1-2; VI.9.1-2; XIV.11. Modern references include Jahn 1854b, 30, 32, 42, 44; Jamot 1896, 1121; Walters 1905, I 204-205; Perrot 1911, 322; Richter 1923, 88, 93; Hussong 1928, 9-10, 26, n.1; Ziomecki 1964, 21, 34, n. 53; 35, n. 70; Noble 1966, 173; Jones 1984, 22, 103; Scheibler 1986, 792.

\textsuperscript{822} See esp. Deipnosophistai I.28.8-c; XI.464a; XI.474.a-b; XI.480.b-e; XI.482.a-b. Modern references include Jahn 1854b, 30-32, 34, 40; Rayet and Collignon 1888, VII; Walters 1905, I 46; Richter 1923, 89, 91-92, 101; Sparkes and Talcott 1961, [2]; Ziomecki 1964, 33, n. 3; Philipp 1968, 92, n. 378; Majewski 1975, 341; Villard 1990, 28; Laurens 1995, 163; Williams 1995, 160.
small.\footnote{823} Earlier and 4\textsuperscript{th}-century texts offer some compensation, but may of course concern different circumstances of production.\footnote{824}

The relevant, useful scraps of text that remain are not only limited, but also varied and highly anecdotal. Their recent treatments contain hardly any systematic interpretation of the scattered information, and tend to focus on details of production technology (location of clay pits, potter’s wheel, shaping) or on the status of potters. As to scale and organisation, little can be added, as these sources supply no explicit information about the sizes of workshops, productivity or division of labour. A few passages, however, supply circumstantial evidence. The use of the word ‘potting’ (κεραμεύειν) to mean ‘working hard’ is suggestive of working conditions,\footnote{825} as are the expressions ‘potter envies potter’ and the like found in both Hesiod and Aristotle, which suggest some degree of competition between workshops.\footnote{826} In a friendlier vein, Plato cites the potter’s boy as an example of an apprentice learning his craft.\footnote{827}

Such references seem most suited to the general context of small-scale production units, in which the master-potter performs much work, helped by assistants or apprentices: in short, a traditional workshop as nearly everyone can probably envisage it. But whereas the written sources contain no suggestion of large-scale pottery establishments, they do note specialised manufacturers: ‘χυτρεύς’ or ‘χυτροπλάθος’ (‘maker of cooking pots’), ‘λυχνοποιός’ (‘lamp maker’), ‘λεκυθοποιός’ (‘lekythos maker’), ‘καδοποιός’ (‘kados maker’) and ‘κοθωνοποιός’ (‘kothon maker’),\footnote{828} and, in parallel, places of sale: ‘ἐν ταῖς χύτραις’ (‘at the cooking pots’) and ‘ἐν τοῖς λύχνοις’ (‘at the lamps’).\footnote{829} However, the makers of lamps and cooking pots turned out very specific products which we can keep separate from the output of potteries in the strictest sense, while the words κάδος and κοθῶν are probably only generic names for large containers and flasks, respectively, and may therefore indicate less specialisation than one might think. It must also be considered that many specialised producers may well have

\footnote{823}{Excluding references to pots: Aristophanes, \textit{Ekclesiazousai}, 995-996; Hippokrates, \textit{Peri Diaites}, I.645/VI.494; \textit{Epidemiai}, IV.20/V.160; the Homeric hymn ‘Kaminos’ (for which see Cook 1948; 1951); Kritias, \textit{Elegies}, apud Athenaios, I.28.b-c; Sophokles, fr. 438; see also, on the supposed low status of pottery in Persia, Ktesias, apud Athenaios, XI.464a; see for all these references Richter 1923, 89-90, 94-96. Oddly, Arafat and Morgan 1989, 312, conclude that only two or three Athenian sources refer to working with clay; see also the following note.}


\footnote{825}{Suidas, \textit{Lexicon}, s.v. κεραμεύειν; see Richter 1923, 104; Scheibler 1995, 120.}

\footnote{826}{Hesiod, \textit{Works and Days}, 25-26; Aristotle, \textit{Rhetoric}, II.4.21-22; \textit{Nicomachaean Ethics}, VIII.1.6; see Jahn 1854b, 28; Birch 1858, II 42; Richter 1923, 104-105; 1946, 35; Philipp 1968, 72; Rosati 1973-1974, 180; Paul 1982, 35; Scheibler 1995, 121-122.}

\footnote{827}{Plato, \textit{Republic}, 421.c-e; 467.a; see Richter 1923, 103-104; Arafat and Morgan 1989, 318, 327.}

\footnote{828}{See Blümner 1879, 32-33 (with all references, except for Philetairos, \textit{Achilleus} [Edmonds II.20.4]); Jamot 1896, 1121; Walters 1905, I 231-232; Scheibler 1995, 121.)}

\footnote{829}{Aristophanes, \textit{Lysistrata} 558-564; Scholion ad Aristophanes \textit{Eirene}, 692; see also Pollux, IX.47, quoting Aristophanes’s contemporary colleague Eupolis: ‘ἐς ταῖς χύτραις’. For these passages, see Börner 1996, 207, T29, 239, T142, 241, T150.}
made other shapes too, like the excavated amphora workshops which also dealt in smaller quantities of household wares.

While offering little information individually, the written sources are more useful when viewed as a whole. It has often been remarked that the ancient written references to pots and potters are insignificant in comparison to the prominence of pottery in the archaeological record. The contrast has usually, and probably rightly, been regarded as a sign of low esteem for the pottery craft among the Greek elites. However, the phenomenon can be viewed differently: many of these rare references to potters occur in contexts where one would not expect them. Thus, it seems striking that one of the Homeric hymns has the appearance of a potters’ song. And Homer’s famous comparison of the movement of the dancers decorating Achilles’s shield to that of a wheel being tested by a potter is not only unique as a mention of pottery-making in a text full of similes and lines alluding to agriculture, crafts and arts, the lines’ technical focus on a potter’s implement also seems oddly out of place in a heroic epic. Equally intriguing is Plato’s quoting the saying ‘to learn the potter’s craft by undertaking a pithos’ or, alternatively, ‘the potter’s art is in the pithos’, warning to start small before going on to greater things. Perhaps Plato was only repeating a very common proverb, but even if so, he could have chosen to express himself differently.

The references in Homer and Plato, which do not stand entirely on their own, suggest that many people, even the elites, could imagine a potter at his wheel or the difficulties of fashioning a pithos, and make clear that, though less prominent than farmers, smiths or sculptors, potters could be described in their typical occupational surroundings and presented as examples of craftsmen. However unsurprising all this may seem in relation to a world where pottery was so common and, in contrast to today, the production processes could easily be grasped, the mention of potters and pottery in these texts remains fascinating: potteries were everywhere, so close that everyone knew what was going on inside. The probably low esteem accorded to potters and their work was clearly not so low that they were entirely banned from the elevated world of literary imagery. This may be no more than a recognition of the craft’s everyday usefulness, as in Kritias’s eulogy, but it could also reflect their great numbers: they were everywhere and could not be overlooked.

830 See Richter 1923, 87; Arafat and Morgan 1989, 312; Crielaard 1999, 55.
831 Iliad, XVIII.599-601; see Philipp 1968, 70-71; Crielaard 1999, 55.
832 Plato, Gorgias, 514.e; Laches, 187.b (with scholion); repeated by Zenobios, III.65; see Richter 1923, 92; Ziomiecki 1964, 15, 34, n. 55; Rizza, Palermo and Tomasello, 1992, 111; Scheibler 1995, 131.
833 See Hippokrates, Peri Diaites, I.645/VI.494, again referring to the rotation of the potter’s wheel; Plato, Euthydemos, 301.c-d, where the potter, smith and cook are used as examples in a simile involving craftsmen; Plato, Hippias Maior, 288.d, showing that even a pot, when well made, could be beautiful; Sophokles, fr. 438, ‘First begin to work the clay with your hands’; see Richter 1923, 88, 90, 99.
834 See Richter 1923, 93.
835 See also Plato, Euthydemos, 301.c-d; Richter 1923, 99.
836 For a different interpretation, see Richter 1923, 87.
837 Kritias, Elegies I.12-14, apud Athenaios I.28.b-c; see Richter 1923, 89.
X.5 Ethnoarchaeology and Greek pottery production

Ethnographic studies of pottery production in the Mediterranean world abound. Both single potteries and whole potters' villages have been intensively studied.\textsuperscript{838} Syntheses that combine observations from several sites or areas, though rare, include the outstanding work of Roland Hampe and Adam Winter.\textsuperscript{839} Their two thorough surveys of pottery workshops in Greece, Cyprus and southern Italy in the 1950s and early 1960s are still among the most cited ethnographic pottery studies about the Mediterranean. The work of Hampe and Winter and their colleagues is mainly descriptive and focuses on the technical side of the production process: installations, clay preparation, firing methods, etc. The organisation of the potters' work is also considered, whereas its social and especially economic aspects receive less attention. Although themes like the scale of production and the potters' way of living are often touched upon, especially by Hampe and Winter, they are more fully treated only in some recent studies which aim at shifting attention from the making of pots to the wider social and economic contexts of the potters' work as a traditional craft.

However, this shift, exemplified by the research of Rüdiger Vossen in Spain and Morocco and that of Harriet Blitzer in Crete and the southern Peloponnese,\textsuperscript{840} has had little impact on classical archaeology. References to traditional means of pottery production still centre largely on technical issues, notably shaping and firing,\textsuperscript{841} impressions of workshop layout\textsuperscript{842} and typical examples of family-based organisation.\textsuperscript{843} Interestingly, a few scholars have also noted the high production rates of recent traditional potters.\textsuperscript{844} All these references to ethnographic information, however, are incidental and anecdotal. It seems that, as a rule, examples of recent potteries are cited only if they serve as an illustration or support an argument for which other data is not available;\textsuperscript{845} the individual bits of evidence from recent potteries, moreover, are rarely combined into more systematic arguments. Only Richard Jones's treatment of pottery production technology makes use of a wide range of ethnographic data as a separate category of evidence which is integrated into the discussion.\textsuperscript{846} A truly systematic overview that compares a large body of ethnographic information with more general archaeological data regarding Greek pottery production has not yet appeared.

\begin{footnotes}
\begin{enumerate}
\item E.g. Casson 1938; 1951; Fiandra and Pelagatti 1962; Matson 1972; Voyatzoglou 1984a; Cuomo di Caprio 1982; 1991; 1995; Blitzer 1984; 1990. See also Betancourt 1984b; Schreiber 1999, 31-38.
\item Vossen 1972; 1984; 1986; 1988; 1990; Blitzer 1984; 1990; see also Matson 1972; Betancourt 1984b; Voyatzoglou 1984; Jones 1986, 849-880.
\item See e.g. Matson 1972, 217-220; Winter 1978; Jones 1984, 25-26; Cuomo di Caprio 1991.
\item Sparkes 1991, 11-12 (based on Blitzer 1984, 146); Schreiber 1999, 32; see also Jones 1986, 850.
\item Schreiber 1999, 34-37.
\item Betancourt 1984b, 162; Hannestad 1988, 222-223; Seeberg 1994, 163, n. 18.
\item See e.g. Stillwell 1948, 21; Stibbe 1984, 138; Hannestad 1988, 222-223; Arafat and Morgan 1989, 328.
\item Jones 1986, 849-880; see Jones 1984, 25-26, 30. See also, for the Bronze Age, Matson 1972; Betancourt 1984b, and, for the Roman world, Peacock 1982.
\end{enumerate}
\end{footnotes}
To be sure, this situation is not only due to the negligence of archaeologists. Especially when it comes to the scale and organisation of production, ethnographic data are marked by serious problems of content. Almost all the potteries examined by ethnographers are rural or small-town establishments, and all but a few manufacture only rather rough pottery mainly for local and regional markets, only occasionally also for export over a wider area. None of these establishments or sites comes even close to approximating the large-scale, internationally oriented production of painted fine wares as seen at Athens and Corinth, or later Iznik, Delft and the porcelain centres of China and, then, Europe. Nor is there an ethnographic example of pottery decoration that rivals the delicacy and sophistication of much black and red figure. Therefore the possibilities for comparison between the pottery production of ancient Greece and the recent Mediterranean are inherently limited, especially regarding the scale and organisation of production or the status of potters.

Although the situation may seem discouraging, it would certainly be too easy to resign oneself to the present limitations of the ethnoarchaeology of Greek pottery. Instead, Peacock in his study of Roman pottery production brilliantly points a way forward. Starting from a combination of archaeological data and more recent historical and ethnographic evidence, Peacock distinguishes eight modes of pottery production: household production, household industry, individual workshops, nucleated workshops, the manufactory, the factory, estate production and military and other official production. He then employs these modes, in a refined interpretation of various categories of archaeological evidence, integrating information from excavated workshops with patterns of pottery distribution, while taking account of the dynamics of production, trade and consumption. Despite manifest differences between the Greek and Roman worlds in the economic roles of potteries as well as in their organisation of labour and kinds of produce - not to mention the changing historical framework - Peacock’s methods and models can also be applied to ancient Greece.

Obviously, adjustments are necessary. Two of Peacock’s modes of production can be dismissed right away. Machine-powered factories are naturally a recent phenomenon, not even relevant to the Romans. At the other extreme, household production, in which each household supplies (a part of) its own ceramic needs, cannot be identified in the Greek archaeological record. This may have to do with the simplicity of the technology used (no kilns and a fast wheel, rarely, if ever, a slow turning table), but it also seems that the appropriate unsophisticated handmade pots are missing in Archaic-Classical Greece where almost all pottery was fashioned on the wheel, and

847 See Betancourt 1984b, esp. 158; Jones 1984, 22; 1986, 850.

848 Peacock 1982.

849 Peacock 1982, 8-11; see also 12-51.


851 Itinerant workshops, a subcategory of individual workshops which is quite common in the ethnographic record, may be added to these. It is very difficult to recognise their installations and their output archaeologically, at least as long as scientific analysis of coarse wares is not combined with systematic stylistic classification on a regional scale. Some single kilns in otherwise empty spaces between houses (see Appendix I, I2-14; I31; S11, and possibly I23-I24; I26; Pl. 11b, 14b, 15a-b, 18a; Pl. 11b; 15b; 18a) perhaps served itinerant potters, but there is no evidence for the hypothesis, and other users are conceivable.

852 Peacock 1982, 10.

853 Peacock 1982, 8, 13-16.
where even many handmade early Iron Age wares were already quite refined. Apparently, the Greeks acquired their pots from more or less specialised craftsmen at an early time.

Of Peacock’s other modes, estate production and military or official production play a minor role in Greece. Estate production is the equivalent of household production or industry on the much greater scale of the large farming establishment in the countryside, like the Roman villa. Although villas were nonexistent in the Greek world, large farmhouses were known, especially from the Classical period onwards. As shown above (section IV.2; see Appendix I, I20; S28), a few of these farmsteads also had kilns. Interestingly, the kilns of farms appear to have had a more varied output than their later equivalents as presented by Peacock; they concentrated on locally or even privately needed building materials (i.e. bricks and tiles) and, I would suggest, amphorai and other containers for the storage and transport of agricultural produce. It seems that pottery making at Greek farms, where less ceramics were required than at the much larger Roman villas, served a wider market, providing basic pottery and statuettes on a regional or subregional scale.

Military ceramic production, depending on a regular large-scale army and isolated army camps, is also not applicable to the circumstances of the Greek world. But regarding other official production the situation is less straightforward. The fact that the Panathenaic amphorai and pottery marked ‘ΔΕ[ΜΟΣΙΟΝ]’ (‘of the people’) found in the Athenian Agora were not made by a distinct group of artisans, but by some of the same producers that supplied private customers indicates that at least the Athenian state and related religious institutions depended on private commissions to fill their ceramic needs. Although there is no evidence to suppose that Athens might be considered a regular state in respect to pottery production, Peacock’s picture of the situation in the Roman world strongly suggests that public bodies usually acquired their pottery from independent craftsmen and that official production was exceptional.

Sanctuaries, however, present a different picture. As seen in chapter IV and Appendix I, kilns are quite commonly found at religious sites. In many respects, their roles seem comparable to those of military and other official kinds of production sketched by Peacock, with the temple replacing the army camp, and the pious or the priests the soldiers or the city council. Sanctuary kilns are clearly additional producers, apparently supplying exceptional quantities of building materials (i.e. architectural decoration and roof-tiles) or making small ceramics like statuettes or simple and cheap votives which may have fallen outside the normal range of pottery imports or local production. Nothing is known about the ownership of the sanctuary kilns or the organisation of production, but Peacock’s Roman and later examples offer a broad range of possibilities, from ownership or strict monitoring by the authorities to the leasing of contracts to more or less independent producers.

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856 Peacock 1982, 10, 50, 136-150.
859 This is confirmed at least for the 4th century by the tombstone (ca. 330) of the potter Bakchios, with an inscription praising him for winning many competitions for state orders. The signature of Bakchios is indeed found on two earlier Panathenaics. See e.g. Beazley 1944, 25; Williams 1995, 156.
independent artisans. In addition, ceramic production related to the construction of buildings was probably the field of travelling specialists or a team hired for the purpose.

In contrast, Peacock’s other four modes of production – household industry, individual workshops, nucleated workshops, the manufactory – are crucial in relation to Greek pottery: most Greek workshops, it seems, can be categorised under one of them. As they are divided only by gradations, and as scholars have proposed different classifications for the ‘standard’ Athenian or Corinthian fine-ware producers, it is worthwhile looking more closely at these four modes, while confronting them with the archaeological evidence. The results of this confrontation form a prelude to the chapter’s final conclusions.

Household industry is the simplest form of professional potting. In this mode, a few skilled artisans make pots for profit at home, working part-time. The profits are not the only source of sustenance, however, but offer additional, though sometimes badly needed, income when there is no other work, for example, during much of the summer on Mediterranean farms. Owing to its secondary character, women generally seem to play an important part in household industry. Its technology tends to be at a somewhat higher level than that of household production, including the use of a basic, slow turntable and, sometimes, rudimentary kilns. Not surprisingly, household industry seems to have been concentrated in poor areas with relatively limited agricultural resources. Because of this situation and the potters’ use of ‘spare’ time, its products can be very cheap and therefore relatively attractive, although their quality may be quite poor. In most cases, distribution is limited to the community of the makers, but a wider perspective may open in favourable economic, social and geographic conditions.

In the individual workshop mode, pottery production is the main source of income. As pottery production of this kind is a primary activity, it is generally carried out by male artisans who may be assisted by a few workers, often members of their family. Even so, production can be part-time, alternating with additional activities like farming. The output is market-oriented, and therefore manufactured more efficiently than in household industries. The fast wheel and well-designed kilns are common, and the quality of the pottery is relatively good. These factors and the input of labour and equipment of the potter, who has to live almost entirely off his craft, is reflected in higher prices. But the marketing mechanism may be quite straightforward, as in a household industry, because many individual workshops are rather isolated and therefore have no local competition.

A nucleated workshop simply is part of a cluster of individual establishments, forming a more or less dense and coordinated operational complex. In these clusters, pottery production is the major activity, all other possible sources of income are secondary. The working season is prolonged as much as possible, even over the entire year if the climate allows. Precisely as in individual workshops, the potters are almost exclusively male, and every available technical aid is employed, among other things, drying sheds and other roofed spaces protecting from rainfall or excessive cold or heat also outside the ‘traditional’ potting season. Among the advantages to clustering is the possibility of sharing raw materials, labour, technological experience and specialised skills, like clay preparation and kiln building. Moreover, relatively costly equipment

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862 Peacock 1982, 8, 17-25, 75-89.


and production facilities, especially means of transport and kilns, can be acquired and used collectively, saving labour and capital. The most important consequence (and perhaps also cause) of nucleated workshops is their attractiveness for long distance distributors. The high levels of technology in combination with the competition among many artisans working closely leads to a fairly standardised range of high-quality products; thus nucleated workshops turn out a reliable, constant and abundant supply of a wide and predictable assortment of good pots, which would compensate the distributor for the risk and cost of travelling farther. All the potters profit from the combined attraction of the whole cluster, and the wider distribution of products compensates them for any possible loss of income resulting from the competition of so many neighbours.

The nucleation of workshops can occur in both urban and rural areas. Urban workshop clusters are found where good clays and adequate fuel are available in the vicinity of concentrations of potential customers in one or more towns. Rural nucleation, which is rarer, obviously requires good clay and fuel supplies too, but it is also highly dependent on more far-reaching communication links which attract specialised dealers serving customers far away. A high reputation, exceptional product quality and/or perhaps low prices would also help increase the popularity of rural nucleated workshops.

The manufactory is the most sophisticated mode of production in pre-industrial Europe which, being best known from 18th-century Britain, is represented by the 'ἐργαστηρία' (i.e. workshops, though not specifically including potteries) described by 4th-century orators in Athens. According to this system, many artisans are brought together in a single establishment or building, making one product, often highly specialised, under central direction. Work is usually full-time and can variously be organised: either each artisan (and perhaps some assistants) manufactures the entire product, or different people individually perform specialised tasks leading to a single finished product. Any distinction between especially the first arrangement and large ‘traditional’ workshops, for example, employing two or three wheels, would be largely arbitrary. According to Peacock, 12 employees, which is the maximum for large workshops in several recent studies, is a reasonable dividing line between large workshops and manufactories. Archaeologically, the manufactory mode might be recognised in the size of the premises, the output’s scale and degree of specialisation, and possible evidence of worker specialisation.

Despite the temptation to view the modes of production as following a generally developmental order, Peacock rightly stresses that all modes have usually existed simultaneously, sometimes even side by side in the same area, with different kinds of workshops providing specific products, each with their own range of distribution. In such an interactive system, the production modes of pottery workshops are related to the characteristics of their locations (e.g. distances to natural resources, connections to communication systems, closeness of purchasers), the quality and quantity of output, and the wider social and economic context of production and consumption (e.g. availability of work force, size of consumer demand). Owing to the limitations of our archaeological and historical evidence, however, many of these factors elude us regarding the Greek world. Nevertheless, the interaction of modes and its complexity must figure in any explanation of Greek pottery production. Fortunately, just enough data seem to be available to attempt a sketch.

The modes individual workshop and nucleated workshop raise the least problems of interpretation. Respectively, they match well the many solitary workshops (mainly category A, types 3/4/5/6 and category C, type 2 in sections IV.6-8 and Tables IV.7-8) and the kerameikoi

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867 Peacock 1982, 8, 50-51.
(mainly category B, types 1 and 7). In fact, it seems that the bulk of Greek workshops fits into either of these modes. A striking divergence from Peacock’s models, however, is the apparent absence of concentrations of production in rural Greece; instead, rural production was confined to individual workshops (category B). Some of these solitary workshops were possibly linked to farms and villages, whereas others, like the one at Phari on Thasos (Appendix I, G38), must have been independent units aiming at a wider market. A less conspicuous contrast with the Roman situation and later, as sketched by Peacock, is that, to judge from the scarce evidence, the manufacture of decorated pottery was usually limited to nucleated workshops in towns, among which major urban centres like Athens and Corinth provided the wares with the most important international distribution.

The main difficulties in applying Peacock’s modes of production to ancient Greek pottery establishments occur at the extremes of the range, and are related to details of organisation. At one end of the range it is hard to detect household industry with its very simple installations in the archaeological record. Solitary workshops in or near towns usually look like clearly defined individual workshops, separated from the living quarters. Small pottery production installations in houses exist, but are very rare (Appendix I, S6; I50; S30-S31, perhaps G24; I29; I36; see Pl. 7a, 14b, 25b). Perhaps some of the mysterious single kilns without workshop or domestic context (Appendix I, I2-I4; I31; S11, perhaps I23-I24; I26; see Pl. 11b, 14b, 15a-b, 18a) belong to this mode, despite the absence of apparent evidence. Further study of the typical products of the mode, coarse wares and simple household pottery, which are often neglected in excavation reports, may offer a solution.

It is quite conceivable, however, that household industry played a minor role in Archaic and Classical Greece: even simple Greek pottery tends to be very regular in shape and quality, with widespread (regional) types and typological and stylistic developments. Therefore it is likely that most coarse and plain wares were made by individual and nucleated workshops of more professional type. If one looks for exceptions, only some specialised Greek coarse wares, like cooking pots, very simple votives (miniature pots) and perhaps some Archaic handmade wares (Argive Monochrome?) come to mind, but, lacking evidence, one can only speculate.

At the opposite end of the range it is tempting to assign the large fine-ware producers of the late Archaic and Classical periods to the manufactory mode. This would certainly be necessary if one sticks to the older, highly ‘modernist’ workshop reconstructions which are still occasionally accepted. Yet the admittedly limited excavation evidence from Athens – Corinth yields nothing relevant – contains no indication of manufactories. Even the largest excavated workshops in Athens and elsewhere (sections IV.7-8, type 1) miss the essential features like large production buildings or extensive storage spaces. Insofar as can be judged, the kiln sets, additional installations, buildings and plot sizes of these large workshops are only slightly larger than those of establishments of more usual size.

On the other hand, some large terra sigillata producers, as presented by Peacock, though not the very largest, appear to differ little in layout from the Greek upper range. Only stylistic links and especially written evidence (i.e. makers’ stamps, working notes inscribed on sherds) give the additional information needed to recognise that at least some terra sigillata workshops in Arretium, Gaul and the Rhineland can be regarded as manufactories; others might have been linked in ‘dispersed manufactories’, as different branches of one or more closely cooperating clusters. Despite the obvious differences in locations, export patterns and probably the

868 The site of Scornavacche (Appendix I, S30-S31, Pl. 25b) may be an exception.
organisation of work in the terra sigillata workshops, they might find parallels in the Greek situation. As argued above (chapter VII), the signatures and stylistic links of Attic figured pottery possibly reflect a larger scale of production than the excavated installations suggest. Moreover, they seem to furnish evidence for a highly mobile working force, especially in the decades around 500, and for specialisation between and within workshops, including a division of labour on single vessels. This kind of evidence is certainly less detailed and more limited than that for large-scale terra sigillata production, and probably regards relatively fewer and smaller workshops. It clearly demonstrates, however, that at least in Athens the upper limits of nucleated production were reached by the end of the 6th century at the latest. Production at Corinth, with its many small and specialised workshops, was probably less sophisticated in organisation and smaller in scale, but one cannot exclude that even there nucleation led to forms of cooperation and the sharing of work forces and installations. Perhaps the examples of dispersed manufactory described by Peacock can be viewed as a larger scale analogy with Corinth.

Naturally, the present state of archaeological research and the lack of unambiguous written or painted evidence make it impossible to fill in further details of workshop organisation. All the same, when combined with Peacock’s modes, the data collected in the preceding chapters strongly suggest that the major fine-ware producers of Archaic and Classical Greece, and perhaps other large Greek pottery workshops as well, were very possibly well-organised, full-time establishments which ran several kilns and maybe wheels at the same time and employed craftsmen from outside the family circle of the master, sometimes including slaves. As said, however, these large workshops must have been part of a wider system in which different modes of production interacted. Attic black and red figure pottery was also made in smaller workshops, perhaps even one-man establishments. Besides the giant ‘international’ centres like Athens and Corinth, smaller clusters of nucleated workshops also produced figured pottery which was widely distributed, like the many East Greek black figure wares of the Archaic period or 6th-century Lakonian. In addition, figured wares with a more limited distribution, like the Caeretan hydriai, Chalkidian black figure or later Corinthian red figure, issued from a few workshops at most.

It may be supposed that similar patterns also governed the production and distribution of simply decorated, black gloss and plain wares, which have rarely been the subjects of refined stylistic determination. Both from stylistic studies and from workshop excavations it becomes evident that the simpler the pottery, the more limited its distribution. Thus nucleated workshops in the smaller kerameikoi usually offer a larger range of products than single workshops, and relatively finer wares. On the other hand, the typical individual workshop, whether close to a town, connected to a sanctuary or in the countryside, seems to have manufactured mainly banded, plain and coarse wares as well as occasionally some simply decorated pots for a more or less local market. Only some specialised coarse products like cooking pots might fall outside this general pattern of interaction between mode of production, scale and width of distribution, and quality of output. Perhaps such niche markets left some room for household industries, which can hardly be otherwise identified in the record, although further research may eventually fill in this blank.

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870 Terra sigillata workshops apparently employed many slaves; and the addition of decoration by the use of moulds instead of painting must also have implications.


872 Some solitary countryside workshops (category C, section IV.8) linked to trade routes or agricultural exports evidently form an exception. Perhaps it is not fortuitous that precisely this group does not fit well into Peacock’s modes of production.