

A Fishy Business: Transport Amphorae of the Black Sea Region as a Source for the Trade in Fish and Fish Products in the Classical and Hellenistic Periods

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Salted, dried, and pickled fish, the staple food of the Greeks, was imported in large quantities into Greece, Egypt, and probably Syria from the Pontic regions and from Sicily (M.I. Rostovtzeff 1941)¹

This ill-conceived picture of the Pontic fisheries has, unfortunately, found a wide audience (T.W. Gallant 1985)²

The notion that fish and fish products could have been carried in transport amphorae produced in the Propontis, i.e. the Sea of Marmara, or along the northern coast of Asia Minor may be traced back to articles published by J.L. Stoddart in 1850 and 1853. These articles are, incidentally, among the first to treat transport amphorae as evidence of trade.

In 1850, Stoddart wrote:

That the ancient commerce of Alexandria should have connected itself with the towns on the Propontis and its dependant straits, is very intelligible. Wine, which was plentiful and good on the Asiatic shore, was, no doubt, sought there; but the riches and consequence of all those places depended mainly on their fisheries ... They were to the Greeks what Newfoundland is to us. Nowhere else was fish more abundant, nowhere so excellent ... The smaller kinds entire, and the larger kinds were carved into lumps, with salt strewed between the layers, they were packed in amphorae, ... or in larger vessels (πίθοι), and so exported.³

In 1853, the same scholar suggested that salted fish “was the leading commodity which the ancient maritime towns on the south side of the Euxine exported in *diotae* to those on the north side, where its superiority to their coarser and less sapid sturgeon must have procured for it an extensive demand”.⁴

Stoddart did not present any positive arguments to support his hypothesis, and he did not specify which centres he imagined to be involved in this traffic. Still, his theory is highly relevant to the theme of this workshop, and the aim of this paper is to present and discuss the archaeological evidence for the use of transport amphorae of the Black Sea region as a possible source for the trade in fish in the Classical and Hellenistic periods.⁵

1. *Prolegomena*

Before turning to the Black Sea region, it may be mentioned that transport amphorae have been the subject of intensive research in the last decades,⁶ no doubt because such vessels were “above all ... containers used in seaborne commerce”, which “provide us ... with direct witness of the movement of certain foodstuffs which were of considerable economic importance”.⁷ David Peacock and David Williams wrote these words in their study on “Amphorae and the Roman economy”, which was published in 1985. Since then, our knowledge about the typology and chronology of transport amphorae has advanced significantly, and research in amphora kilns and workshop facilities has also made great strides forward. Thanks to new publications of quantified contextual evidence, we may now map the regional and interregional distribution of many amphora types with some confidence.

In other respects, however, progress has been less marked. This is, for instance, the case with regard to determining the contents of the amphorae – especially those predating the Roman era.⁸ This question is surely of the utmost importance, if we want to use amphorae as a source for ancient trade and economics. Several sources of information about this matter are at our disposal: 1) residue analyses by means of gas chromatography-mass spectrometry, 2) finds made inside sealed amphorae found in shipwrecks, 3) indications from *graffiti* or *dipinti*, which may, however, be secondary and hence misleading,⁹ 4) iconographic evidence from amphora stamps and representations on coins and other media, and 5) ancient written sources. On the basis of all of this, a consensus of sorts emerged, which was formulated by Carolyn Koehler in 1996: “wine has been nominated as the chief export in amphoras from a number of Greek cities, including Chios, Kerkyra, Knidos, Kos, Lesbos, Mende, Paros, Rhodes, Sinope (and other sites in the Black Sea) and Thasos”.¹⁰

In recent years, however, a more subtle approach has emerged: Yvon Garlan has questioned whether each individual amphora type did, indeed, only carry one type of commodity, as was hitherto commonly assumed.¹¹ Also, Mark Lawall generally refrains from speculating about the content of the

amphorae in his illuminating analyses of amphora finds at Ilion,¹² even if he associates the Chian amphorae found in Athens with trade in Chian wine.¹³

2. *Amphorae produced in the Black Sea Region*

The main centres involved in the production of transport amphorae in the Black Sea region in the Classical and Hellenistic period were Herakleia, Amas-tris, Sinope, Dioskourias and Chersonesos.¹⁴ The amphorae produced in these centres have been well studied by several generations of Russian and other scholars, who have mainly concentrated on elucidating their typology, chronology and stamps.¹⁵ The question of their contents has apparently not been at the forefront of research.

Still, it has been claimed that amphorae from the Chersonesos contained “cheap local wine”,¹⁶ and perhaps also grain,¹⁷ and that those made at Amas-tris carried “olive oil and salted olives”.¹⁸ The site of Herakleia Pontike has been characterized as “one of the greatest wine exporters to the North Black Sea region” and it is assumed that amphorae from there contained wine.¹⁹ As for the amphorae from Sinope, Nicolae Conovici expressed the opinion that they mainly contained wine,²⁰ whereas Vladimir Kac and others contend that they “most probably contained olive oil rather than wine; however, one cannot rule out wine”.²¹ Ancient literary sources refer to the cultivation of both grapes and olive trees at Sinope.²²

The attributes seen on the Sinopean amphora stamps may be relevant to this discussion. In 1998, Conovici published nearly 550 such stamps from Histria. The highest number of attributes in this sample, about 28%, refers directly or indirectly to wine (grapes, silens and satyrs, symposium vessels). The next highest incidence, about 26%, depict various gods or their attributes (Nike, Hekate, Hermes, Artemis, Herakles, Helios). Animals (mainly birds and lions) make up about 13%, and attributes related to ships and seafaring about 10%. Unidentified persons and other motifs (trophies, horns etc.) constitute about 10% each. Finally, 2% depict the emblem of the coinage of Sinope: an eagle clutching a dolphin.²³ True, we cannot be sure that the symbols on the stamps have anything to do with the contents of the amphorae, and this is in any case only a rough count. Still, it tends to support the notion that Sinopean amphorae were primarily containers of wine.²⁴ None of the attributes seems to relate to olive oil or grain, and the one with the eagle and a dolphin is probably emblematic for Sinope in the same way as a rose or the head of Helios were for Rhodes on Rhodian amphora stamps.

Thus, according to current scholarship the amphorae produced in the Black Sea region in the Classical and Hellenistic periods were primarily intended as containers of wine and to a lesser degree of olive oil and grain. No one since Stoddart has claimed that any amphora type was primarily manufactured to carry fish products, but Garlan has stated that it is “tempting to think that salted fish products could have been the main contents of the about 181

Sinopean amphorae found sporadically in the Mediterranean".²⁵ He also mentions olive oil and wine in connection with Sinopean amphorae,²⁶ and a recent find has given his proposal a new actuality.

3. *The Varna shipwreck*

In January 2003, there were reports in the international press that a joint Bulgarian-American expedition directed by Robert Ballard had discovered a shipwreck off Varna at the eastern coast of Bulgaria.²⁷

The wreck contained at least 20-30 amphorae, but only one of these was retrieved, which allegedly "looked like a type of amphora that would be manufactured at the site in Sinop, Turkey." It is said that

recent analysis of sediment gathered from inside the amphora revealed that it contained bones of a large freshwater catfish species, several olive pits, and resin ... Cut marks visible on the fish bones, together with other physical clues and references from classical literature, lead researchers to believe the amphora carried fish steaks—catfish that was butchered into six- to eight-centimeter ... chunks and perhaps salted and dried for preservation during shipping ... Radiocarbon analysis of fish bone samples taken from the amphora ... indicated that the bones were between 2,490 and 2,280 years old [i.e. between ca. 487 and 277 BC].

A more intensive investigation of the wreck will, hopefully, clarify whether we are dealing with "a big supply boat full of butchered fish" as Ballard tends to think, or if – as noted by maritime archaeologist Cheryl Ward: "the other amphorae weren't carrying fish, these fish may just have been somebody's lunch".²⁸ Perhaps new light will also be shed on the curious fact that olive pits and resin were found with the fish bones inside the amphora, which could suggest that the amphora had been re-used.

4. *The question of secondary use*

This leads to the question if there is evidence for a trade-related re-cycling of transport amphorae in the Classical and Hellenistic period.

This is a problematic topic, not least because of the difficulties involved in distinguishing between primary and secondary use, for instance in the case of charred remains of "bones and fish scales" found together with grains of wheat, barley, millet and lentil seeds in an amphora in a cellar at Olbia datable to the third to second century BC.²⁹ There is ample evidence of re-use of transport amphorae at a local level,³⁰ for instance as storage vessels. The amphorae found in Room 13 of the Monumental Building U6 at "Panskoye I" were thus re-used as containers of oil and/or grain.³¹ *Dipinti* and *graffiti*

are suggestive of such a re-use.³² Re-cycled amphorae were used as building material, burial containers for infants, and in numerous other ways. However, there seems to be no evidence for a large scale systematic re-use of transport amphorae in inter-regional trade in the periods dealt with here.³³

In order to credit that re-cycled amphorae played an important role in such an endeavour, one would have to presuppose the existence of a system for gathering containers after their use and transporting them to wine and olive presses or other production facilities. But there appears to be no evidence at all for this in the periods in question.³⁴

5. *Literary evidence for trade in fish products from the Black Sea*

Still, it is pertinent to be reminded that “absence of evidence is no evidence of absence”, because the ancient written sources document the importance of fishing in the Sea of Marmara and in the Black Sea.³⁵ Moreover, a number of texts mention a trade in fish and fish products in the Classical and Hellenistic Greek world.³⁶

A reasonably well-preserved papyrus from the Zenon archive, for instance, records the valuation (for tax purposes) of goods imported to Egypt on two ships on behalf of Apollonius and others. This document, which dates from May-June 259 BC, lists among other goods “[-] dried fish”, “[-] fish pickled in the season”, “5 jars of [belly of tunny fish/ at 20 dr., [100 dr.]”, “[-] of salted fish at 16 dr.”, “[-] of mullet at dr. [-]”, immediately after which follows the entry “2 earthenware jars of wild boar-meat at 2 dr. [4 dr.]”. True, the origin of these goods is not mentioned, and there is little reason to regard them as originating in the Black Sea region, even if 10 *choinikes* of Pontic nuts are mentioned further down the list.³⁷

Another snippet of information comes from the fourth-century Demosthenic speech 35 *Against Lacritus*. The trial in which this speech was held concerned a maritime loan of 3,000 drachmas given to two merchants operating from Athens for a return voyage to the Pontus. The merchants had been contractually obliged to buy 3,000 amphorae of wine from Mende or Scione, which they were then to sell or exchange with goods from the Black Sea (Dem. 35.10-13, for the contract). However, on their return to Athens, the money-lender accused the merchants of having violated almost every single clause of the agreement. In particular, they had allegedly taken on board only 450 jars of wine (35.19) and had fabricated the loss of the return cargo in shipwreck (suffered en route from Pantikapaion to Theodosia) in order to explain the fact that they had come back to Athens empty-handed (35.31). It appears that the defendants had claimed that they were actually returning with a cargo to Athens, including salted fish (35.31). But this is met with the counter-claim that the consignment of fish was in reality transported from Pantikapaion to Theodosia on behalf of a certain farmer to be used by the workforce in his farm, and that, at any rate, it only amounted to a mere eleven or twelve jars,

taken on board along with two hampers of wool and two or three bundles of goatskins (35.32, 34). Whatever the truth may have been about this matter, the merchants at least thought their claim that the Black Sea fish was destined for Athens would sound credible. The fact that a fragment from the work of a comic poet, preserved by Athenaios, informs us that the Athenians credited Pontos with producing the best salt-fish, suggests an import of this commodity on a certain scale.³⁸

It is beyond the scope of this paper to present a systematic analysis of all the written sources. Such an endeavor might provide a clear answer to the question about the scale of the trade in fish and fish products, and perhaps also indicate if such an exchange was mainly conducted within the region itself or was part of a larger interregional trade. However, the instance cited from the Hellenistic period shows that ceramic containers – but not necessarily amphorae – could indeed be used for transporting fish, and there is nothing in either text to indicate that this was in any way unusual; the Zenon papyrus, in addition, documents that such vessels were used for meat too. At the same time we cannot exclude the simultaneous use of other, non-ceramic forms of transportation, for instance baskets.

6. Conclusion

The fragmentary evidence available suggests that the amphorae produced in the Black Sea region in the Classical and Hellenistic periods were not primarily intended as containers of fish or fish products. Still, the Varna wreck suggests that they could – at least occasionally – be used for this purpose. It is a moot question if the amphora in question carried supplies for the ship's crew or whether it was part of a larger consignment. But even if the latter turns out to have been the case, it is doubtful if a large-scale and regular trade in fish products could have been based on re-cycled amphorae. In that case, one would expect to find evidence of a systematic collecting of re-usable amphorae. Also, one would expect amphorae found in wrecks to present a less homogeneous picture than what is actually the case. It may therefore be tentatively concluded that such a trade was either at a small scale or irregular.³⁹ This accords well with T.W. Gallant's conclusion that fish from the Black Sea, which reached the Mediterranean "was a luxury item, aimed at a very restricted market. It cannot be taken as symptomatic of society as a whole (Polybius, 4.38.3-7)".⁴⁰

There is precious little archaeological evidence to support the notion that the Black Sea region was the focus of a large-scale and systematic amphora-based trade in fish and/or fish products in the Archaic, Classical and Hellenistic periods.⁴¹ The fact that stamped amphorae produced in the Black Sea region only occur sporadically south of the Bosphorus certainly suggests that the scale of any such trade must have been restricted. No one has yet mapped the distribution of Black Sea amphorae in the Mediterranean, but

among 1001 amphora stamps from Athens recently published by Gerhard Jöhrens, only six came from Sinope, and one from Chersonesos.⁴² This situation seems typical, and only 181 Sinopean stamped amphorae are known from the entire Mediterranean.⁴³

From an archaeological point of view, then, there is much to be said for Gallant's view that fish from the Black Sea region were luxury items, which "titillated the palates of discerning ancient gourmets".⁴⁴ However, it does not follow that the trade was of negligible economic import. The few written sources can hardly be construed as evidence of a large scale and systematic exportation of fish or fish products from the Black Sea to the Mediterranean in the period under review. Still, they tell us that Pontic salt fish were appreciated in Athens. Hence, it would be imprudent to make too much of the absence so far of any tangible evidence from the existing amphora record: other types of vessels than amphorae (possibly unrecognised by archaeologists) – not to speak of wooden crates, baskets or other containers of perishable materials – might have been involved in such a trade.

Notes

- 1 Rostovtzeff 1941, 1254.
- 2 Gallant 1985, 35.
- 3 Stoddart 1850, 98-99.
- 4 Stoddart 1853, 56-57.
- 5 For the Roman period, cf. Curtis 1991, 118-129.
- 6 Cf. Eiring and Lund (eds.) forthcoming.
- 7 Peacock and Williams 1985, 2.
- 8 Cf. Lund 2002 and forthcoming.
- 9 Will 2001, 263.
- 10 Koehler 1996, 326.
- 11 Garlan 2000, 90-91.
- 12 Lawall 1998; cf. also idem 1999.
- 13 Lawall 2000.
- 14 For an overview, cf. Garlan 2000, 195-96 and the bibliographical surveys Empereur and Garlan 1987, 1992, 1997 and Garlan 2002 with references to Russian scholarship.
- 15 Cf. Garlan (ed.) 1999.
- 16 Kac et al. 2002, 108.
- 17 Achmerov 1947, 175; Stolba 2002, 235.
- 18 Kac et al. 2002, 105.
- 19 Bittner 1998, 119-120 concludes that "bleibt der Weintransport in den Amphoren eine glaubwürdige, jedoch noch endgültig zu beweisende Arbeitshypothese"; cf. also Jefremow 2003, which deals with "Der Wein vom taurischen Chersonesos in Thrakien"; see further Lomtadze and Zhuravlev, forthcoming.
- 20 Conovici 1998, 169: "du vin surtout".
- 21 Kac et al. 2002, 108.
- 22 In the *Anabasis* (6.1.15), Xenophon mentions that the Sinopeans "sent to the Greeks, as gifts of hospitality, three thousand medimni of barley meal and fifteen

hundred jars of wine”, whereas Strabon (13.3.12-13) states that the land around the mouth of the Halys was fertile, “productive of everything ... and planted with olive trees”.

- 23 Conovici 1998, 193-194. Apparently no attributes refer to olives or olive oil.
- 24 Cf. Garlan 1990, 499-503 figs. 8-9 for a stamp showing the treading of grapes.
- 25 Garlan 2000, 89.
- 26 Garlan 2000, 88-89.
- 27 http://news.nationalgeographic.com/news/2003/01/0110_030113_blacksea.html.
- 28 <http://www.nationalgeographic.com/events/releases/pr011603.html>.
- 29 Pashkevich 2001, 515-16.
- 30 Cf. Kent 1953, 128; Grace 1962, 108-9; Lawall 1995, 19-20; Garlan 2000, 180, note 28; Jefremow 2002, 38, note 45.
- 31 Cf. Ščeglov 2002, 53-54; Stolba 2002, 232 ad H 13; 235 ad H 33.
- 32 Cf. Will 2001; Stolba 2002, 235; 237.
- 33 Cf. Lawall 1995, 19 note 14: “In the course of researching and writing this dissertation many people have suggested to me that amphoras may have been re-used in successive cargoes following their initial exportation from point A and importation at point B. The only evidence I can think of for such an event would be if one were to find amphoras of demonstrably different date on the same shipwreck. I know of no such occurrence, nor can I find any other evidence for such a possibility of reuse’.
- 34 Garlan 2000, 179: “D’autant qu’on peut aussi se demander si les amphores grecques n’étaient jamais commercialisées vides, pour elles-mêmes, comme simple contenants: on l’a parfois affirmé, à tort me semble-t-il”. Cf. Dupont 2001, 454: “des livraisons de cargaisons entières d’amphores vides sont également envisageables à plus grande distance: Je n’en connais pas vraiment pour le monde grec”. Jefremow 2003, 38 states that “die Zeugnisse aus Ägypten, Zeleia, Histria, Olbia und Delos sprechen einheitliche Sprache, dass die leeren Amphoren gesammelt und deponiert werden”. However, the instanced quoted seem all to relate to reuse at a local level, and the author considers transportation of empty amphorae from Herakleia Pontike “weniger wahrscheinlich”.
- 35 Cf. for instance Dumont 1976-1977 and Mehl 1987, 115-117 and *passim*.
- 36 Bekker-Nielsen 2002a and 2002b mainly discuss evidence from the Roman period but refer to the seminal publications dealing with the previous periods.
- 37 *P. Cairo Zen.* 59.012, col. II, lines 38-48 trans. Austin 1981: No. 237; the Greek word used is *keramion*.
- 38 Hermippos fr. 63 (*Poetae Comici Graeci*), cf. Garnsey 1999, 117.
- 39 It is hardly warranted to project conditions in the Roman Empire backwards in time, when several types of Spanish amphorae were specifically designed to carry garum and other fish products. Peacock and Williams 1985, 113-114 Class 14: “Tituli picti suggest fish-based products” (Dressel 12; Beltran III; Ostia LII), 122-123 Class 18: “Fish-based products” (Dressel 38; Beltran IIA; Ostia LXIII; Camulodunum 186C; Pélichet 46; Callender 6); 124-125 Class 19: “Fish-based products” (Beltrán IIB; Ostia LVII); 126-127 (Dressel 14; Beltrán IVA (Parker 1977); Ostia LXII); 128-129 Class 21: “Fish-based products are suggested” (Beltrán IVB (Parker 1977); Ostia LXI); 130-131 Class 22: “Fish-products have been suggested” (Almagro 50; Ostia VII; Keay 1984 XXII); 149-50 Class 31: “perhaps wine for the French vessels and wine or fish products for the Spanish” (Dressel 28); 153-54 Class 33: “generally thought to be fish products” (Africana I “Piccolo”; Beltrán

57; Ostia IV; Keay 1984 III); 155-57 Class 34: "fish products may also have been carried" (Africana II "Grande"; Beltrán 56; Ostia III; Keay IV-VII). Vladimir Stolba has kindly informed me that this is also supposed for one large-sized variety of the Bosporan jars found in Tanais.

40 Gallant 1985, 35 and *passim*. Cf. Bekker-Nielsen 2002b for a critical assessment of Gallant's views about net-fishing in the Roman world.

41 Tsetskhladze 1998, for instance, only discusses the evidence for trade in grain, metals and slaves.

42 Jöhrens 1999.

43 Garlan 2000, 89.

44 Gallant 1985, 35. Cf. further Curtis 1991, 126: "Italy was importing it [i.e. processed fish from the Black Sea] as early as the second century B.C. ... Its expense may indicate that commerce in the Western Mediterranean in salted fish from the Black Sea was not fully developed or that only the most expensive kinds came from this region". According to Waelkens et al. 2003, 60, "it is commonly assumed that in Greece it [i.e. fish] became a staple food, certainly among common people ... Only the Imperial period saw the emergence of fermented and salted fish products prepared in quantity and traded, especially among urban consumers."

