After A.N. Ščeglov published his articles on the grain trade between the Scythians and the Greeks, the myth in archaeology and ancient history that Greece had been supplied with grain from Scythia disappeared. However, the problem of identifying which goods were exchanged for those coming from Greece to Scythia in the 6th-4th centuries BC remained. Here I shall attempt to show that it was possibly slaves. It should be said at once that the questions of slave-holding in antiquity and of the character of slavery in Greece, in the Greek colonies and in Scythia, are not the subject of my investigation, though they will inevitably be touched upon. Instead I will deal with the slave-trade and its causes, directions and peculiarities. The number of monographs published in Russian which consider the issue in general, is limited to those by A. Vallon, V.D. Blavatskij and A.I. Dovatur. Although the question is treated more or less seriously by all modern scholars within the field of ancient studies, for instance, Ju.G. Vinogradov and E.D. Frolov, and by the representatives of the “Kiev school” of ancient studies N.A. Lejpunskaja and S.D. Kryžickij, the fact that slaves were traded from the north Pontic area to Greece is disputed by no one.

The first to take note of the problem of slavery among the Scythians was A.P. Smirnov. Later, the issue was also considered by B.N. Grakov, in some of his early works. In the opinion of A.M. Chazanov and D.B. Šelov, who examined the social structure of the nomads, the Scythians, similarly to other early nomads, did not need a large number of slaves. The birth of the slave-holding ideology was first considered on the basis of archaeological evidence by V.A. Il’inskaja. A.I. Terenožkin characterised the Scythian communities as “an early class society with certain slave-holding tendencies”.

In all these works, attention was primarily focused on the social aspects of the phenomenon, while the economic aspects of slavery were overlooked. Only T.D. Zlatkovskaja in her work devoted to the Thracians mentioned the role of barbarian slave-traders in the development of slavery. By contrast, in western literature slavery and the slave-trade were considered mainly as an economic phenomenon rather than a social one. However, western authors have not taken account of the evidence from the northern Black Sea region. Only recently a paper by D. Braund and G. Tsetskhadze about the export of
slaves from Kolchis appeared, and slightly later an article was published by T. Taylor, who made an attempt to compile all the written documents concerning slave-trade during the Greek and Roman periods and to compare this information with archaeological evidence of the early Iron Age, including Scythian material.

The slave-trade was one of the most important elements in the economies of the various societies in the northern Black Sea region during the early Iron Age, but this aspect has received insufficient study. The subject of this paper is, therefore, to trace the formation and development of the slave-trade in the northern Black Sea region in the 6th–5th centuries BC as one of the structural components of trade in general and to evaluate its export-import potential, as well as to determine the place of the slave-trade in the structure of the trade which was once carried out along the route from the forest steppe, through the steppe, to the Greek colonies in the northern Black Sea region.

In different communities of the early Iron Age, man’s mechanical, i.e. muscular, strength was widely used in many types of manufacture. The demand for manpower was great and it was met mainly by the exploitation of slaves. Thus there is every reason to consider slave-holding as the use of a renewable energy resource, and to measure the economic potential of a given ethno-cultural formation directly by the supply of this resource.

With such an approach, the manpower of slaves is considered as a source of mechanical (muscular) energy along with other more usual kinds of energy: thermal energy, tractive power of animals, and, to a lesser extent, the energies of wind and water. The number of slaves in the *ergasteria* ranged from several dozens up to several hundreds in larger ones. In quarries up to several thousand men may have been employed simultaneously. Manpower was also used to move Greek ships.

During the early Iron Age, the problem of sources of muscular power evidently assumed the highest importance for the success of the society. Means for renewing that resource were therefore necessary for maintaining the number of one’s slaves, as those slaves aged, were mutilated, escaped, or died. Moreover, the need for slaves grew due to the tendency to expand production volumes. Decrease or cessation of the supply of slaves was equivalent to an energy crisis in the ancient world.

As has been demonstrated by modern history, the roots of an energy crisis may be found far beyond the confines of one particular state. This prompts the fairly paradoxical conclusion that in the early Iron Age a stable (peaceful) situation could not but forebode a crisis in the given geopolitical system or parts of it. Such a conclusion derives from the fact that wars and raids were the main source for renewal of this basic energy resource. Apparently, the inverse statement is also equally true: maintenance of a stable condition of a geopolitical system during the early Iron Age would have demanded successful wars. At the same time, supplies of slaves to the slave
owners were most effectively provided via trade, i.e. a mechanism functioning at its best in conditions of regional peace. The most exhaustive exploitation of slaves for obtaining maximum profits from their labour also required peaceful conditions.

Trade in slaves was one of the most important branches of the ancient economy, providing its viability throughout almost an entire millennium. During that period much of the slave-holding history of western civilisation was to a greater or lesser extent connected with the northern Black Sea region. For that reason, the territorial frame of this study is limited to that geographical area. Here we find the interaction of the main ethno-cultural formations of the early Iron Age: forest steppe and Scythia, Olbia and its chora, the steppes of the Crimea, Bosporos, and Greece.

Usually, in traditional societies trade is analysed in terms of various groups of goods: agricultural, craft, and raw material. It is unlikely that the Greek colonists and their metropoleis, whose principal branches of economy were agriculture and animal husbandry, would have been in desperate need of food or finished goods from Scythia. It was also the case that the mineral resources of the steppe zone of the northern Black Sea littoral were somewhat scarce and therefore hardly relied upon by the Greeks. On the other hand, trade between Greeks and Scythians was undoubtedly of a large-scale character, as indicated by the finds of large quantities of Greek products, even in remote parts of Scythia. But since trade implies counter-goods of equivalent value, we may suppose that the most important exports from barbarian countries were energy resources in the form of slaves. Almost every kind of product that was manufactured by Greek craftsmen was exported to Scythia: highly sophisticated as well as plain tableware, amphorae of wine, ceremonial weapons, bronze mirrors and various personal adornments.14

The need for slaves in the economy determined the market demand for them. Greece was always, especially during the Archaic period, the main consumer of slave labour.15 In Greece slave labour was widely used in the household, but far greater still was the number of slaves employed in manufacturing.

The practice of selling slaves from the Pontic countries, in particular from Scythia, to Greece undoubtedly existed as early as the 6th century BC. This is suggested by the names of slaves such as Kolchos and Skythas among the painters of Attic pottery.16 Without going into a detailed discussion of the problem of Scythian policemen in Athens,17 we can note that it seems unlikely that the Athenians would have armed a considerable contingent of slaves. However, the presence of ethnic Scythians in Athens as early as the Archaic period is beyond dispute.

In the 5th century BC, after the Persian War, Scythian slaves were imported into Attica in somewhat greater numbers.18 In the inventory of the
belongings of a certain metic Kephisodoros, condemned in the case of the Hermokopids (414-413 BC), a Scythian is mentioned at a price of 144 drachms among a dozen slaves put up for sale.\textsuperscript{19} Slaves were brought to the markets after military operations by Greek mercenaries, who usually sold their captives as slaves as attested by Xenophon’s \textit{Anabasis} (Xen., \textit{Anab}. 7.3.48).

Later, Polybios and Strabon also wrote about the export of slaves from Scythia (Polyb. 4.38.4; Strab. 11.11.12). The former author noted the high quality of the slaves supplied from the region. His evidence is confirmed by a statement of Paulus Orosius about 20,000 Scythian boys and women enslaved as a result of the war between Philip II of Macedon and Ataias (Oros. 3.13.4). In contrast, Strabon included slaves in the number of nomadic trade goods, noting the mediatory role of the Scythian tribes, who thus acted as trade partners of Greeks trading in slaves.

The fact that even a metic could own a great number of slaves, as well as the widespread practice of enslaving civilians in the course of war, suggests that the demand for slaves in Greece was considerable in the 6th and 5th centuries BC and that a certain number of them were provided from the colonies in the northern Black Sea region.

It seems that the Greek colonists tried to avoid direct conflict with the Scythians but instead maintained a business-like relationship with the neighbouring nomads. The slaves were brought from Scythia to the Greek colonies mainly by means of trade. Here we should return to the controversy about the hypothesis of the grain trade. Ščeglov rightly noted that none of the literary sources mentioning the export of grain from the northern Black Sea state that the grain came from Scythia. Let me add that the Scythian kings, who supposedly wanted to “monopolise the grain trade” lived in the territories bordering the Greek colonies in Scythia, where, it should be remembered, no farming was practised during the period under consideration. Therefore, the knowledge of grain farming must have been learned by the Scythian kings either from their forest-steppe neighbours or from the Greeks. The steppe-dwelling Scythians might even have imported grain from their northern neighbours. However, so far no studies of the agriculture in the forest-steppe zone have shown that grain was grown for export.\textsuperscript{20} The possible imports from the forest-steppe must therefore be limited to the crops typically associated with nomads – barley and millet. We may suppose with a fair degree of probability that the export of grain from the forest steppe terminated in the steppe – with the traditional and undemanding consumers of these grain species.

Long-distance transportation of grain apparently presented considerable difficulties for nomadic societies. Thus, for instance, during the raids of the late Crimean nomads into the Dnieper region, grain has never been recorded among their loot.\textsuperscript{21} If capturing grain was the purpose of the nomadic for-
ays, then they should have had to co-ordinate their raids with the harvest season when the grain-bins were full.

Let us compare the price of slaves with that of wheat – two kinds of Greek imports which have both been put forward as the most important. The cost of a slave from the northern Black Sea region in the late 5th century BC (144 drachms) was close to the price of 624 litres of wheat (144/12 x 52=624) from the same region. It should be noted that Ju.G. Vinogradov, on the basis of a recent epigraphic find, confirmed Blavatskij’s assumption that the cost of wheat in Attica was 22.5-30% higher than in the markets of Berezan’ and Phanagoria in the northern Black Sea region.22 Hence we may suppose that any goods delivered from the Pontic colonies could have been sold with a retail margin of at least 20-30% (transportation expenses, cargo insurance, various dues etc.).

It is thus clear that it was more profitable to export slaves than to export wheat from Scythia (or perhaps rather barley or millet, as the palaeobotanical evidence indicates). Indeed, a feature of the grain trade is its seasonality. It was necessary first to cultivate the grain in a zone which did not offer optimal conditions for agriculture, then to harvest, transport, and preserve it during transit. By contrast, slaves could quite easily have been captured by the nomads in any season of the year and sold shortly after in the slave-market. For that reason the cost of growing grain in the northern Black Sea region was relatively high, while its price in the markets in Attica was relatively low. By contrast, the cost of capturing a barbarian slave was low, while the market price was fairly high as compared to other goods.

The profitability of slave-trade was certainly higher than that of the grain-trade in terms of the cost of transportation from the northern Black Sea area. On the evidence of the Athenian prices (Fig. 1), according to which 1 kg of grain cost 12/(52 x 0.63)=0.37 drachms (0.63 – the coefficient of conversion of dry measures to weight), while 1 kg of the live article cost 144/70=2.06

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Price in drachms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine of high quality (1 l)</td>
<td>0.2-0.3</td>
</tr>
<tr>
<td>Wine of poor quality (1 l)</td>
<td>0.1</td>
</tr>
<tr>
<td>Grain (wheat) (1 medimnos)</td>
<td>6-9</td>
</tr>
<tr>
<td>Grain (barley) (1 medimnos)</td>
<td>3-5</td>
</tr>
<tr>
<td>Horse</td>
<td>1200</td>
</tr>
<tr>
<td>Slave (educated)</td>
<td>1200</td>
</tr>
<tr>
<td>Slave (average individual)</td>
<td>200</td>
</tr>
<tr>
<td>Slave (average individual)</td>
<td>300</td>
</tr>
<tr>
<td>Slave (average individual)</td>
<td>450</td>
</tr>
<tr>
<td>Slave (immature)</td>
<td>100</td>
</tr>
<tr>
<td>Slave (mine worker)</td>
<td>225</td>
</tr>
<tr>
<td>Slave (foreman)</td>
<td>350</td>
</tr>
<tr>
<td>Slave (workshop manager)</td>
<td>550</td>
</tr>
<tr>
<td>Slave (steward)</td>
<td>6000</td>
</tr>
</tbody>
</table>

Fig. 1. The value of different kinds of goods in Classical Greece according to written sources: wine (Jajlenko 1982, 236), grain (Vinogradov 1971, 67), horses (Dovatur 1980, 60) & slaves (Vallon 1941, 97; Dovatur 1980, 60).
drachms (70 kg – the weight of an average individual), we can deduce that
the trade in slaves must have been 2.06/0.37=5.7 times more profitable than
the grain-trade. Moreover, the cost of transporting slaves was lower, in par-
ticular due to their smaller size (624 litres of wheat occupies almost ten times
more room than a slave).

Among the Greek centres most prominent in the slave-trade was the island
of Chios – one of the most prosperous in Greece according to Thucydides.\textsuperscript{23}
The wealth and power of Chios during the period under consideration sug-
gests that the number of slaves traded must have been very high. It should
also be noted that Chios was known for its excellent wine and therefore one
of the largest wine exporters. A point of significance for our study is the fact
that Chian amphorae number among the most frequent imports in the north-
ern Black Sea region. Olbia and the settlement of Elizavetovskoe were
undoubtedly transit points in the trade with the barbarian hinterland.\textsuperscript{24}
Therefore, we will consider the trade in these centres in detail.

Written evidence of the 6th and the first half of the 5th century BC from
Olbia and its periphery (including the letter of Achillodoros from Berezan’,
the letter of an unknown author from Olbia written on the wall of an ampho-
ra in the Fikellura style, and the letter of Apatourios) have been compiled
and analysed by Ju.G. Vinogradov, V.P. Jajlenko, and A.S. Rusjaeva.\textsuperscript{25}
The majority of the slaves in Olbia and at the settlements in its neighbourhood
were barbarians. On the evidence of the letter of Achillodoros, a family of
citizens with eight members had at their disposal five slaves.\textsuperscript{26} It is true that
these calculations are far from being indisputable, and the source itself does
not indicate that slave-holding was common. Nothing indicates large-scale
slave-holding in the Greek cities on the northern Black Sea littoral during the
Archaic period.\textsuperscript{27} This is especially true for the period from the 6th to the first
quarter of the 5th century BC, when the use of slaves was limited to house-
hold production, while in agriculture and animal husbandry slaves were sel-
dom employed.

Since the general demand for slaves in Olbia of the 6th and in first quar-
ter of the 5th century BC was negligible, it is quite possible that the
Olbiopolitans transferred most of the slaves from Scythian lands to the
slave-market on Chios, receiving in exchange large quantities of wine and,
of course, olive oil. Pottery from Chios is widely represented among the
materials from Olbia “…beginning with the ware painted over a light coati-
g of the end of the 7th to the first half of the 6th century BC and finishing
with the plump-necked amphorae of the second quarter of the 5th century
BC”.\textsuperscript{28}

The economy of the nomadic Scythian society did not require any great
number of slaves, having a completely different basis to that of its more
civilised neighbours. In the early Scythian period, defeated enemies were
killed and scalped rather than enslaved, as witnessed by Herodotos, accord-
ing to whom the Scythians had no purchased slaves at all (Hdt. 4.72). He also mentions the presence of domestic slaves only: usually these were blinded captives – milk-churners (Hdt. 4.2) or shepherds. Moreover, killing instead of capturing enemies was considered an act of exceptional valour by the early Scythians:

“The Scythian soldier drinks the blood of the first man he overthrows in battle. Whatever number he slays, he cuts off all their heads, and carries them to his king; since he is thus entitled to a share of the booty, whereto he forfeits all claim if he does not produce a head” (Hdt. 4.64).

At the beginning of the Archaic period the Scythians did not impede the trade links between the forest steppe on the right bank of the Dnieper and the Greek colonies, Olbia in particular. This is suggested by the fact that in the middle of the 6th century BC the regular importation of wine to the right-bank steppe (via the southern Bug River) had already started; later it spread to the left-bank area (via the Dnieper) as well. Greek articles were conveyed by Greek merchants, who freely passed through the sparsely settled steppe territories.29

Considering the character in general of the slave-trade in the northern Black Sea region during the 6th and the first quarter of the 5th century BC, we may state that most of the barbarian slaves were intended for export. That situation changed dramatically from around 475 BC. This period is defined as the primary period of Olbia’s urbanisation characterised by a reduction of the *chora*, the boom in construction within the city and the rapid development of various manufactures.30 As a consequence the use of slave labour expanded. In construction work in particular, the need for unskilled slave-labour increased and the majority of slaves who were being delivered from Scythia, must have been required by Olbia itself. The dynamic nature of the Scythian slave-trade afforded a quick respond to the rapid development of the Greek colonies.31

Owing to the fact that the need for slaves in steppe Scythia was negligible, it was possible for it to become the main supplier of slaves to the developing Greek *poleis*. Probably in the first half of the 5th century BC the Scythians felt the intensification of the demand for slaves by the colonists. The nomadic Scythians were unquestionably interested in maintaining peaceful relations with their southern neighbours because of the development of the slave-trade. An increase in the amount of Greek imports found in Scythian burials32 is observable which may be interpreted as revenue from the slave-trade.

The question arises as to the sources of the captives. As I have demonstrated earlier, the sphere of economic interests of the Scythians included both the Greeks and the population of the forest steppe.33 A feature of the
forest steppe was the presence of numerous settlements with developed agricultural lands supporting a high density of fairly peace-loving people. It should be noted in this context that the penetration of different elements of the material culture of the forest steppe into the adjacent territories was minimal, being represented only by traces of a cultural diffusion rather than by results of any expansion. The peaceful character of the forest steppe population is unquestionable. Thus there have been discovered in the Kiev-Cerkassk region three town-sites, 25 settlement-sites, and about 200 burials from the 7th century BC; and 15 town-sites, 14 settlement-sites and only 97 burials from the 6th and 5th centuries BC. These data indicate that the region was fairly densely populated.34 A considerable number of sites of settled population of the same period are also located in the territory on the left bank of the Dnieper, the settlement-site of Bel’skoe being the most significant and well-studied among them.

The town-sites are concentrated in the southern part of the right bank of the Dnieper forming a system of defence. The military threat to the forest steppe from the steppe Scythians took the form of raids of varying intensity, which were aimed not at the capture of territories but rather at the capture of cattle and people, and perhaps the establishment of military and political control by means of the establishment of a number of controlling bases. An incursion (lasting two weeks, of which plundering of the settlement took one to two days) might have been undertaken in any season of the year. In the course of one raid, according to later written sources, it was possible to seize from several hundreds to several tens of thousands of captives.35 The cost of the captured slaves was determined by the expenses of escorting the slaves from north to south.36 Slaves might have been sold at any time in Olbia or in Bosporos, from where some of them were possibly shipped off at once to Chios, Athens etc.

On the basis of what has been said above, we can conclude that in the middle of the 5th century BC the major constituent of the Graeco-Scythian trade (which was to become the basis of the growth in the wealth of steppe Scythia) was not the grain trade but rather the developing slave-trade that towards 400 BC had taken on a systematic character.

Several stages may be tentatively distinguished in the slave-trade and associated with the economic relations between Greeks and Scythians in the northern Black Sea area. During the first stage (from the 6th to the middle of the 5th century BC), there were on the one hand, in the forest steppe, some economically advanced regions with a peaceful population who had no special need for economic contacts with their southern neighbours; on the other hand in the South in the steppe and on the Pontic coast new immigrants were still settling – both Scythians and Greeks. The Scythian nomads, due to the nature of their economy, had no need of a great number of slaves. The Greeks had no need of slaves either. Hence, the slave-trade in the initial phase of the Archaic period (approximately the entire 6th century BC) was
of a moderate character and its development was determined mostly by the 
need of slaves in Greece.

The situation in the slave-trade changed in the second stage starting 
around 475 BC. The urbanisation of Olbia lead to an increased need for 
slaves for construction and manufacturing. The nomads of steppe Scythia 
began to play a still more active role in the supply of slaves. Accordingly, the 
attitude of the nomads to their captives also changed: killing them ceased 
and they were used as trade objects instead. The steppe Scythians began to 
understand that the trade in slaves was more profitable than trade in other 
goods, including the grain-trade. The most probable source of slaves was the 
population of the forest steppe. In the 5th century BC the foundations were 
laid for an economic system based on slave-trade which generated wealth 
for steppe Scythia.

Notes

2. Vallon 1941; Blavatskij 1954, 31-56; Dovatur 1980.
   Otreško 1986, 3-17; Kryžickij, Bujskich, Burakov & Otreško 1989.
8. Terenožkin 1977, 3-29.
17. D.P. Kallistov considered them to be slaves, see Kallistov 1949, 139.
22. Vinogradov 1971, 75.
23. Blavatskij 1954, 31-56; Kallistov, Nejhardt, Šifman & Šišova 1968; Dovatur 1980, 
   92.
32. Onajko 1970; Bandurovskij 2001, 76.

Bibliography


