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Trade on the Black Sea in the archaic and classical periods: some observations

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In the specialist literature and even in student textbooks, the Black Sea area and Greek trade with this region are mainly presented in a very simple way: that the Greeks colonised the Black Sea because they lacked food and natural resources and, consequently, imported grain, metals, slaves, etc. from the Pontic region. This can be summarised in the words of J. Fine:

> Greek colonisation of the Black Sea was of great importance for subsequent Greek history. A huge area, rich in metals, timber, grain, fish and many other products, was thus opened to a Greek world, whose resources in raw materials and food products were inadequate for the constantly growing population. The necessity to pay for those imports stimulated the activity of Greek craftsmen – especially the potters and metal-workers
>
> (Fine 1983, 81)

Is all this true? Is it the only conclusion to which the available evidence points? I think not.

From the beginning it must be said that in discussing the colonisation of the Black Sea it is a mistake to consider Greek interest in trade as a major reason. I have already argued this elsewhere (Tsetskhladze 1994). The Black Sea was colonised by Ionians, whose first colonies were established there in the third quarter of the seventh century BC. The reasons for Ionian colonisation are highly complex. For long it was believed that the main impulse

for colonising the Black Sea was interest in the metals of its southern and eastern parts and the grain of the north. However, recent studies have shown these regions to be less metal-rich than was thought and alternative explanations have to be sought (Treister 1992, 1995; Tsetskhladze 1995; Tsetskhladze and Treister 1995). Furthermore, the northern Black Sea could not be the main source of grain in the seventh–sixth centuries BC: no evidence exists for it, whilst written, archaeological and palaeobotanical sources show that grain could not be acquired from the Scythians (Sceglov 1990). A simple understanding of the motives and processes of Greek colonisation does not hold water. It was never exclusively agrarian, commercial or connected with the need for metals on the one hand, or a consequence of over-population on the other. Each mother-city had its own reason for sending out colonies and it is essential to analyse the *metropolis* and reasons that might have obliged the Greeks to emigrate. From this standpoint, study of the situation in Asia Minor in the seventh century suggests that enforced emigration was the motive: the consequence of the hostile policy towards Miletus and other Ionian cities of Lydia (and, in the middle of the sixth century, the Persians) was a reduction of their *chorai*, and a grim political struggle within Miletus itself. One of the most radical solutions in these circumstances was emigration. At that time the only region not yet colonised by other Greek cities was the Black Sea, and it was precisely in that direction that Miletus looked (Tsetskhladze 1994, 123–6). With survival at stake, trade was simply not a consideration.

There is a further complex question which we need to examine. Although all the earliest *apoikiai* were settlements probably without their own *chorai* (Tsetskhladze 1994, 115–18), can we consider trade as the main activity of these early settlements? Perhaps trade was simply a means of survival for the first colonists before they organised their own agriculture and craft activity (cf. Graham 1982, 129). Seventh-century Greek pottery was found far inland in the tumuli or settlements of the Scythians – eight sites altogether (Onaiko 1966, 56; Vakhtina 1993). There is no seventh-century Greek pottery in Thracian or Getae sites, but sixth-century pottery was found in about fifteen sites (Vakhtina 1993). Phrygian pottery was found in Sinope, which shows that some relations existed with the peoples of the interior (Boardman 1980, 255).

The answer to my last question lies in what kind of Greek pottery it is that we are finding in the sites of the local population. Furthermore, it is often the case that such pottery is of an earlier date than the Greek settlements themselves. Study of this pottery shows that it comprises luxury objects, which are, as usual, found in the tumuli of the local elite (Boardman 1980, 243–4; Vakhtina 1993). All of the foregoing leads us to the following conclusions. The first colonists arriving in a new land are subject to the whims of local circumstances. It is in their best interest to establish friendly relations with the local population, especially the elite. The pottery found in local sites should not be considered a subject of trade as we now understand the word. 'Many scholars at present hold the view that trade in the Archaic period took the form of gift exchange – which could explain the sometimes unexpected finds of ceramics' (Tsetskhladze and Treister 1995, 24, with literature; von Reden 1995, 209). In this respect, I may cite Strabo, who tells us that the Greeks always sought to have peaceful relations with the local tribes. From the early stages of the colonisation of the Pontus, land for settlements and agriculture was given by local tribal chiefs to the Greeks either by special agreement or for 'the tribute . . . which is a moderate one' (7. 4. 6).

The grain trade

When we are talking about trade on the Black Sea in the archaic period this is mostly between colonies and their mother cities in Ionia, chiefly Miletus. To establish what objects were traded is extremely difficult because our main source is pottery and, without doubt, it was not the sole product traded. We have much more evidence for the classical period when, according to the scholarly literature, grain was the principal commodity traded and the trade was now connected with Athens. Of course, this is so, but there are some questions which have to be asked about this trade.

The question of the Athenian grain trade is one of great debate in the literature. It has mainly been considered from the Athenian point of view, with modern scholars seeing the Pontic region as a major source of grain (see, for example, Meiggs 1972, 197–9, 264; Isager and Hansen 1975, 19–29; Garnsey 1985, 67–74 and 1988,

123–40; Gallant 1991; Keen 1993a; cf. Whitby, in the present volume). The other potential sources of grain have been discussed in the literature (see, for example, Isager and Hansen 1975, 19–29; Keen 1993b, 154; Austin 1994, 558–64) but all of the authors have culled their information from the same sources, still much as they were fifty or more years ago. The size of the Athenian population and what quantity of grain it consumed are other matters of dispute (Whitby, in the present volume; Hansen 1986, 1988, 1994). I wish to look at the Athenian grain trade from the perspective of the Black Sea.

Although permanent Athenian settlements on the Black Sea appeared no earlier than the second quarter of the fifth century BC, the early Attic black-figure pottery dates from *c.* 600–550 BC, just at the time of Athenian political expansion reaching the Propontis. It has been found in Berezan, Histria and Apollonia. The most important Athenian foundations were Sigeion and the settlements in Thracian Chersonesus. In the wake of the growing troubles of the Ionians with the Persian empire and the suppression of the Ionian Revolt, the colonial and commercial activities of the Ionians decreased and Athens began turning its attention to the Black Sea market. After the consolidation of the Athenian maritime empire, the amount of fine Attic pottery increases. It was marketed in all parts of the Pontus but the largest share seems to have gone to the Bosporan area, to Olbia and Apollonia Pontica (see, for example, Brashinskii 1963, 11–55; Bouzek 1989, 1990, 42–7, 1994).

We have no evidence at all about the Pontic grain trade for the archaic period. As I have already mentioned, and contrary to the literature, grain was not available from the Scythians. Grain for trade had to come from the *chorai* of the Greek colonies themselves. Only from the middle of the sixth century BC did the first Greek *apoikiai* grow into *poleis* with their own strong state and religious institutions. The main point of interest for us is that the *chorai* of these city-states became massive and corn started to be grown there (Vinogradov 1988, 375–6). If, indeed, grain had started to reach mainland Greece from Pontus this should not predate the second half of the sixth century. But there is no evidence for the Athenian grain trade in the archaic period be it with the Black Sea or elsewhere (Garnsey 1988, 110–13; cf. Noonan 1973).

How much grain, if any, Greece imported from the Black Sea area before the Persian wars is unclear although Herodotus (6. 5, 6. 26) states that in *c.* 494/493 BC merchant ships were seen sailing out of the Pontus. Initially, Athens' own need for grain may have been satisfied by supplies from Sicily and Egypt but after the middle of the fifth century her interest in the Black Sea lands could, of course, have quickened in the wake of the disastrous Egyptian expedition and the growing enmity with Corinth (Isager and Hansen 1975, 23–6). There were, however, some problems with Sinope and Megarian Heraklea Pontica – which was a potential enemy of Athens. At the same time, it is thought that Heraklea, which commanded one of the shorter crossings of the Black Sea, posed a threat to the interests of Bosporus in her trade with the Athens-dominated Aegean (Hind 1994, 488–95). The Pontus was not very peaceful at a time when Thracians and Scythians were maintaining constant pressure on the Greek cities (Vinogradov 1980; Marchenko 1993; Andrukh 1995, 86–95, 147–61).

Another unresolved question is that of Pericles' expedition to the Black Sea, which is generally presented in the following way. Athens needed the Black Sea market, probably its grain, and as Plutarch states in his biography of Pericles (20), in *c.* 437 BC the latter entered the Pontus 'with a large, well-found fleet and accomplished everything which the Greek cities had requested of him, and established friendly relations with them'. At the same time 'he demonstrated the greatness of Athenian power ... making themselves complete masters of the sea'. The main aim was to include Pontic cities in the Athenian-dominated Delian League. Pericles banished the tyrant Timesileos from Sinope and sailed thence across to Bosporus. Nymphaeum, which was not at the time part of the Bosporan kingdom, became a member of the League, paying one talent as its annual contribution. Pericles also reached Olbia where tyranny was restored and the Scythians expelled. It is possible that several other cities apart from Nymphaeum (and Histria) joined the League because some fragmentary names in the Athenian Tribute Lists for 425 BC refer to cities north of the Black Sea (Brashinskii 1963, 56–88; Shelov-Kovedyaev 1985, 90–123; Meiggs 1972, 197–8; cf. Avram 1995, 195–8; Angelescu 1992).

Plutarch is our only source of information for this expedition and the search to find his source has occupied scholars for many

generations, as yet without result. Nevertheless, there has been a belief in the great importance of the expedition. Although Plutarch speaks only about the southern Black Sea littoral, scholars have wished this expedition upon the other coasts of the Pontus as well (see, for example, Inadze 1982, 134–80) without any supporting evidence. It is hard for me to believe that this expedition took place at all (there are no other sources bar Plutarch); if it did so, it was confined to the southern shore and had no great importance for Athens or the Pontus (Brashinskii 1963, 60–2).[1]

Thus, there is no strong and undisputed evidence for the grain trade between Athens and the Black Sea in the fifth century BC. (Herodotus, for example, makes no mention of ships going to Athens.) The whole edifice of the discussion has been constructed on foundations of uncertain evidence, with ever more rickety floors added to the building.[2]

Only from the fourth century BC do we have direct evidence for the grain trade and this concerns the Bosporan kingdom in the time of Leucon I (389/88–349/48 BC) and Athenian–Bosporan relations (Brashinskii 1963, 118–52; Zhebelev 1982, 150–4; Shelov-Kovedyaev 1985, 140–1; Skrzhinskaya 1994; Vinogradov 1995, 5; Saprykin 1995, 134–5; Burstein 1978). During Leucon's reign Athens enjoyed many commercial privileges in the grain trade with Bosporus. Strabo, for example, tells us that 'Leucon . . . once sent from Theodosia to Athens two million, one hundred thousand *medimnoi* [of grain]' (7. 4. 6). According to Demosthenes (*Against Leptines*, 20. 32–3), Leucon sent to Athens 400,000

[1] The article by H. B. Mattingly (1996) appeared after this chapter was written. Its author's approach and evidence are different from mine but our conclusions are very similar: 'in the fifth century Athens' interest in the Black Sea was very limited, apart from the question of the corn trade' (Mattingly 1996, 157). Mattingly's discussion on the Pontic cities in the Athenian Tribute List is very convincing. This frees me from the need to cover the same territory (see also Avram 1995). On the question of the corn trade in the fifth century see below. I am not the first to express doubts about the reality of Pericles' Pontic expedition. See my paper in the Proceedings of the V Simposio Español sobre Plutarco, Zaragoza, 20–22 June 1996; and Mattingly 1996, 153 (n. 9).

[2] It seems that Athenian interest in the Black Sea increased from the end of the fifth century, and that this, not earlier, should be considered the true period of 'Athenian interest' (cf. Mattingly 1996; ML 65; Aeschines 3. 171–2; Xen. *Hellenica* 2. 2. 10, etc.).

medimnoi of wheat annually, but in the year of the great famine (*c.* 360 BC) he sent not only enough for Athens but a surplus which the Athenians sold at a profit of fifteen talents (cf. Lysias, *Against the Graindealers*).

What I mean by Athenian privileges in the grain trade with Bosporus is exemption from duties (*triakoste*) and, according to Demosthenes (*Against Leptines*, 20. 32), this was equivalent in value to an annual gift of 13,000 *medimnoi* of grain. However, the Athenians had, most probably, to pay the harbour dues (*ellimenion*) levied in the Bosporan kingdom (Brashinskii 1963, 118–33; cf. Burstein 1993).

As the above-mentioned sources show, the export of grain from the Bosporan kingdom to Athens was on a massive scale. The main question to be asked is: what did the Athenians export in order to balance this trade? So far, very few Athenian coins are known throughout the Black Sea region, and we have no Black Sea coins in Attica. This is not an indicator that close trade relations were absent: in international commerce Athens used Cyzicenes for payment (Mildenberg 1993/4). Some scholars point out that in the Pontic region Athens paid for its grain not with Athenian silver coins but with manufactured goods (Isager and Hansen 1975, 51–2). According to the reasonable suggestion of the same authors: 'all trade on the Black Sea must . . . have been carried out with the Cyzicene stater as current tender' (Isager and Hansen 1975, 165). At the same time, it is believed that Cyzicenes played an important role in the local coin circulation of the Pontic area (Zograf 1951, 112, 148; Shelov 1956, 129). Let me now address the archaeological material:

- *Bosporan Kingdom.* There is information on the circulation of Cyzicenes in the Bosporan kingdom in one of the court speeches of Demosthenes (xxxiv). So far, only two hoards have been found which include several Cyzicenes, plus four individual finds (Kraay *et al.* 1973, 1011–13; Golenko 1977, with literature). From Phanagoria there is a graffito which remarks upon the grain trade. Its publisher concludes that the reference in it to price is measured in Cyzicenes (Vinogradov 1971, 68–70) but the inscription does not indicate what units are being used. Thus, Vinogradov's opinion is not well substantiated by the evidence (cf. Yailenko 1996, 176–9).

- *Chersonesus*. No Cyzicenes were found.
- *Olbia and north-western Pontus*. In this region, exceptionally, many hoards containing scores of Cyzicenes and some individual coins were found (Mildenberg 1993/4, 2, with literature). One of the Olbian decrees (*IOSPE* 1^2: 24) of the first half of the fourth century BC mentions the exchange rate between the Cyzicene and local coins. From Berezan there is a graffito of the second half of the sixth century BC. Like that from Phanagoria, there is a coin measurement but no indication of what coin, and the publisher again thinks that Cyzicenes are meant (Vinogradov 1971, 65–6; cf. Johnston 1979, 209; Bravo 1977, 41–2; Yailenko 1996, 175–6).
- *Histria and the Thracian Coast*. About four coins were found in Histria (*Histria* 1973, 138; Birliba 1990, 40). Forty-seven coins are known from Bulgaria, the vast majority of which were found not in the coastal area but in the Thracian hinterland (Gerasimov 1943).[3]
- *South Pontus*. No coins are known to me.
- *Colchis*. Only four coins have been found (Dundua 1987, 33–4).

The above-mentioned quantities speak for themselves. The region which is of most interest to us from the point of view of the grain trade – the Bosporan kingdom – has provided very few examples of the Cyzicene coins.

Many scholars think that the Athenians exported pottery (Shelov-Kovedyaev 1985, 141, with literature). But how far could this pay for the quantity of grain? It is worth examining some statistics covering the main city-sites of the western and northern Black Sea (very approximate though they be; there are no precise figures to be found anywhere in the literature) which will give some idea of the position. About 180 examples of Attic black-figured pottery have been found and 300 examples of red-figured pottery (Bouzek 1990, 43, and 1989; Lazarov 1990; Reho 1985, 215–26, and 1992; Alexandrescu 1978a; Coja and Gheorghita 1983). In the necropolis of Apollonia Pontica about 850 pieces of Attic pottery

[3] Since 1943 the number of Cyzicenes in Bulgarian territory has remained virtually unchanged. I am most grateful to Prof. M. Lazarov (Varna) for this information.

were found inside or outside the 868 graves, dated from the mid-fifth to the beginning of the third century BC (Venedikov 1963, 65–255; Penkova forthcoming; Panayotova 1998).

It is not possible to provide overall statistics for black-glazed pottery and amphorae for the whole Black Sea region. For example, from the Bulgarian Black Sea coast about 300 amphorae from different centres of production of the sixth–first centuries BC are known (up to 1974) (Lazarov 1973, 3–50; 1975, 128–36). From Histria about 1,700 amphora stamps (including examples from the hellenistic period) have been found (Canarache 1957; Coja 1986, 417–50). For three sites I should like to give more detailed statistics:

1 The burial ground of the Elizavetovskoe settlement (this is a very important site because it was the main trade settlement of the Don delta from the fifth to the first half of the third century BC): amphorae, 145 examples; painted and black-glazed pottery, 107 examples; fragments of stamped amphorae from the settlement, 818 (Brashinskii 1980).
2 Pichvnari Greek burial ground (important as belonging to an Athenian settlement or quarter in Colchis): 73 pieces of Attic painted-pottery of the classical period – another three were found in the Colchian burial ground – of which 90 per cent are mass produced works, 80 per cent of which date from the last quarter of the fifth century to the middle of the fourth. They are small lekythoi of neither high quality nor high artistic value (Sikharulidze 1987, 1988, 1991).
3 Vani, the residence of the local Colchian elite: amphorae, including hellenistic ones, 100; painted and black-glazed pottery (sixth–fourth centuries BC), 82 (Lordkipanidze 1983).

The figures speak for themselves. It must be noted that the Thracian aristocracy preferred metal vases to pottery. Attic clay vases seldom appear in Thracian tumuli, with high quality examples being rare. Mainly small fourth-century vases of modest quality were among the offerings of the tumulus burials in eastern Thrace and in the valleys of Tundza (Tonzos) and Marica (Hebros). The burials of Duvanlii are exceptional in having several late black-figured and mid-fifth century red-figured painted vases, but even here, silver tableware was much preferred. The

Thracian share of imported Attic pottery was – outside the *chorai* of Greek colonies – fairly modest (Bouzek 1990, 45).

In Colchis such were the natural conditions – coastal swamps and wetlands (Tsetskhladze forthcoming) – that grain was not grown. The Greeks living there had to import grain (and also salt) from the northern Black Sea littoral (Tsetskhladze 1990, 94–5). A similar situation seems to have existed in Histria, where the terrain was marshy (Alexandrescu 1978b; Avram 1990, 14–30; Bounegru 1988).[4]

The vast majority of Athenian pottery found around the Black Sea is concentrated in the Greek cities and settlements themselves, which again shows that if, indeed, it was the principal form of payment for grain, that grain was grown in the *chorai* of the Greek cities. There is very little Athenian ware found in the local settlements. All trade must have been in the hands of the Greeks themselves, with little involvement of the local population. As D. Braund states, from a Greek perspective, trade itself was a Greek affair (1995, 168). He cites Dio Chrysostom's claim that the Scythians needed a Greek presence in order to trade at Olbia, for 'the Scythians themselves had neither the ambition nor the knowledge to equip a trading-centre of their own after the Greek manner' (36. 5). He characterised the Greek traders who came to Olbia as really barbarous in that they did not engage in trade of a respectable type but in improper trade that rendered them akin to barbarians (Braund 1995, 168).

There is a continuing discussion about how great the contemporary value of Athenian painted pottery might have been (Johnston 1979, 33; Vickers 1985; Vickers and Gill 1994, 4, 13, 85–8, 106, 149; Boardman 1988a, 1988b; Arafat and Morgan 1994, 108–10). But irrespective of the course the discussion takes, and however high the price imputed to the pottery, the above statistics, whatever their imperfections, show that the export of

[4] Ancient written sources (especially Demosthenes) describe Thracia as a territory with very low-quality corn whose grain exports were extremely small. Bulgarian scholars have sought to overturn this view (Danov 1967). It is very often difficult to correlate the different kinds of evidence – literary, archaeological, palaeobotanical (*Palaeobotanical Finds* 1980; Bregadze 1982; Shcheglov 1978, 13–28; Yanushevich 1976) – when they point to different conclusions. Even statistics can be used and interpreted in many ways.

Athenian pottery to the Black Sea could not discharge the cost of the grain imported by Athens from there.[5] We must also bear in mind that many of the Pontic Greek cities enjoyed advanced, local pottery production. Even the wine and olive oil transported in amphorae would be insufficient to pay for the grain – and, once again, there were local vineyards.

Another question which must be examined is whether the territory of the Bosporan kingdom was able to produce the astronomical quantity of grain which Demosthenes mentions. I shall address this question in detail at a future date. Here I shall just give the background (cf. Sallares 1991, 330–2; Isager and Skydsgaard 1992, 21–6). The remains of cereal crops have been found during the excavation of several Bosporan sites. Where grain, it is mainly *triticum vulgare* (Kruglikova 1975, 181–3). In one of the sixth-century BC grain pits excavated in Hermonassa the following varieties were found: *hordeum polystichum Döel* (61,525 specimens), *triticum vulgare vill* (33), *triticum compactum Hasyt* (few), *triticum dicoccum Chöbl* (50) and *secale cereale L.* (58) (Kruglikova 1975, 182). Unfortunately, the *chorai* of the Bosporan cities have not been studied in the same detail as the agricultural territory of Chersonesus in order to know what was grown there and in what quantities. The study of the graffito from Zenon Chersonesus (in the north-east corner of the Crimea) shows that the grain yield was 700 kg per hectare. Today, in the same region, the yield per hectare varies from 1,800–4,500 kg depending upon the climate (Maslennikov 1985, 141).

The Taman Peninsula (Asiatic Bosporus) is believed to have been the grain basket of the Bosporan kingdom. To date, there is no hard evidence to support this. The *chorai* of the Greek cities of the Asiatic Bosporus have never been the subject of special study. The study of the region's ancient climate has only just begun and it is too early to make firm pronouncements on natural conditions, whether grain could be grown in quantity and, if so, what varieties were. Recent investigations have indicated that in the

[5] 'Pots in Antiquity were ... cheap, and ridiculously so. The highest recorded price for any Attic painted pot is 3 drachmas, or £4.50 [*sic*]. ... A commercial graffito on the underside of a red-figure *pelike* in Oxford ... "Achilles painter" can be read as "four items for 3.5 obols" – 26 pence each' (Shanks 1996, 63).

Taman Peninsula a melioration system was created from the fourth century BC and with it the necessity for irrigation (Gorlov and Lopanov 1995; cf. Kulikov 1995). This is, however, still a working hypothesis and not more. The result of small-scale palaeobotanical study of samples from a limited number of local Maeotian sites in the Kuban region shows that wheat, millet, barley, flax and lentil used to grow there. The chief agricultural product was millet (Lebedeva 1994).

Thus, there is no doubt that grain was exported to Athens from the Black Sea in the classical period. The question is, rather, how did Athens pay for it? Or do the written sources wildly exaggerate the weight of grain received in Athens? Garnsey, writing about the figures given by Demosthenes for the Pontic grain trade, notes: 'Demosthenes had deliberately underestimated the volume of non-Pontic imports. One commentator wrote ... that Demosthenes "was a politician and so was probably not speaking the truth" ' (1988, 97). At the same time Demosthenes was receiving bribes from the Bosporan kings to overestimate the volume of imported grain from the Bosporan kingdom. This is far from unlikely for, as a recent study of the grain trade from Chersonesus in the Roman period shows, authors ancient and modern have both overemphasised and overestimated such trade (Sorochan 1994, 66–72).

I believe that both ancient authors and modern scholars have exaggerated the importance of the grain trade, especially that with the Pontus, in the economy of Athens. Our main sources remain the speeches of Athenian orators on which it is impossible to rely. We must always bear in mind that from the fifth century BC, the Athenians present themselves as a superior nation and the official policy of the empire was to mould the facts to the perpetuation of this image – a subject well treated in recent work (Khan ed. 1994).

The metal trade

The view has been increasingly expressed that the Greeks who founded the colonies in the Black Sea were interested primarily in the supply of raw materials, especially metals (Tsetskhladze 1994, 1995, with literature). Is this so? Did Ionia, which established colonies in the Pontus, need to import metals? Very valuable in the investigation of this question are M. Y. Treister's

studies of metalwork in the Pontus and Asia Minor (1988, 1992, 1995).

Treister's study (Tsetskhladze and Treister 1995, 19–25, with exhaustive literature) shows that there is documentary confirmation of the mining and the extraction of gold and electrum in Greece in the eighth–sixth centuries BC. There is also no doubt that the Greeks produced silver and lead objects from the ores of Siphnos and Laurion. A third major silver ore deposit, characterised by high natural concentrations of gold, bismuth and tin, may have been located in either Macedonia or Lydia. The great number of bronze objects of a variety of types and the relatively large number of known bronze workshops of the eighth–sixth centuries BC indicate the use of raw materials most probably from Greece itself. This is shown indirectly by the wide distribution of the Laurion copper ores as early as the Bronze Age.

It must be stressed that the hypotheses put forward by some scholars about the paucity of ore deposits and their poor extraction level in the period of Greek colonisation are without foundation. At the same time, the material to prove the exploitation of mines in the regions of Greek colonisation, and to confirm the presence of the remains of shops for metalworking, is insubstantial and sometimes completely absent. By the sixth century BC iron was sufficiently widespread in Greece for its importation from the Black Sea, especially from Colchis and the southern Pontus, to be unnecessary.

The situation regarding gold sources may have been the following. As well as Thasos, Lydia is considered by scholars to be one of the main sources of gold. Herodotus (5. 101) mentioned the gold from the River Pactolus and the latter passage proves that the Greeks considered Sardis as a market for the acquisition of especially large quantities of precious metals. A new fragment from Heraclitus contains metaphors which describe the process of smelting/refining 'mountain gold'. This is the place to mention that Ephesus was situated near a very rich gold deposit on Mount Tmolus, and the Ionians, judging by Heraclitus' terminology, knew the process of gold smelting in fine detail. In either event, the earliest gold-smelting workshop excavated at Sardis is dated to 620–550 BC. Thus, at the moment of Greek colonisation of the Black Sea littoral, gold was smelted in the direct vicinity of the Ionian centres. In the northern Pontic area there were no

gold sources and all gold production was based upon imported raw materials. What remains uncertain is the origin of these imports. The same can be said about the western littoral.

If one refers specifically to Miletus as the mother-city of the Greek colonies of the Black Sea, the following data are at present available. It is maintained that artistic metalwork was not highly developed in Miletus. The identification of a so-called Milesian variant of the deep Achaemenid *phialai* of the second half of the sixth century BC, which probably served as a prototype for Achaemenid bowls, is based on a stylistic analysis of a single bronze vessel, the origin of which is not well documented. Analysis of an early seventh-century BC cast bronze griffin protome and a late sixth–early fifth-century BC casting mould for jewellery, both from Miletus, suggests the work of resident Asia Minor or Syrian toreuts and jewellers there, gradually adapting their products to Greek tastes. The Near Eastern origin of the craftsmen processing metals in Miletus explains, convincingly, the quick adaptation of the craftsmen who migrated to the north Pontic area to the tastes of the Scythian population. Therefore, Miletus had no reason to establish colonies with the aim of supplying the mother-city with raw metals.

One can posit a certain reduction in the supply of precious metals to the Greek world after 546 BC, i.e. following the conquest of the Lydian kingdom by the Persians. Anyhow, this event is supposed to be one of the reasons for the transition from electrum to silver coinage in eastern Greece. Nevertheless, the reduction in the metal supply was not a catastrophe; it led to an orientation on new sources of raw materials – for instance, from the southern Thracian mines which had been exploited at that time by Peisistratos – and to new trade relations. It was the conquest of the Greek cities of Ionia by Cyrus which had a much stronger effect, whose scale it is possible to imagine in the light of the latest archaeological discoveries. It influenced the forced emigration of Ionian craftsmen, including sculptors, bronze-workers and toreuts to other Greek centres, but also to the periphery of the classical world – for example in the context of the 'third wave' of the Greek colonisation of the Pontic area (Tsetskhladze 1994, 120–3).

In the classical period there is a very interesting situation. We cannot talk about trade and local production without considering

local society because the trade and production of the Greek cities of the Pontus depended on their relations with newly established local kingdoms. What we now call Scythia was established in two regions by the end of the sixth century – one centre was situated in the Crimea, not far from the future Bosporan kingdom, and the other not far from Olbia (Murzin 1984, 104). In the eastern Black Sea the Colchian kingdom was created (Lordkipanidze 1979, 48–77). In the west, the Thracian kingdom under the Odrysian dynasty came into being (Archibald 1994, 444–50). The tumuli of these local elites contain an enormous quantity of metal objects. Some metal vessels and mirrors, as well as fine jewellery, were brought from Greece itself, but the vast majority was produced in the Greek cities of the Pontus.

It is well known that the Greeks used to establish workshops to produce metal objects and jewellery for the local nobility, adapting their products to local taste. The archaeological evidence clearly shows the existence of very advanced, local metal production in the major cities of the northern Black Sea littoral, for example. But the source of their raw materials is still not clear. One fanciful possibility is that Athens exported raw materials to the Black Sea to pay for the grain it was importing – the complete inversion of the idea that the colonists went to the Black Sea to find raw materials to export to Greece! – but to accept that is to overthrow all our current ideas about trade and colonisation. We should, however, start thinking about these matters from first principles once more.

The question is whether the objects produced by the Pontic Greeks were to be traded with the local nobility or were a form of tribute to guarantee the continuing survival of Greek settlements surrounded by local peoples. To answer this, we must bear in mind several things. The newly established Scythia as well as the Odrysians put pressure on the Greek cities, establishing protectorates over them (Vinogradov 1980; Marchenko 1993). The Greek cities situated on the Kerch and Taman peninsulae united as one state against the Scythians in *c.* 480 BC (Gaidukevich 1949, 26–42). Written sources tell us that the Thracian kings used to collect tribute from the Greek cities, and these tributes took the form of metal objects (Thucydides 2. 97). Generally speaking, Thracian society was very strongly influenced by Achaemenian culture and customs, even more than by Greek ones (Boardman

1994, 183–92). All fine so-called 'Scythian' metal objects in Animal Style were produced by Greeks in the Greek cities of the northern Black Sea, the vast majority in the Bosporan kingdom (Treister 1998). Although these objects are in Animal Style, which was characteristic for Scythian society, they bear clear Greek features (Boardman 1994, 192–216). The question of how advanced was the hellenisation of the Scythian elite is not the subject of my present discussion. The fact is that Greek craftsmen were either obliged to produce these objects for the local elite or did so to trade with them.

If we turn to Colchis the situation is virtually the same – although it is unlikely that there was political or economic pressure from the local elite. The Greeks established workshops for goldsmiths and for the production of seals and gems to serve the Colchian nobility (Tsetskhladze 1995, 323–5, with literature). One fact is particularly interesting. At the end of the sixth century BC the Greeks began to mint silver coins to serve the Colchian market. In the classical period these coins were found mainly in the Black Sea area – and there are no such finds in the interior, where the local nobility used to live and where the Greek workshops producing for them were located (Dundua 1987, 9–32).

I think that all this shows that the relationship between the local elites and the Greeks living in the Pontic Greek cities was based not on trade but on tribute or gift-giving.

The slave trade

In view of the large number of local peoples around the Black Sea, a healthy trade in slaves could be expected, with the Pontus as a major source of slaves for the Greek world. Strabo (11. 2. 3) and Polybius (4. 38) mention the Black Sea as providing a great number of slaves. Written sources name only one market for slaves in the Black Sea: Tanais, which was not founded until the hellenistic period (Strabo 11. 2. 3). The Black Sea was an area of piracy. Local tribes hostile to the Greeks not infrequently attacked Greek cities and piracy was a matter of concern not just for the colonies but for mainland Greece as well (Asheri 1998; Tsetskhladze 1998). Many local tribes lived from robbery at sea and kidnap for ransom (Diod. 20. 25; Xen. *Anab.* 7. 5. 12;

Plut. *Per.* 50; Aristotle, *Politics* 8. 1338b; Strabo 11. 2. 12; Plin. *HN* 6. 15. 16; Tac. *Hist.* 3. 47; Zos. 1. 28; Ammian. Marc. 31. 5. 15). One of the main motives for piracy has always been to take captives to be sold into slavery. However, it is unlikely that the numbers captured by the local peoples and tribes of Pontus would have had a large impact upon the slave-trading system of the Greek world in general. The largest centres for piracy were Crete and Cilicia (Blavatskii 1954; Velkov 1967; Finley 1962; Braund and Tsetskhladze 1989; Cecchladze 1990).

Attention must be paid to epigraphic sources. In many inscriptions from mainland Greece and Asia Minor tribal names of Thracians, Scythians, Colchians, Cimmerians, etc. are mentioned in use as personal names. Although we have information from Strabo (7. 3. 12) that in Attica slaves were named simply after the names of the countries they were brought from, this custom was not universal. For example, the name 'Persian' was given to Hesiod's brother and the name 'Cimmerian' was common among the citizens of Ephesus and Rhodes (Cecchladze 1990). The special study of Pontic tribal names in epigraphic sources shows that, in most cases, these names do not point to the ethnic background at all (Cecchladze 1990). They are simply the personal names of Greeks, for example: *ΚΟΛΧΟΣ* in several variations was a female and male name for the citizens of Cos, Gorgippia. Even the father of one of the *archontes* of Olbia bore this name. There are also epigraphical sources where the tribal name indicates a slave, but these are few in number (Cecchladze 1990). It is a well-known fact that Scythian archers were employed in Athens.

We do not have sources earlier than the fifth century BC for Pontic slaves in Greece. Maybe such slaves reached Greece before then, but there is no information available. It is interesting to note that in the hellenistic period practically all evidence, especially for Colchian slaves, shows that they were females, who were subsequently freed (Cecchladze 1990). Thus, the evidence so far suggests that the Black Sea was not a major source of slaves for the Greek world.

The main aim of this chapter has been to pose as many questions as possible, in order to show how far we are from satisfactorily answering them and how diverse the interpretation of the evidence is. It is time, once again, to rethink our views of trade in the ancient world.

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