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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XX Pottery in transit: direct evidence of transport and exchange
XX.1 Pottery in shipwrecks

Of the many ancient shipwrecks discovered in the Mediterranean, relatively few belong to the Archaic period, and not all of those are Greek and contain cargoes of pottery. Moreover, only a handful of ships with Archaic Greek pottery have been excavated, and not one of them has yet been satisfactorily published. Nevertheless, shipwrecks are an invaluable source for pottery distribution because they offer our only opportunity to trace pots on their way from producer to consumer, in the process of being transported. In addition, shipwrecks supply some broader information on the practical and economic contexts of pottery distribution, and on exchange and transport in general. Altogether, even in the present state of research, shipwrecks can thus provide insights into day-to-day activities, as rarely occurs in Classical Archaeology.

A first general observation is that shipwrecks frequently contain cargoes of all kinds. In fact, apart from organic products like food and wine shipped in transport amphorai and, possibly, metal ingots (mostly bronze/copper and lead), pottery seems to have been the most common kind of ship’s cargo. Of course, this impression is likely to be biased by conditions of preservation and excavation, since any organic bulk goods carried in sacks or baskets will have disappeared, and pottery and ingots are easily spotted by divers while often being nearly all that remains of a sunken ship. Nevertheless, the preserved remains indicate that the shipment of pottery was definitely not restricted to a few carriers only.

On the other hand, fine ware pots, unlike filled transport amphorai, but the same as metal ingots, never constitute an entire cargo in themselves. They always occur as a typical additional freight, in combination with filled amphorai, which are found in every wrecked ship, and, to a lesser degree, with ingots. Yet Gill and Vickers’ characterisation of pottery as ‘space filler’, as mentioned above, is clearly inappropriate because loads of pottery occur too consistently and are often too large to have that purpose. Moreover, there is some evidence that pottery was not just placed in any empty space in the hold. Sometimes it was specially stowed in the bow or stern and underneath the loading floor, but it usually seems to have been placed on top of the main amphora cargo, where loading and unloading was easiest and the risk of crushing smallest. Much of the large pottery cargo of the Pointe Lequin 1a wreck, discussed in more detail later, was probably

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1352 For useful preliminary publications see the references in the catalogue in Parker 1992a; and Bound and Vallentine 1983; Bound 1985; 1991a; 1991b; 1991c (all Giglio); Long, Miro and Volpe 1992 (Pointe Lequin 1a); Panvini 1993 (Gela); Di Stefano 1993-1994 (Kamarina).


1354 Ingots have been found in the Giglio and Kamarina wrecks, for example. See Parker 1992a, 16-17; 1992b, 96; and also Gill 1987, 123; 1988a, 178; 1988b, 739; 1988c, 4; 1991, 29, 41; Di Stefano 1993-1994, 127.

even carried inside large ceramic containers and thus presumably stowed with the transport amphorai which form the rest of the preserved load.  

A second general characteristic of Archaic Mediterranean shipwrecks which seems relevant to pottery distribution is the diversity of provenances. The products usually carried in this period, even in vessels containing amphorai only, appear often to originate in different places, which were not always so close together. For example, the Giglio ship, which apparently traded within the Etruscan sphere, carried Corinthian, Lakonian, East Greek and Etruscan pottery, alongside a few Punic amphorai (Table XX.1). The fine wares of the Pointe Lequin 1a wreck are ‘Ionian’, presumably of south Italian manufacture, and Attic, whereas the transport amphorai are more diverse, including East Greek, Corinthian (or Corfiote?), Etruscan, Thasian and Massaliote types (Table XX.2). Less well-published Archaic wrecks from Gela and Kamarina seem to yield similar combinations.

This diversity clearly demonstrates that pottery and other products were not always, probably even rarely, sent straight from their place of manufacture to their overseas destination. By implication, many of the ships and the distributors may have come from places other than where the pottery originated. Unfortunately, the shipwrecks have not yet produced the evidence needed for a more detailed reconstruction of the organisation of this more or less indirect trade. Several possibilities can be considered, which may have interacted.

The simplest would be that the mixed pottery cargoes reflect a shipping route leading from the coasts of Ionia to the Saronian Gulf and the Peloponnesos, and then through the Straits of Messina to Etruria and France. The ships would load and unloaded at many ports of call, so that the cargoes ultimately became very mixed. The Punic amphorai in the Giglio wreck and probably part of the Pointe Lequin 1a load (the Thasian and possible Corfiote amphorai) would fall outside any obvious route, however; and one would expect that at least some (East) Greek shipments were sent straight to the west, without first deviating to the Saronian Gulf. Possibly we must look for even more intricate solutions, for instance, cargoes and even traders changing ships en route.

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1358 See Boldrini 2000, 108, suggesting Rhegion as the place of manufacture.
1361 See for this possibility e.g. Cook 1959, 123; Martelli 1979, 47, 49; Long, Miro and Volpe 1992, 228, 230.
1362 See Panvini 1993. An alternative route would be from the southern Peloponnesos to the Saronian Gulf and the Corinthian Gulf, if the diolkos near Corinth, the overhaul across the Isthmos, was used. The use of the diolkos, however, remains a matter of fierce debate. See Cook 1979, 152-153; Salmon 1984, 136-139; MacDonald 1986. See on trade routes also Sheratt and Sheratt 1993.
1363 The combinations of amphorai and fine wares in the Gela and Kamarina wrecks, which appear to cover much of the Aegean, but also include Punic and Massaliote vessels, present similar problems. See Panvini 1993; Di Stefano 1993-1994, 118-124.
route.\footnote{See Long, Miro and Volpe 1992, 230; Parker 1992b, 96.} Once again, different possibilities can be envisaged, ranging from a complex system in which the different kinds of pottery are unloaded, sold and then reloaded in bulk for further regional and international distribution to several places, to a more regular combination of regional networks in the Aegean and the Tyrrhenian Sea, with long-distance connections between them. Well-known theoretical models by Karl Polanyi and others come to mind here,\footnote{See Möller 2000, 8-25.} but they may underestimate the possible complex reality of Archaic Greek trade as explained above. Perhaps the situation in the fairly recent Aegean would also supply useful insights, but this would require a study of its own. In any case, it is clear that simplistic models of pottery distribution as a linear movement from the place of production to the final destination cannot be accepted a priori.

A rather mysterious aspect of the above-sketched hypotheses is the final unloading and selling stages. Obviously, the shipwrecks are not informative as they preserve no evidence of vacant cargo space or half-empty packages which could reveal what has already been unloaded. And although mixed pottery cargoes, as said, could result from repeated loading and unloading at different ports,\footnote{See Parker 1992b, 90-91, 96.} they could also have been selected on purpose to satisfy wide-ranging demand at a single destination, to be entirely unloaded at once. Therefore it cannot automatically be assumed that pottery was always gradually bought and sold en route.

As to the scale of pottery transport, the evidence is again not straightforward. Exactly opposite impressions are got from the two best-known Archaic wrecks, which have already been mentioned: the Pointe Lequin 1a from Southern France, near Marseilles; and the Giglio, found off the island of that name along the coast of southern Tuscany. The differences may be regarded as representative of the range of possibilities discussed above. The early 6th-century Giglio wreck had a very mixed load of many different amphorai, apparently containing wine, olive oil, olives and pitch. In addition, it carried lead and copper ingots, weapons, furniture and a silver olpe, as well as various kinds of fine pottery (Table XX.1).\footnote{I have tried to combine the evidence from the partly overlapping preliminary reports (Bound and Vallintine 1983; Bound 1985; 1991a; 1991b; 1991c) which, however, probably do not note all the ‘official’ finds while including only a fraction of the material previously looted. Kreuzer 1994, 104-105 is incomplete.} The preliminary publications record about 150 vessels and fragments of 11, mostly small shapes, from 5 production centres. Although the wreck had undergone some looting, and the state of preservation and the completeness of the find catalogues is not clear from the publications, the diverse origins of this fine ware assemblage suggest small-scale distribution, catering for a broad, not very specific demand.\footnote{According to Di Stefano 1993-1994, 130, the Kamarina wreck, of the second half of the 6th century, offers a similar picture, but the scattered state of the wreck, or rather the recovered finds, does not allow for any certain interpretation of this kind, and the summary publication mentions very few objects.}

The Pointe Lequin 1a wreck, which sank in the late 6th century, on the other hand, apparently contained about 1,600 banded ‘Ionian’ cups, at least 800 Attic cups, mostly decorated, and around 150 other fine ware vessels of various shapes, all Attic apart from a few ‘Ionian’ and (possibly) Lakonian items (Table XX.2; the excavated and published amounts do not form the complete original load).\footnote{See the lists of pottery finds from the excavated parts of the wreck and the accompanying calculation of the total original load in Long, Miro and Volpe 1992, 205.} In comparison to these impressive amounts, the some 100 transport
amphorai that apparently formed the rest of the cargo seem of secondary importance, even if they must have taken up more space in the hold. Intriguingly, everything would have fitted into a relatively small ship measuring just 10-12 m long, 3.5 m wide, and 1.2 m high. Although this may indicate that the ship operated only within a relatively small area, it is also possible that the ship was partly empty when it sank or that it carried organic commodities which disappeared with the hull, which may thus have been larger than it now seems.\textsuperscript{1370}

A last interesting point regarding the Pointe Lequin 1a wreck is the specialised composition of its pottery. Over 95% comprises drinking cups and, exactly as in the Giglio, there is no trace of

Table XX.2  The pottery found in the Pointe Lequin 1a wreck

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302
complete drinking services. This closely complements the results of my study of consumption assemblages, which suggest that pots were often acquired one shape at a time (sections XV.5; XVI.4; XVII.3). The correspondence raises the possibility that such a pattern of acquisition was connected to the way the distribution network functioned and, perhaps even beyond, to the organisation of production: the main Attic and ‘Ionian’ components of the cargo of the Pointe Lequin 1a might come from a few workshops each, which must have had a large, specialised output. Although the Pointe Lequin 1a cargo of cups is unique among ancient shipwrecks as known today, it indicates that, at least towards the end of the 6th century, part of the pottery trade was well organised and marked by considerable scale and specialisation. The wreck’s other lots of fine wares and amphorai, however, remind us that this occurred in an economic context which also included distribution activities of a much smaller scale.

XX.2 Trademarks as evidence for the organisation of transport and exchange

XX.2.a Introduction: kinds of marks and their meaning

Besides shipwrecks, there is only one other category of evidence, though somewhat less direct, for the pottery distribution process itself: the so-called trademarks, the words, signs and letters inscribed apparently with some commercial aim on some decorated pots, usually underneath. Of course, it is not always possible to distinguish these marks, which usually consist of a few letters or signs, from other kinds of short inscriptions on pots, especially abbreviated owners’ names, but if the same unclear mark recurs on vessels found in more than one place or grave, sometimes outside the Greek world, it is most likely a trademark.

The special nature of trademarks lies in their specific reference to the individuals involved in pottery exchange and transport, telling a bit about their commercial activities and social backgrounds. Moreover, they reveal details about the composition and packing of consignments of pots, and, especially, provide a glance into the organisation of pottery distribution, from the workshop to right before sale to the customer. Although it should be kept in mind that trademarks are rare and do not cover the complete range of exchange and transport, they do give an

1371 The less well-published Archaic wrecks at Gela and Kamarina may also have contained pottery loads with many cups – though not so many as at Pointe Lequin – and a variety of other vessels in lesser numbers. See Parker 1992a, no. 441; Panvini 1993 (both Gela); Di Stefano 1993-1994, 124-127, 131, none of which, however, states clear numbers and proportions. If the small excavated fraction of the pottery load is representative, the Attic black gloss of the late 5th-century Halonnesos wreck also consists mainly, but not exclusively, of bowls and cups, perhaps hundreds of them. See Hadjidaki 1996, 574, 577-585, 590; 1997, 128.

1372 Long, Miro and Volpe 1992, 203-204, 466 (‘Ionian’ cups, with comment by Th. van Compernolle) and 209-210, 214 (six Attic eye-cups with the same scene of Theseus killing the Minotaur). On the ‘Ionian’ cups see also Boldrini 2000, 108.

1373 These were meant to help identify one’s pottery possessions, to protect them from theft, or perhaps just to let the owner show off. Although a more systematic study of these inscriptions might yield useful results, they do not seem, in the present state of scholarship, to offer much information relevant to this study, so that I shall not devote any attention to them. I also ignore the inscriptions describing contents or capacities on storage or transport vessels (see e.g. Johnston 1979, 1-2, 50-51; 1987a, 127-130), as they have nothing to do with pottery distribution.

1374 See Johnston 1979, 1-3, 10, 40-41; Sparkes 1991, 127-128; see also Hackl 1909, 92-99.
impression of the practical economic framework for at least a section of pottery exports. Below, after a short introduction to the trademarks, I shall explore the usefulness of trademarks as evidence for exchange, starting with some general points, and ending with a hypothetical reconstruction of the organisation of long-distance pottery transport by sea and the following sales.

An essential feature of trademarks is their variation. They can most simply be categorised according to the two means of application. The dipinti are painted, usually after firing, generally in red paint, milto, but occasionally before firing, in the same gloss also used for the decoration. However, most trademarks are incised, apparently always after firing, and called graffiti.1375

Trademarks can also be distinguished according to meaning. A large majority seems to refer to names, usually abbreviated or, from the middle of the 6th century onwards, in the form of ligatures, i.e. monograms of combined letters. These are best interpreted as personal identification marks, approximating initials or signatures, which allowed a trader to recognise his own merchandise, to separate it from that of others. Another category gives information on qualities or quantities of pots, again often in abbreviated form. These trademarks include graffiti which name vessels (shapes or even subtypes of shapes) or mention the kind of decoration, the pots’ numbers, probably indicating batches, and prices, sometimes in combination with vessel names and/or numbers. In some cases, such information apparently does not refer to the vessel itself, but to either its contents, accompanying pottery, or the entire batch to which it is a part.1376

Trademarks are a restricted phenomenon in Greek painted pottery. They first occur only from the end of the 7th century, about two hundred years after the earliest inscriptions on Greek pots, and apparently more than a century after the first commercial marks concerning the contents of pots. The first trademarks are the red dipinti of Corinthian pottery, which are soon followed by similar East Greek and Attic inscriptions. Graffiti gain importance only in the second half of the 6th century, centring on Attic pottery, which by then dominated the Mediterranean fine ware markets.1377 Although the number of trademarks steadily grew until the early 5th century, they always remained comparatively rare. Johnston’s main catalogue of trademarks, which includes only Attic pottery, lists more than 1,400 black figure and around 750 red figure items. Even if we allow for the fact that Johnston does not pretend to be complete and adds some ‘subsidiary lists’, the amounts are a very small fraction of all the Attic decorated pots known to scholars.1378 In Corinthian, East Greek and Lakonian the percentages are even lower, to the point of being negligible.1379

The trademarks ‘identifying’ individuals are the oldest and by far the most common. All trademarks found on Attic pots from before the middle of the 6th century or on non-Attic vessels, including all dipinti, seem to be of this kind. The ‘informative’ graffiti occur only, and rarely, on

1375 Johnston 1979, 4-5; 1991a, 219; Sparkes 1991, 126. Vincent Tosto has, however, shown me some photographs of apparent pre-firing graffiti ‘xo’ on Nikosthenic amphorai.


1379 Johnston 1979, 170-176, listing 107 trademarks in Corinthian, 10 in Lakonian, and 252 in all kinds of East Greek as a whole.

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Attic pottery from the middle of the 6th century onwards. Price graffiti start appearing around 500, possibly indicating that, only then, pottery did begin to be regularly paid for with money. The trademarks begin to diminish from the late 5th century, and then disappear a few decades later.

As to the different wares showing trademarks, only Attic provides a well-studied corpus of a size sufficient to draw conclusions from. Trademarks are most often seen on larger pots, mainly amphorai, hydriai and kraters, and occur only rarely on smaller vessels. It also seems that relatively many marked pots come from Etruscan tombs, although one cannot be too certain about this as long as the general geographical distribution of Attic pottery remains hardly clear, and the pottery found in other regions is less well known. To complicate matters further, scholars seem to agree that large shapes were especially popular in Etruria. It is thus difficult to decide whether size or destination were more determinative in the use of trademarks.

However, the few clues we can recognise in the marks imply that both size and destination played their parts. Trade mark graffiti of lists of vessels, often in combination with prices, indicate that at least some marked pots functioned as labels for lots. Usually the marked vessel is one of the biggest in the lot, which would comprise a few large items and many small ones. It is reasonable to assume that the practice of concentrating trademarks on ‘master vases’ of generally large size extended to the ‘identifying’ trademarks as well. This practice of inscribing ‘master vases’ may help to explain the very small percentage of marked pots.

Regarding destinations, the distribution of the trademarks over the various export areas seems largely rather haphazard, with some notable exceptions. These clear geographical concentrations of identical or comparable marks or combinations of them include some of the most frequent types. Many of the groups of pots with such mainline marks, to adopt Johnston’s term, are stylistically related, coming from one workshop or decorated by the same painter. Moreover, most mainline marks, especially those from the 6th century, are rarely met outside Etruria. The occasional strays have turned up in Campania, an increasingly important market during the 5th century, and, rarely, in Sicily, that is, places situated on the sea route to Etruria. It even seems that, mainly at the end of the 6th century, a few merchants represented by marks centred their activities on a single town or small area in Etruria.

More surprising than the concentration of trademarks in Etruria, which after all was the largest Attic export market, is their seemingly total absence from pottery found on the Greek mainland,

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1380 Johnston 1979, 2, 8, 10-11, 39-42; Scheibler 1995, 148-149.

1381 Johnston 1979, 49-50, 52; 1987a, 133; 1991a, 224; see also Scheibler 1995, 145-147.

1382 Johnston 1979, 36, 38, 42, 54. Insofar as it can be judged, Corinthian, East Greek and Lakonian present a similar picture: see Johnston 1979, 36, 38, 51.

1383 Johnston 1979, 12, 36, 51, 54; see also Sparkes 1991, 128; Scheibler 1995, 149, 178.

1384 Johnston 1979, 36-37; see also chapter XXII below, with Table XXII.5, and Martelli 1989, 786.


1386 Johnston 1978a; 1979, 32, 38, 42, 50.

1387 Johnston 1979, 12, 43-47.

1388 Johnston 1979, 12, 14-15, 17, 51; see also Johnston 1987a, 128.
and their very rare occurrence in the Aegean.\textsuperscript{1389} This would indicate that Aegean pottery distribution operated separately from at least part of the systems of long-distance export, and that it was organised in such a way that trademarks were not needed, perhaps because regional exchange was on a smaller scale or less impersonal than some of the ‘international’ networks.\textsuperscript{1390} It is also possible that pottery distribution in the Aegean was less regular and less specialised, being more closely integrated with the traffic in other products.

But since the very many unmarked vessels exported overseas cannot all have been accompanied by inscribed ‘master vases’, there surely must have been a wide circuit of less closely organised long-distance pottery distribution as well, beside the trade in regular mainline marked vessels directed at specific markets, especially in Etruria, and the more widespread exchange of pottery bearing other kinds of marks.\textsuperscript{1391} The conclusions based on information derived from the trademarks may not always be valid for this important part of the exchange network.

XX.2.b \hspace{1cm} \textit{Trademarks and pottery transport}

Trademarks reveal important details of the practical aspects of pottery distribution. Pot-names mentioned in lists or singly, sometimes with numbers added, furnish precise information on the composition, manner of packing and sizes of batches.\textsuperscript{1392} Thus the appearance of one name on a pot of different type shows that the types were transported or sold not always singly, but sometimes in combinations. Many of the named pots are small, suitable to accompany the inscribed vessel, which is usually larger. In some cases a pot-name is not specified: instead, the inscription reads ‘\textit{ΣΥΜΜΙΚΤΑ}’, ‘mixed things’, or ‘\textit{ΕΝΘΕΜΑΤΑ}’, ‘things put in’. The latter indicates that small items were not only shipped together with the large ‘master vases’, but also sometimes even placed inside them.\textsuperscript{1393}

The sizes and contents of recorded batches vary considerably. One exceptionally voluminous batch numbers 23 kraters, quantitatively impressive is the one comprising 285 lamps.\textsuperscript{1394} Some batches seem to be packages of combined types, built up around large vessels. In one series of graffiti, for example, each inscription mentions 6 kraters as well as the accompanying pottery, totalling between 28 and 96 pieces. These batches never form complete functional sets, but are apparently random combinations of shapes. Possibly the combination was mainly dictated by the capacity of the large containers or by the wish to buy or sell series of small pots for a round

\begin{itemize}
\item \textsuperscript{1389} Johnston 1979, 18-20, see also 8-11.
\item \textsuperscript{1390} Johnston 1979, 41, 49, 51, see also 18, 42.
\item \textsuperscript{1391} Johnston 1979, 38; see also 44.
\item \textsuperscript{1392} Although marks including the names of vessels are rare, their wide geographical and chronological dispersion and their regular distribution among shapes suggest that their use was not connected to exceptional or special circumstances. See Johnston 1979, 36, 38, 51, 232; Sparkes 1991, 124-129.
\item \textsuperscript{1393} Johnston 1978a, 224-226; 1979, 32, 38, 50, 232; 1987a, 128; 1991a, 224; see also Gill 1991, 34-35; Sparkes 1991, 128-129.
\item \textsuperscript{1394} 285 lamps: Gill 1987; 1988c, 3; 23 kraters: Johnston 1979, 51; 1991b, 406; Gill 1988c, 3. Of course, even these large batches are not particularly voluminous in comparison to the space of a ship’s hold.
\end{itemize}
sum. On the other hand, graffiti occasionally mention batches of one shape only. In addition, at least some of the isolated numbers underneath pots may refer to sizes of batches comprising the same kind of vessel as the one bearing the inscription. All this corroborates the evidence of shipwrecks and use-contexts, as explained above, that pottery was not distributed and acquired in functional sets, but as individual pieces.

Trademarks also seem to confirm that decorated vessels were usually transported empty, as I have suggested above (sections XVI.3 and XVII.4; if vessels were acquired and used empty, they must have been transported empty). Amphorai, which could hold wine or oil, and lekythoi, oil flasks, bear the same trademarks as vessels like kraters and hydrai, which being open shapes, were doubtless not filled with produce during transport. Moreover, open shapes are listed together with potential containers as belonging to the same batch. Finally, it can be noted that the trademarks on fine wares never appear to refer to contents. Yet one cannot be sure that the marked Attic pots are representative of the unmarked ones, let alone of pottery from other production centres and from earlier periods. Attic amphorai are marked relatively often, so it may be safe to conclude that they were all transported empty. The Attic lekythoi, marked much less often, might easily go with them. But what about Corinthian aryballoi from a century earlier? Another difficult category comprises Panathenaic amphorai which were exported second-hand to Etruria, as some of them bear trademarks which are not found on other kinds of vessels. This may indicate that the amphorai were not traded as empty pots or mirror their second-hand status. In any event, the graffiti of Panathenaic amphorai present a special case, as no other trademarks can be linked with trade either in filled, decorated containers or in second-hand pottery.

The lack of any significant evidence among the trademarks for traffic in second-hand pottery is a strong argument against Webster’s hypothesis that the best Attic figured pottery was exported only after being used once in a symposium. In addition, some of the ‘better’ pots with ‘kalos’ inscriptions referring to Athenian youths, which furnish Webster’s main argument for the symposion pottery’s first use in Athens, have the same trademarks as simpler pottery and as shapes which were probably made especially for the Etruscan market. Moreover, the phenomena of ‘kalos’ inscriptions, trademarking and export are hardly limited to symposion pottery alone. Although this could mean that new and second-hand pots were traded together, a more obvious

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1396 Johnston 1979, 30-31, 50.

1397 ‘ENÖEMATA’, being part of cargoes, of course, do not count here. On the subject of pottery transported full or empty see also Martelli 1979, 38; 1989, 784; Salmon 1984, 117-118; Arafat and Morgan 1989, 336; Scheibler 1995, 158-159, 168.

1398 Johnston 1979, 50; 1991a, 220-221.

1399 Johnston 1979, 50; see also Johnston 1987a, 128.

1400 Possible exceptions may be found among exceptional marks on exported pots, some of which could be inscriptions by previous Athenian owners. These are too rare, however, to use as evidence for large-scale second-hand trade. See Johnston 1979, 41; 1991a, 218.

1401 Webster 1972.

1402 See Johnston 1979, 64, n. 9, referring to white-ground (grave) lekythoi.
conclusion is that all marked pots were new.\textsuperscript{1403} It is surely also relevant that, as said, graffiti listing pots never include symposion sets.\textsuperscript{1404} Apart from all this, it is difficult to envisage how pots marked before symposion use, especially pre-firing dipinti, could later all be again collected, leaving no traces in Athens, while sometimes occurring in neat groups of stylistically related vessels overseas, even in places widely separated. If trademarking was done after first use, one would expect fewer connections between marks and producers.\textsuperscript{1405}

\textit{XX.2.c} \quad \textit{Trademarks and traders}

To recapitulate, it has now become clear that in Attic pottery trademarks were usually applied to new, empty vessels which were exported, often in batches, to non-Aegean, mainly Etruscan markets. But where were the trademarks written and by whom? The most obvious answer is, of course: by Athenians who worked in the pottery workshops, warehouses or port of their home town. Indeed, the script and dialect of the trademarks are for the most part Athenian.\textsuperscript{1406} Pre-firing marks could have been written only in the workshop. And since the same types recur among marks applied after firing, the latter are most likely linked to Athens as well, although it cannot be entirely ruled out that some were inscribed in Athens somewhere outside the workshop. At any rate, the fact that identical or similar trademarks, evidently written according to the same system, appear on Attic pots found all over the Mediterranean surely indicates that the inscribing took place in one centre, very probably, but not certainly, Athens itself.\textsuperscript{1407}

If the use of trademarks was more widespread, one would expect to find local or regional marking systems, or overlap between the marks in Attic pottery and other wares. Neither case is documented, however. In practice, the marks that are clearly non-Athenian can mostly be associated with places which were likely to be the homes of overseas traders, like Aigina, Samos and other East Greek towns.\textsuperscript{1408} Although it cannot be ruled out that some of these marks were inscribed far from Athens, it seems reasonable to assume that most were written by visiting traders or perhaps by metoikoi, Athens’ foreign residents. In fact, even though Ionians were probably among the regular exporters of Attic pottery from early on, comparable marks turn up in both Attic and East Greek pottery only after many years.\textsuperscript{1409} Similarly, no trademark of Attic pottery either finds its counterpart in Corinthian or is in a Corinthian script. Insofar as trademarks can tell us, the distribution networks of different wares were apparently largely separate.

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\textsuperscript{1404} Johnston 1978a, 224; 1979, 48, 50.

\textsuperscript{1405} Johnston 1979, 40-42; see also Boardman 1979, 34; Johnston 1987a, 128, 131; 1991a, 216-221; Scheibler 1995, 138-140.

\textsuperscript{1406} Johnston 1979, 48.

\textsuperscript{1407} Johnston 1979, 2, 8, 10-12, 49, 51. See also Hackl 1909, 92.


\textsuperscript{1409} Johnston 1979, 2; see also Salmon 1984, 115, 159-160; Arafat and Morgan 1989, 340.

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Especially the absence of traces of Corinthian involvement is unexpected, as it is often assumed that Attic pottery was usually exported westwards through Corinth, partly by Corinthians.\textsuperscript{1410}

Etruscan pottery traders seem to play a minor role in the story of trademarks. Only a few trademarks were probably or certainly written by Etruscans, and it is not always clear whether this happened in Greece or in Italy. Some marks coupling Etruscan and Greek inscriptions appear to have functioned locally in Etruria, between the ports and the customer. A few such inscriptions occur more regularly and, therefore, may very well indicate long-lasting ties between Greek and Etruscan traders, perhaps even some kind of partnership.\textsuperscript{1411} But other export areas are hardly visible among the trademarks. A Cypriot and a Sicilian mark were most likely inscribed after shipment; they can better be regarded as incidental imitations of or references to the common trademarks, rather than as signs which were in regular use like the Etruscan ones.\textsuperscript{1412}

However, the relative invisibility of non-Athenians among the trademarks does not necessarily mean that the pottery trade was chiefly in local, Athenian hands. The prominence of the Athenian script and dialect may well conceal non-Athenian traders who relied on artisans at the pottery workshops or on local staff to write their trademarks. Nor can it be excluded that some ‘Athenian’ marks were indeed written overseas. It thus seems most probable that the pottery trade involved fewer Athenians and was less centred on Athens than the trademarks might imply.\textsuperscript{1413} Moreover, trademarked pots could even have first been moved from Athens to another port before being loaded aboard a ship taking them to their final destinations, especially during the 6\textsuperscript{th} century when places like Aigina, Samos and Corinth probably had more important harbours than Athens.

All the same, the range of trademarks and their relatively high frequency in Attic pottery between the middle of the 6\textsuperscript{th} century and the end of the 5\textsuperscript{th} are remarkable in comparison to that of other ceramic centres. It seems that the distribution of Attic was different in scale and organisation from that of earlier large-scale exporters.\textsuperscript{1414} Yet the dispersion of much pottery appears random today, suggesting that ancient pottery distribution was not always very systematic, with many traders travelling to many places. On the other hand, to judge from the limited spread of individual marks until the 5\textsuperscript{th} century, some traders travelled within a limited scope, visiting preferred regions, as seems to be confirmed by the exceptional mainline marks centring on Etruria and the few marks found largely in a single place. A small group of traders clearly had a very specific geographical focus.\textsuperscript{1415} They are likely to have been regular directional traders, who frequently went to the same familiar markets where they would have had firm commercial ties.

At the geographical starting point – Athens – the series of identical or similar marks on non-contemporary pots from the same workshop as well as the existence of trademarks applied before firing demonstrate that some traders also had close and lasting links with the Athenian

\textsuperscript{1410} Johnston 1979, 2, 51; see also Salmon 1984, 113, 143; 2000, 248. This goes against the current opinion on this matter, for which see Cook 1959, 116; Martelli 1979, 47; Hahn 1983, 36.

\textsuperscript{1411} Johnston 1978b; 1979, 5, 24, 26, 31, 40, 48-49, 210-211; 1985, 249-251; types 1-3A; 14-15C; see also Scheibler 1995, 150.

\textsuperscript{1412} Johnston 1979, 34 (nos. 1F.6; 26F.21).

\textsuperscript{1413} Johnston 1972, 421; 1979, 49, 51; 1991a, 221; see also Cook 1959, 116.

\textsuperscript{1414} Johnston 1979, 2; see also Arafat and Morgan 1989, 340.

\textsuperscript{1415} Johnston 1979 2, 12, see 13-21; see also Salmon 1984, 135; Johnston 1987a, 128.
It would seem, however, that such relations were exceptional. Moreover, most trademarks are not associated with single painters, workshops or related groups of makers. Similarly, trademarks on pots by one artisan rarely show any pattern, provided there are enough marks to warrant any such conclusion at all – the amounts of marked pots in painters’ oeuvres vary between just one to almost all. For example, the work of some of today’s most famous pot-painters, like Exekias and Euphronios, and the most masterly pot-painting known to us generally seem to be trademarked only rarely. Perhaps many of these pots were considered special items, so that they fell outside the distribution circuit involving trademarks.\textsuperscript{1417} In contrast, many marks occur on pots of other leading artisans, like the Berlin Painter and the Amasis Painter. As few of the marks on their pots are repeated within each of their oeuvres, relatively many traders may have dealt in their work, perhaps buying few pieces at once.\textsuperscript{1418}

Chronology also plays a part in linking trademarks and makers. The first substantial groups of identical marks appear only after the mid 6\textsuperscript{th} century, and the first regular connections between groups of marks and workshops, potters or painters can be distinguished yet somewhat later.\textsuperscript{1419} The earliest examples occur around 550 in Lydos’s workshop (Johnston’s type 24A), somewhat later followed by the circle of Exekias, not including the master himself. Now, apparently, a few traders mainly acquired their pottery from a single workshop each, while the same workshops supplied few or no other overseas traders. The ties seem to be closest and least rare between ca. 535 and the early 5\textsuperscript{th} century. Even then, though, they remain limited to a minority of producers. Many of Nikosthenes’s neck-amphorai were distributed by ‘(H)EP’ and ‘ΣΩ’. The latter also marked a series of pots by the Affecter, who also specialised in the Etruscan market. More of such links can be recognised, especially among the marks ‘ΣΩ’, ‘ΣΜΙ’ and ‘ΑΡ’, which are the most prominent in black figure from about 530 to 510. The low survival rates and uncertainties in dating and classification, however, prohibit further specification on the duration and exclusivity of the relations between artisans and traders.\textsuperscript{1420}

It is nevertheless clear that although the amount of preserved pottery marked by these prominent traders is not very impressive at first sight, they must have run relatively large-scale businesses. At a survival rate of 0.25% the almost 100 graffiti and 28 pre-firing dipinti with the abbreviation ‘ΣΩ’ represent an original number of 50,000, and at a rate of 1%, which is probably a too high estimate, the still considerable amount of 12,500 pots, most of which are likely to have been parts of batches.\textsuperscript{1421} Although few other marks occur with equal frequency, the numerous ‘ΣΩ’ marks strongly suggest that the size of the pottery load of the Point Lequin 1a wreck (section XX.1; Table XX.2) was far from unique. One may add that, in view of the estimated lifespan of ancient seafarers the thirty-odd-year career of ‘ΣΩ’ documented by his marks would

\textsuperscript{1416} Johnston 1979, 43-46, 48-49.

\textsuperscript{1417} Johnston 1979, 44; 1991a, 221; see also Johnston 1999, 397-398.

\textsuperscript{1418} Johnston 1979, 44-46; 1987a, 130-131.

\textsuperscript{1419} Johnston 1979, 44; 1987a, 130.

\textsuperscript{1420} Johnston 1972, 421-422; 1979, 43-44, see also Johnston 1987a, 131; Scheibier 1995, 150.

\textsuperscript{1421} See Johnston 1991a, 221.
seem better to suit an absentee manager than a merchant who personally accompanied his goods, and could thus be an additional, indirect indication of the scale of operations.\textsuperscript{1422}

The case for large-scale pottery trade would be even stronger if ‘SO’ stands for Sostratos, son of Laodamas, of Aigina, who is mentioned by Herodotos as the most successful Greek trader ever.\textsuperscript{1423} One of these trademarks is combined with a graffito probably written by an Aiginetan. In addition, at Gravisca, the port of Tarquinia, a stone votive gift in the shape of an anchor bears an apparently Aiginetan inscription naming one Sostratos as giver. It dates to ca. 500 or slightly later, shortly after the latest ‘SO’ marks.\textsuperscript{1424} Unfortunately, Herodotos gives no indication of when Sostratos traded, and the name is quite common. It is therefore safest to conclude that although ‘SO’ is likely to stand for an Aiginetan named Sostratos, he is not necessarily the one mentioned by Herodotos, or a relative of his.\textsuperscript{1425}

Another intriguing problem regarding the scale and organisation of the late 6\textsuperscript{th}-century pottery trade is presented by a series of similar groups of related or identical marks, sometimes occurring in combinations, mainly found on vessels of the Leagros Group and on some Antimenean pots. These groups of marks on pots from large workshops each seem to be coupled to the painter of the inscribed vessels, but not to their potters.\textsuperscript{1426} This might suggest that painters were the main personalities in these workshops, and sold their own products. As argued above in more detail (chapter VII), it is difficult, even impossible, to reconcile this with what is known about the organisation of pottery workshops, mainly because it would be awkward to keep the output of individual painters separate throughout the production process. A possible solution is that the stylistic groups in question are not actually single ‘workshops’ with several artisans, but clusters of individual enterprises. An alternative may be that the groups of trademarks are chronological clusters representing traders who arrived during following years or different seasons, in workshops where parts of the staff rapidly changed. In such a case, however, one would expect more overlaps and less neat groupings. The answer has yet to be found.

\textsuperscript{1422} See Johnston 1972, 416-417, 421.

\textsuperscript{1423} Herodotos, IV.152.


\textsuperscript{1425} The fact that his success is compared to that of Kolaios in the 630s does not date Sostratos; and to place him in the late 6\textsuperscript{th} century because of the epigraphical evidence would be circular reasoning. The historical context gives little assistance: on the one hand, the fact that Herodotos’s narrative seems not to go back beyond the mid 7\textsuperscript{th} century may form a ‘post quern’; on the other, the decline of Aigina in the 5\textsuperscript{th} century, leading to its conquest by Athens in 458/7, may form the later limit. It is odd that this chronological uncertainty plays no part in the debate about Sostratos: a nice example of the effects of the ‘positivistic fallacy’. Matters are further complicated by two early 6\textsuperscript{th}-century pots with votive inscriptions by a Sostratos and a mid 6\textsuperscript{th}-century pot with a votive inscription by a [L]eodama[s], all found in Naukratis. As might be expected they all have been linked with the ‘20’ mark and Herodotos’s Sostratos (see Torelli 1982, 317-318; Williams 1983a, 185), but there are also counterarguments: the early Sostratos may well come from Chios, in view of his Ionian writing on a Chiote pot (see Möller 2000, 57), and if the dedicating Leodamas was a relative of Herodotos’s Sostratos, he could as well be the son as the father of this Sostratos, since names were passed on from grandfather to grandson. In any case, better publication of the Naukratis inscriptions would be needed to clarify the situation.

\textsuperscript{1426} Johnston 1979, 45-46, 210, 213-214, 216; 1985, 250; see also Seeberg 1994.
With the emergence of red figure, the major marks in black figure, including the groups just noted, disappear. The earliest marks in red figure thus seem to represent a new generation of traders, possibly partly because red figure was not made in the same workshops as black figure; chronology may also play a role, in the sense that some marked red figure may have taken over the place of black figure in part of the export markets. In any event, the distinction suggests some kind of division or specialisation among traders dealing in different kinds of pottery.

In the 5th century, trademarks start to appear that range more broadly, over the work of several painters at the same time. This might be related to an increasing scale and changing organisation of the workshops, but as seen above (chapter VII) not much can be said about these developments. In the course of the 5th century, the proportion of marked vessels decreases, while the variety of marks grows, so that it becomes more difficult to connect them to workshops and painters. By the end of the century, links are no longer apparent; it remains unclear whether this should be seen as a return to the situation before the mid 6th century, or as a sign of continuing changes in the pottery trade.

XX.2.d Functions of trademarks

An essential point about trademarks that remains to be solved is their function, the reason for their application. Only the pre-firing dipinti can definitely be placed in the distribution process. They were most probably written during painting, and thus by workshop staff, but not necessarily a painter. Although, as will be discussed below, some trademarks, both dipinti and graffiti, are mostly found on the products of one or a few workshops, the abbreviations of the pre-firing dipinti can only rarely be linked to the known names of Athenian potters or painters in general, let alone to the specific makers of the inscribed pots. The single exception consists of a group of ‘ΑΤ’ trademarks on pots from Lydos’s workshop. But because ‘ΑΤ’ quite commonly are the initial letters of Greek words and names, and because many other trademarks occur on pottery from Lydos’s workshop, the correspondence with the master’s name is probably fortuitous. Therefore also pre-firing marks refer probably to those who acquired the pots from the workshop. Indeed, they are sometimes identical with trademarks which were certainly applied after firing; in some cases the pre-firing dipinto is actually repeated on the same pot in red paint or as a graffito.

If pre-firing dipinti are indeed abbreviations of traders’ names, one can safely conclude that some of them did not wish to postpone marking until after firing and thus reserved pots during the production process or had them made to order. From the potter’s point of view this meant that pots were already divided into groups (i.e., orders) before being placed in the kiln; it can perhaps be assumed that each marked order was less than a complete kiln load, which could simply be identified as a complete order without any marking; in contrast, the recognition, separation and

1427 Johnston 1972, 422; 1979, 44-45.

1428 See Johnston 1979, 45-46.

1429 Johnston 1979, 46-47, 52.

1430 Johnston 1979, 48; I may add that a potter would have had no need to mark pots he was planning to export himself.

1431 Johnston 1979 4, 40, 48; see also Scheibler 1995, 149-150.
marking of a pottery order mixed with other work in the kiln would be more difficult. In fact, the marked pots have nothing unusual about them.\textsuperscript{1432}

The next question is why traders would have ventured to order pots which could still misfire or crack in the kiln and which, moreover, they probably had not even seen beforehand, for it is difficult to envisage traders inspecting large numbers of freshly painted pots. The only good reason for taking such a risk is that traders could not always procure the pots they needed at precisely the time they wanted to, and thus sometimes ensured themselves of a cargo beforehand, avoiding the risk of having nothing to trade.\textsuperscript{1433} But since the number of trademarks applied before firing is limited, such stressful market conditions would have rarely arisen or have been experienced by only few potters and traders.

Interestingly, the pre-firing dipinti are concentrated in the last decades of the 6\textsuperscript{th} and the beginning of the 5\textsuperscript{th} centuries, the heyday of Attic pottery production, and precisely when demand may sometimes have outstripped the steadily rising production.\textsuperscript{1434} Perhaps shortages sometimes occurred at the beginning of the shipping season or after a period of bad weather. But difficulties could also originate on the demand side if traders had obligations to clients for orders that they could not definitely fill in the usual way by buying pots that were available. In either case, the pre-firing dipinti indicate that, for some traders, Attic pottery was attractive enough as an export product to make it worthwhile to reserve batches instead of being caught empty-handed. In addition, the use of pre-firing marks implies that some traders were close enough to the potters to influence production or, at least, the selection of products.

In comparison, the other kinds of trademarks can be less easily placed and explained. They are variously interpreted: orders or claims,\textsuperscript{1435} like the pre-firing dipinti, registrations of filled orders\textsuperscript{1436} or, in the case of price graffiti, advertisements or tags,\textsuperscript{1437} or reminders of prices agreed but not yet paid.\textsuperscript{1438} However, all these explanations look doubtful to me or, at most, applicable only to a restricted number of cases. The basic difficulties repeat themselves over and over. First of all, the marks are relatively few and centre on large shapes. Apart from a few exceptional oeuvres,\textsuperscript{1439} it seems that only a fraction of the output of workshops was usually marked. This is not what one would expect from any system of claim and registration, nor from one involving tags. Second, as discussed above, marked vessels very likely belonged to larger batches. Unless the marked item

\textsuperscript{1432} Johnston 1979, 42; see also Sparkes 1991, 128.

\textsuperscript{1433} Johnston 1979, 42; see also Sparkes 1991, 133.

\textsuperscript{1434} Johnston 1979, 42.

\textsuperscript{1435} Johnston 1978a, 226; 1979, 35, 48-49; 1987a, 128; 1991a, 221, 224-225, followed by Cartledge 1983, 13; Sparkes 1991, 133; Scheibler 1995, 147-148. See also Jahn 1854a, CXXX-CXXXI; Hackl 1909, 94-96. I must add that it is not always clear exactly what is meant by ‘order’; reminders of batches to be delivered written by potters and purchase commissions given to potters by traders both seem to fall in this category.

\textsuperscript{1436} See Johnston 1978a, 226; Scheibler 1995, 149.

\textsuperscript{1437} Johnston 1979, 34, 48-50, 52; 1991a, 225-226; Sparkes 1991, 133.

\textsuperscript{1438} Johnston 1978a, 226; 1979, 35, 48; Scheibler 1995, 147; Sparkes 1991, 133.

\textsuperscript{1439} See the list on Johnston 1979, 56. Especially the Antimenes Painter and much of the Leagros Group stand out for the relatively high number of marks.
and the rest of the batch were somehow packed together from very early on, the risk of dispersal of marked vessels in workshops or storage spaces full of pots would be inordinately high. This danger could be avoided only by using the marked pots as tokens and by keeping them apart, which does not seem practical. A third drawback is the placement of the trademarks underneath, which hinders the reading of them, all the more so as incised graffiti can be quite unclearly written. Moreover, price tags or order notes placed on the bottoms of a selection of pots standing upright would be difficult to locate. In the workshop, for instance, sherds, cloth, pieces of board or any other flat surface would be easier to write on and easier to read.\textsuperscript{1440} Finally, it can be noted that many marks contain abbreviations that would make sense only to the initiated. They look like working notes, and would rarely do as tags or advertisements aimed at a wider circle.

In addition, the possible uses of trademarks in transactions made in and around the workshop need to be considered. If post-firing trademarks signify orders like the pre-firing ones, it is strange that some seem to be written by non-Athenians, so they would refer more probably to the buyer than to the seller. And if only one or perhaps a few pots were marked for each batch, the trademarks do not give the kind of information one would need most, yet easily forget: why write down an abbreviated name, but not the desired amounts and kinds of pots? Few marks offer the information one would expect on a label or ticket, or in fact any message that would be hard to remember at all. Only price graffiti and lists of vessels’ names might have been useful as kinds of order forms, although there are more practical alternatives.

Another possibility is that some trademarks record information that became relevant only after the pots in question had been sold. Yet if it was the practice for traders simply to enter a workshop, buy batches of pots and take them, either straightaway or shortly thereafter, tagging or registration would be unnecessary. Similarly, if the purchased vessels were set aside for a while, it made little sense to mark a few of them only, unless the unmarked ones were already safely packed away, which seems unlikely at this stage. Even if the pottery was packed some time before the buyer left the workshop, only more detailed notations would seem to make some sense as reminders of batch sizes or sums to be paid.

All in all, it looks like the vast majority of post-firing trademarks, that is, those with abbreviated names, have no obvious use for transactions within pottery workshops. Of the remaining kinds of marks, simple graffiti mentioning vessels’ names or characteristics of pots also have no apparent purpose, as they tell something that is readily visible, or that might require additional explanation (that is, if the written message does not relate to the inscribed pot itself). Only the more extensive inscriptions can be envisaged as having had some role in the workshops, offering detailed information that may otherwise have been difficult to remember. But this would imply a quite sophisticated system of transactions, with some time between the purchase and the fetching of goods, fixed prices, and perhaps the involvement of assistants who lacked first-hand knowledge of the agreements made and had to check the pots themselves.

Among the trademarks that seem to defy explanation, one category stands out as particularly odd: isolated notations of the vessel’s name or of qualities of either the inscribed item itself or (presumably) accompanying vessels. What is the sense of writing ‘Æ’ on the bottom of a lekythos, or ‘ΑΕΚΤΟΙ’ underneath a hydria? These messages seem either self-evident or too vague to be informative. The situation would change if numbers were added, so that a batch might be recorded. Only then may we be dealing with the registration of a transaction, as (possibly) in the case of price graffiti and abbreviations of personal names. But why inscribe a pot with the name of its shape? The only credible explanation, it seems, is that the shape of the inscribed pot was not visible when the trademark had to be consulted, presumably because it was packed in, with only the bottom exposed.

\textsuperscript{1440} It should be noted, however, that price tags or the like have not been found on Greek sherds.
The same may be concluded from the small series of trademarks consisting of abbreviated or fully written adjectives describing a characteristic of the inscribed pot itself. ‘ΠΟΙ’ (for ‘ΠΟΙΚΙΛΟΣ’, multicoloured), ‘ΜΕΛΑΝΑ’ (black) or ‘ΚΟΠΙΝΘΙΟΣ’ (Corinthian, in reference to a type of krater) can hardly be interpreted as anything other than descriptions of features of pots which were not visible when they were packed.\footnote{Johnston 1979, 32, 34, 50, 225, 228, 232-233 (types 8F; 25F; 13F; 24F); see also Sparkes 1991, 128.} The same holds for ‘ΕΝΟΕΜΑΤΑ’ (input),\footnote{Johnston 1979, 232 (type 23F).} which without further specification makes sense only if the vessels ‘put in’ were invisible and could not be heard or felt by taking up the package. By analogy with these characterising trademarks, it seems probable that the graffiti mentioning single pot-names or numbers of pots (of the inscribed type) indicate items in the batch packed with the marked vessel which were not visible during transport or trade; perhaps the same applies to the combinations of names and numbers on pots in general.

In the transport stage, the legibility of trademarks underneath vessels could have been relatively good if the inscribed pots were packed upside down on the tops of batches. Moreover, labels, which may be practical in the static environment of the workshop, are easily torn, broken or lost during transport and stowing. Trademarks, applied either at the moment of packing or afterwards, during transport and further exchange, appear to be an efficient alternative.

The places and times that the marking took place remain speculative. Probably, the purchasing overseas trader was the one who did the packing, but the moment and place of compiling batches can only be guessed at. If the compositions and destinations of batches were clear from the start, and if overland transport to the harbour posed no difficulties, packing and marking could be done at the workshop. It is perhaps more likely, however, that at least the marking was done later, shortly before the ship was loaded: this procedure required less organisation in bringing merchandise to the harbour, and allowed more freedom in compiling batches and shiploads. In addition, the little we know about the stowage of pottery in ships suggests that they were often stacked together rather loosely, perhaps not even in crates or baskets, but between straw and rags.\footnote{See Salmon 1984, 132; Johnston 1987a, 133; 1991a, 224; Boardman 1988b, 29. In Aristophanes, \textit{Acharn.}, 927-928, straw is mentioned as filling material for packing pots.} All traces of such possible organic protection and packing have, of course, vanished. On the other hand, the pithoi that apparently contained pottery in the Pointe Lequin 1a wreck and can be considered evidence for an early packing technique remain unique so far.

If trademarks were indeed written on packed pots, probably mostly in early stages of the distribution process, their manner of use may help explain their purpose. Again, the characterising marks offer the best clues. Why would traders or transporters have needed to be reminded that a batch contained pots of a specific kind or a certain number of them? The notation on the vessels suggests that comparable information was not recorded in any other way, and that it was in danger of being forgotten. Both explanations seem unsatisfactory, though, if only because the information provided by the marks is so limited. Were traders so busy and their voyages so long that they needed such reminders, or had they seen their goods so briefly that they forgot what they had? Or should we be content to see forgetfulness as a human limitation: note for instance our practice of marking cardboard boxes when moving house, even if the contents are well known and can be recognised in a glimpse by peeping into the box or picking it up briefly. In fact, ancient packages could have looked as uniform as modern boxes.\footnote{I owe this analogy to Geralda Jurriaans (pers. comm.).} And perhaps, just as moving house

\footnote{1441 Johnston 1979, 32, 34, 50, 225, 228, 232-233 (types 8F; 25F; 13F; 24F); see also Sparkes 1991, 128.}
\footnote{1442 Johnston 1979, 232 (type 23F).}
\footnote{1443 See Salmon 1984, 132; Johnston 1987a, 133; 1991a, 224; Boardman 1988b, 29. In Aristophanes, \textit{Acharn.}, 927-928, straw is mentioned as filling material for packing pots.}
\footnote{1444 I owe this analogy to Geralda Jurriaans (pers. comm.).}
today requires teamwork, various assistants and middlemen may have been involved in the acquisition and distribution of batches of pottery, so that the marks were needed to facilitate communication between them.

Before exploring such possibilities further, I widen my view to consider other kinds of trademarks. What would be the consequences if my proposal that some informative trademarks were reminders of the contents of batches which were otherwise not visible also holds for the abbreviations of names and even price graffiti? If names served to identify the owners of batches or of individual vessels, as seems obvious, situations evidently arose in the processes of exchange and distribution when ownership became so unclear or confused that a guarantee or reminder was needed. The circumstances can easily be imagined: just as it is difficult to judge the kinds of pots in a packed batch from one or a few exposed bits, so it can be problematic to separate the batches of different owners from each other, that is, if their batches were stored or transported in close proximity, without permanent surveillance or the traders’ personal presence. The same could earlier occur in the workshop, but as I pointed out above, the use of identifying trademarks does not seem the obvious solution to the problem, unless perhaps the pots were packed immediately after purchase and then left behind by the new owner for a while. Nothing is today known about storage procedures in ancient Greek harbours, and there is no evidence for large private warehouses shared by merchants where their goods might get mixed up.

In fact, the ships themselves are the most likely places where confusion occurred: it is known that they often transported cargoes owned by several traders (chapter XXI), who may not always have personally accompanied their goods. Parts of such mixed cargoes would be easy to recognise, among other things, because they might be stowed in a fixed place; but if the ship’s load was altered during the voyage, being partly unloaded, supplemented or moved around in the hull, it could become difficult to distinguish between similar batches of pottery after a while. Identification aids may prove even more helpful if stowing and unloading is carried out by the crew, overseas agents or associates of the traders.  

Taken as starting points, the hypotheses about the identifying marks help to clarify the use of characterising marks. The information inscribed about a batch before loading could let traders, overseas staff or crew members check the contents – at least vaguely – and decide whether the proper package was later being unloaded. These marks appear indeed to be the ancient equivalents of what we write on cardboard boxes when moving house.

Thus only the price graffiti remain to be explained. These cannot be satisfactorily connected to transactions at the workshop, as seen above. And at first glance any usefulness during transport may also seem unlikely; nevertheless, possibilities can be envisaged, provided the prices are not regarded as tags or records, but as information on par with that about characteristics of decoration and shape. It may prove useful to have a record of a purchase price, either as proof or as a reminder in further negotiations, especially if the people at the end of the distribution line had not personally bought the pots. The lists are striking in this respect: they mention quantity, quality and price, features which were obvious at the time of purchase, but which may later have required written confirmation.

Finally, it is necessary to return to the pre-firing dipinti. These were definitely applied in the workshop, and are thus exceptional among trademarks, if my hypothetical explanations of the other kinds are right. In fact, their existence might even be cited as a counterargument to my hypotheses; however, unlike the other kinds of trademarks, as explained above, they seem clearly to function in the workshop. In addition, several pre-firing dipinti are accompanied by incised marks, usually repeating the painted letters, which suggests that the graffiti had a separate use,

1445 See also Johnston 1979, 49, where the possibility that trademarks refer to the (trader at the) destination of pots is discussed and dismissed, too quickly in my opinion.

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sometime after the dipinti were needed.\footnote{Johnston 1979, 4, 48, 212-213; 1985, 249. The counter-marks of course do not preclude that solitary dipinti could not have had a (second) use during the distribution process.} Other, rare instances of double trademarks or apparent corrections might also be sequential, indicating that the utility of trademarks was not confined to a single moment, but lasted for some time, and could involve cancellation or confirmation.\footnote{See Johnston 1979, 5, 39-42.}

All in all, the trademarks of Attic pottery seem to belong to rather complex forms of transport and exchange, involving several cooperating people and perhaps a network of transactions. Although the precise forms of the organisation of distribution remain unclear, it seems that traders who singlehandedly bought pottery and personally took it overseas, either as passengers or as shipowners, had no need of trademarks. Instead, as far as I can judge, the marks make sense only if passenger-traders travelled together with their counterparts and stowed their cargoes together out of sight; or if people were employed to take the batches of a trader’s pottery to the harbour, which were then either accompanied by them or others on the voyage, or received by overseas agents. One can even envisage overseas traders employing people in Athens to acquire the pottery they needed. Strikingly, such a complex picture matches the later written evidence about trade, but hardly fits in with the more primitive picture of the Archaic economy sketched by much recent scholarship.