

THE METAL AGES AND MEDIEVAL PERIOD

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METAL-PRODUCTION, MORTUARY RITUAL, AND SOCIAL IDENTITY: THE EVIDENCE OF SINTASHTA BURIALS, SOUTHERN URALS

This study aims at a social interpretation of the Sintashta burials, Southern Urals (21st–18th century cal BC), where artifacts related to bronze metallurgy (molds, ceramic nozzles, ore and slag remains, metal bars and drops) had been placed. These were found in at least 10 % of graves. If stone hammers and abrasive tools are included, the share increases to one-sixth. The findings apparently indicate the social identity of those buried, and point to the general characteristics of the group. People engaged in metal-production were mostly adult males, and were relatively few. Women, too, may have participated, at least at the preparatory stages. Markers of engagement in metal-production very rarely co-occur with attributes of high status such as mace-heads, spearheads, axes, chariots, and cheek-pieces. This agrees with the conclusions of cross-cultural studies suggesting that “metallurgists” were not top-ranking members of the social hierarchy. Nor were they subject to discrimination in the Sintashta society, because being buried at a cemetery evidences high status. Professional membership was an important—but not the main—criterion of personal identity. Despite being few, burials of metal-workers distinguish Sintashta from most other Bronze Age steppe societies of Eurasia.

Keywords: *Bronze Age, Southern Urals, Sintashta culture, metal-production, mortuary rituals, social identity.*

Introduction

Abrupt acceleration of the differentiation in the production and social spheres started in the beginning of the Metal Ages. Admittedly, the role of the new technology in cultural genesis was great. According to some scholars, it was even the main development-factor of ancient civilizations (see (Amzalan, 2009: 497)). It is exactly from this time on that mortuary rituals illustrate, along with other capacities of the individual, his or her professional membership, which is adequately presented at the archaeological sites of the regions that are not

characterized by high social complexity. However, such evidence cannot be found in all synchronous cultures, including those existing in the adjacent areas (Bochkarev, 2010). Attempts to interpret the burials of “founders” and “smiths” were repeatedly made (see, e.g., (Williamson, 1990; Batora, 2002; Kaiser, 2005; Chernykh, 2007; and others)). Despite the impressive list of literature, the issues of identity still remain on the periphery of research interests. This is explained by the character of sites, and by the quality of some research.

Modern archaeology pays great attention to the issues of individual and group identity in ancient times. The

focus of research gradually shifts from studying societies as entire systems to studying different social groups, and even individuals. Each person associates himself with various social groups. Therewith, key characteristics include age, gender identity, ethnicity and culture, social status, religion and occupation (Diaz-Andreu et al., 2005: 1–12). Studying these issues provides further insight into the everyday life of ancient societies. Metallurgy was a very important and, not infrequently, sacralized field of activities in ancient and medieval communities. Beyond all doubt, bronze objects were highly valued, and had not only practical but symbolical significance as well. In this regard, it is interesting to find out which categories of the population were engaged in their production. What were the age, sex, and status of these people? The Sintashta burial-sites of the Southern Urals, which are characterized by high variability and informativeness, provide the possibility of finding answers to these questions. Up to 86.7 % of buried adults were accompanied by metal artifacts, which is highly unusual for the Bronze Age cultures of Northern Eurasia, and gives an indirect indication of metallurgy's significance not only in the economy but in the ideological sphere as well.

The present study aims to determine the attributes of metal-production that are relevant to the components of social identity, and thus, to characterize the group of people involved in this field of activities.

Brief description of materials

The Bronze Age in the Southern Urals starts on the turn of the 4th and 3rd millennia BC. It was during this period that the traditions of livestock-breeding and metallurgy were established in the steppe zone. The region was the center of ore-mining and copper-production. However, the earlier period is represented predominantly by burial-sites that show occasional indications of productive specialization (molds, ore) (Bogdanov, 2004: Fig. 46, 60; Kargaly, 2005: 26–33; and others). Abashevo and Sintashta sources are much more informative, since they allow of carrying out a comparative analysis of materials found at various-type sites (settlements and necropoli).

The Sintashta settlements and burial grounds dating to the end of the 3rd millennium—first centuries of the 2nd millennium cal BC (Epimakhov, Krause, 2013) are well known to specialists, and represent the most comprehensively studied sites of the Bronze Age in the Southern Urals. In contrast to the majority of cultures of Northern Eurasia, the Sintashta cemeteries are distinguished by a considerable share of children's burials (up to 70 %), complex rituals, and an abundance of grave-goods. The latter are of especial interest for the purposes of our research. They included weapons, horse-harness, elements of garments, adornments, household items, and

tools. Sometimes, a chariot or its parts were placed into a burial pit. In all cases, the grave-goods included ware.

The finds related to metal-production (molds, fragments of mold pots, stone hammers, ceramic nozzles, technical ceramics, slags, ore, metal drops, etc.) constitute a noticeable part of collections from the settlements (Drevneye Ustye..., 2013: 216–253; Epimakhov, Molchanov, 2013; Krause, 2013; and others). They are also present in the burials (except mold-pots and technical ceramics), though in smaller quantities.

Further analysis engages all published materials, including information about 353 buried people (257 burial pits, 33 mounds, and two flat-grave cemeteries), from such burial grounds as Sintashta, Bolshekaragansky, Kamennyyi Ambar-5, Solntse II, Krivoye Ozero, Bestamak, Tanabergen II, Khalvay-3, Zshaman-Kargala I, etc. (Epimakhov, Berseneva, 2012, Table 1). Since the majority of individuals were buried in communal graves, while about a half of all burial pits have been disturbed, there are some objective restrictions on diagnosing the social structures of interest to us, as it is not always possible to correlate grave-goods with a particular buried person. The situation is complicated by the absence of anthropological definitions for a number of very important complexes and full-fledged publications regarding some of them. Accordingly, when the buried are correlated with the accompanying objects, the cases of unidentified ownership of goods or absent anthropological definitions will be specifically mentioned.

The share of burials containing attributes of metallurgical production cannot be assessed with full confidence, owing to the problem of selection criteria. While there is no doubt with regard to nozzles and molds, we have to acknowledge the extreme variety of opinions concerning stone goods because of severe deficiencies in traceological definitions. At the same time, collections from the synchronous sites clearly demonstrate predominance of metal-production and metal working tools among the stone products (Korobkova, Vinogradov, 2004; Kungurova, 2013; Molchanov, 2013; and others).

We have encountered the following terms in the publications of materials from burial grounds: “grinder”, “milling stone”, “abrasive stone”, “grinding stone”, “groundstone”, “stone slab”, “stone mortar”, “anvil”, “stone pestle”, and “stone hammer”. Obviously, some of these tools were not highly specialized and could be widely used in everyday life. Nevertheless, blatant disregard of stone-products employed in metallurgy and metalwork would be improper; so we relied upon two variants of calculations based on maximally and minimally informative evidence. The first of them (list A) includes all attributes: molds, ceramic nozzles, ore and slag-remains, metal bars, drops and indeterminate fragments (melting scrap?), stone pestles (hammers),

and other poorly attributed stone items. The second variant (list B) is reduced at the expense of the last category of artifacts.

According to list A, the metal-production/working attributes were contained in 44 burial pits out of 257 (17.1 %). The burials are represented by all types, from individual to large communal graves. Thirteen burials were looted (29.5 %); in five of them it was impossible to determine the particular individual to whom the goods belonged. If we take into consideration only evident attributes (list B), the number of such burial pits is reduced to 27 (10.5 %). Here, all types of burials are presented as well, 11 pits were looted (40.7 %), and in four of them, the ownership of goods is not clear.

Further, we will attempt to correlate the designated categories of grave-goods with individuals, and to establish the social identity of people who went to a better world, being accompanied by attributes of metallurgical production.

Metal-production attributes as identity markers

Among the identity components, we have only selected those available for study based on anthropological and archaeological data.

Age identity (adults/children). In this case, the simplest grouping by age categories, which is universal for different societies, was used. The age of 15 was taken as a conventional threshold of “adulthood”.

Considering burials with the above attributes according to list A, we note straight away that the vast majority of them are adult burials. The only exception is an individual child’s (3 to 7 years) burial 15 in mound 4, the Kamennyi Ambar-5 burial ground, where a miniature stone “anvil” has been found (Epimakhov, 2005: Fig. 103), though, in filling. Two more “grinding stones” have been discovered in burials 27 and 29 of the Sintashta flat-grave burial ground, which the authors of excavations considered to be “children’s”; however, their anthropological identification is not available. According to list B, there are no children’s burials among the graves with metallurgical attributes (27 pits).

Gender identity (males/females). Among 44 burial-pits corresponding to list A, anthropological definitions of the buried people’s sex are only available for 19 pits: six burials have been identified as female graves (31.6 %), and the remaining burials as the male ones. In three of them (communal graves of the Kamennyi Ambar-5 burial ground), it is impossible to determine correctly to whom the grave-goods belonged, though undoubtedly one of the deceased was a man (the others are mainly children of different ages). A similar situation exists with list B, where there are no anthropological definitions for 14 burial pits

out of 27. Nine burials have been identified as male graves (69.2 %), four others as the female ones.

Now let us take a closer look at correlation of such reliable attributes as molds, nozzles, and stone hammers with the sex and age of individuals. Unfortunately, molds and ceramic nozzles are poorly represented in the Sintashta cemeteries. The only mold has been found in burial 7 of the Bestamak burial ground (Kalieva, Logvin, 2009: Fig. 10–12). It was discovered in an individual burial of a 35-to-40-year-old man, along with three ceramic nozzles.

Burial pit 20 of the same burial ground is very informative in respect of the aspect we are interested in (Kalieva, Logvin, 2012). It contained remains of two adult individuals (whose sex, unfortunately, has not been identified); each of the buried people was accompanied by the sacrifice of a pair of horses (Ibid.: Fig. 1, 1). Apart from abundant bronze items, four ceramic nozzles, small stone slabs and pestles have been found among the grave-goods (Ibid.: Fig. 2). It looks intriguing that these objects were placed not near the buried people, but alongside the horses (two nozzles in each complex), i.e. they were a part of sacrificial deposits. The deceased also had “personal” sets of goods: the individual buried in the southern portion of the grave had two bracelets, a spiral pendant in one and half circle, and beads; the one in the northern portion bronze awls, beads (27 items), a knife and a needle, 13 metal ingots and drops (31 items). Judging by the presence of adornments, it may be cautiously suggested that these are female burials. Two more nozzles, together with slag pieces, were found in burial 1 (an adult of unidentified sex) of mound 5, Solntse II burial ground (Epimakhov, 1996), and another one in a communal looted grave of the small mound at Sintashta cemetery (Stefanov, Epimakhov, 2006). Several talc slabs which, in our opinion, could be mold preforms, originate from the same complex.

There are 22 burials containing stone pestles. In all identified cases, with one exception, they accompanied men (five cases) or have been discovered in communal graves, where at least one of the buried was a man (three cases). In the intact burials, pestles are included in various sets of goods; these are generally accompanied by certain types of stone slabs, and occasionally by bronze ingots (Bestamak, pits 20, 170). Only one such item has been found in an individual burial of a young woman (Tanabergen II, mound 7, pit 20), along with adornments and other tools, which once again confirms the multi-functionality of stone pestles. In burial 170B of the Bestamak burial ground, where identification of the buried individual’s sex failed owing to poor preservation of the bones, a fragment of stone pestle has been found, together with a pair of bracelets and an awl (Logvin, Shevnina, 2013: 354). Possibly, this is a female burial as well.

Ore pieces, metal ingots and drops have been encountered at least in 13 burial pits (Kamennyi

Ambar-5, Bestamak, Tanabergen II, Krivoye Ozero, and Bolshekaragansky burial grounds). Like other metal-production related objects, they are included in various sets of goods along with adornments, household items, weapons, and tools. A pestle and a stone slab have been discovered along with ore in only one communal grave (a complex of flat-grave and mound burials of the Sintashta burial ground) (Gening V.F., Zdanovich, Gening V.V., 1992: 252–256, fig. 139). It must be emphasized that at least in some cases the characteristics of the ore do not allow its use either as colorant or as a metal source (Kamennyi Ambar-5 burial ground, mound 4, burial pits 1 and 3; mound 2, pit 17)*, i.e. the point in question is a purely symbolic function of these finds.

Vertical status. The Sintashta burial-sites demonstrate no apparent evidence of social hierarchy within the burial grounds**, though they could reflect only one of society's segments rather than the entire picture. In this respect, one has to rely on a combination of "metallurgical" attributes with those categories of finds that are generally recognized to be status-markers such as heavy weapons (axes and spears), a chariot-complex, and stone mace-heads. It is not difficult to see that the above categories are traditionally considered to be the "male" ones, though this is not always directly confirmed.

Traces of placement of chariots have been found in five burials corresponding to list A; while 20 of them contained some weapons, including four bronze spearheads, six bronze axes, and six mace-heads. As for list B, it comprises three burial pits with traces of chariots, and 11 burials that contain weapons among the grave-goods, including three spearheads, four bronze axes, and two maces. However, in all these burials, vertical status-markers were mainly combined with stone objects. The only exception is a combination of a mace-head and chariot-traces with a nozzle and mold preforms in a communal grave (five individuals without anthropological definitions) in the mound SIII at the Sintashta burial ground.

Professional identity. Goods unambiguously related to metal smelting were actually discovered only in four complexes (Bestamak, burials 7 and 20, Solntse II, burial 1 in mound 5, Sintashta, communal grave in a mound SIII). Only the Bestamak burials remained intact, but only one of them is provided with anthropological identification. In all burial pits, objects associated with metallurgy had been placed along with arrowheads, a

mace, cheek-pieces, bronze knives, and an awl. Animal-sacrifices have been recorded in three burials (Bestamak, Solntse II); the fourth (Sintashta) was severely destroyed. It is not an overstatement to say that the line of activity of the deceased (or one of them) is reflected in these burials. All of them were adults, while one of the buried is reliably identified as a male. Conspicuous are the small number of "professionals" burials and the combination of metal-production attributes with widely different categories of finds.

Some problems of interpretation

The outlined range of subjects has been in the center of the interests of various researchers for a long time, for which reason we shall focus on the territorially and chronologically closest materials. The Bronze Age burials of Eastern Europe and Western Siberia yield a quite representative (though not very extensive) series of findings. The availability of reviews obviates the need for duplicating this information. The burials of "metal-workers", widely represented in the Pit Grave and Catacomb cultures (3rd millennium cal BC), were not the only graves containing production implements: for example, burials of fletchers also exist. This tradition is well documented for a later period not only at the Sintashta sites to be analyzed, but also at the Abashevo (Khalikov, Lebedinskaya, Gerasimova, 1966; Khalyapin, 2005) and Seima-Turbino sites (Matyushchenko, Sinitsina, 1988: Fig. 11, 36–38, 42, 52; Satyga, 2011: 12, fig. 2.5–2.6; and others). They are close chronologically (the end of the 3rd millennium—the beginning of the 2nd millennium cal BC), and some of them show signs of mutual contacts between populations of these cultures. However, the difference in appearance of the main cultural features is substantial, and territorial unity can hardly be talked about.

The traces of a complete metal-production cycle are well documented at the Abashevo and Sintashta sites. Obviously this industry was based on local resources, though it is difficult to assess its degree of specialization. The Abashevo burials yielding reliable evidence of professional specialization, like the Sintashta ones, are few. It is notable that the next period of the Bronze Age, represented by very large Timber Grave and Andronovo burial grounds, does not inherit the tradition of such burials (Bochkarev, 2010). They are actually absent even in the zones admittedly associated with ore mining and metal smelting (Kargaly, 2005: 49–124; Tkachev, 2012a, b)*.

*The case in point is enclosing rock having traces of copper oxides, which, owing to low copper content, could not be used in pyrometallurgical processes (an expert opinion of candidate of geological and mineralogical sciences A.M. Yuminov, Institute of Mineralogy, Ural Branch of RAS).

**It is even more difficult to give reasons for social heterogeneity from the results of settlement studies.

*Publishing reviews of single burials containing stone tools, V.V. Tkachev intentionally highlights the fact that these assemblages are "almost the only ones among thousands of known... burials" (2012a: 109–110).

Likewise, West Siberian materials of the Bronze Age illustrate well the metal-production traditions, though evidence of specialization in this sphere (not infrequently, in combination with military attributes) found at burial-sites is biased towards Seima-Turbino as well as Odinoovo and Krotovo data, close in time and territory (Molodin, 1983). During subsequent centuries of the 2nd millennium cal BC, the situation of abrupt reduction of these indications in burials (but not in the whole) is similar to that in the Eastern European and Ural-Kazakhstan areas.

The interpretative difficulties of archaeological data have stimulated interest in ethnographic sources, the majority of which, though, are related to iron metallurgy. Social aspects of metal-production in traditional societies, and also organization of the process from extraction of raw materials to the exchange/sales stage, have attracted mutual attention of ethnographers and archaeologists not so long ago (Schmidt, 1989; Weedman, 2006: 269–270). The idea (put forward by G. Childe) that ancient metallurgists were top-ranking members of society owing to their special knowledge, which also had a sacral significance, is widely accepted by archaeologists (see (Hølleland, 2010: 32)). However, ethnography and history give different examples. In some African societies, “smiths” were not allowed to eat and drink together with their neighbors; they lived outside of settlements, and clans of metallurgists were often endogamous (Williamson, 1990). At the other end of spectrum we can find highly-specialized craftsmen who were engaged in ornamental casting in the cities of Ancient Egypt and Middle East. But their status corresponded to the craftsman status here as well, i.e. it was far from being the highest. Thus, there are no cross-cultural trends that put the “metallurgists” on the highest steps of social ladder *a priori*.

The gender of people engaged in metal-production in traditional societies, presumed to be male by default, has not been discussed until recently either. Indeed, written sources, ancient images, and ethnographic reports demonstrate absolute dominance of men in this sphere, that implies, apart from knowledge and skills, possession of physical strength. More focused ethnoarchaeological studies in Africa, however, have shown that women and children participated in preparatory work and stages of some processes, such as ore preparation and fuel gathering (Weedman, 2006: 269). There are no grounds for denying that women were not the main participants of the metal-production process, but their activities were an important contribution to metal-smelting in certain societies. This is especially true in regard to small communities, where metal was produced for own use and, perhaps, seasonally.

Finally, mention should be made of written sources that for obvious reasons are not directly relevant to the analyzed specific materials, and can only be used for the most general conclusions. They reflect Eurasian mythological

systems (starting from the 3rd millennium BC), which arose within widely different social and economic institutions. Nevertheless, a considerable quantitative predominance of references to such a category as a “smith” and a corresponding vocabulary*, as compared to other professionals, proved to be a unifier (Valkov, 2013: 279–280). Concretization of this conclusion as related to identity components of interest for us requires additional studies.

Conclusions

Review of data, plus analysis of ethnographic and historical evidence showing great variability suggest, that conclusions about the social identities of metal producers should be only drawn on the basis of analysis of the context, and with respect to specific situations. The presence of settlements and burial grounds belonging to the Sintashta culture allows a correlation to be made between embodied manifestations of its bearers’ social life. In general, it can be stated that personal identity was undoubtedly marked by tools related to the metallurgical process. Unfortunately, currently we do not have any direct evidence of the participation of individuals in this process that has been obtained in the course of studying bone-remains of other Bronze Age people (see, e.g., (Dobrovolskaya, Mednikova, 2011)). At the same time, the existence of own metal-production is beyond doubt, so certain people participated in it. The only question at issue is whom this group incorporated, and to what extent it was differentiated within the society.

The conducted analysis demonstrates that, in terms of the age-structure, we predictably deal almost exclusively with adults. Their gender identity, however, has not been strictly determined: with the general dominance of men, there is a reliable proportion of women. The person buried with a mold is a man, pestles are also better represented in male burials. However, ore has been found both in male and female graves. The burial containing a set of adornments (Bestamak, pit 20), despite the absence of anthropological definitions, can confirm the thesis that women participated in the metallurgical process, at least at some stages. In any case, no severe ritual restrictions on involvement of women in the “fire craft” existed.

The boundaries of the group within the vertical status gradations are even more blurred, since combinations of the goods-categories are extremely varied. It can be stated with certainty that no discrimination for participation in a sphere of production took place. On the one hand, inclusion of metallurgy-manifestations in the sacral sphere

*In the present case, this conventional term unifies all activities of miners, metallurgists, and metalworking smiths (Valkov, 2013: 242).

is rather indicative of its prestige; on the other hand, it is quite obvious that it was less emphasized in mortuary rituals than, for instance, warfare, which is usually associated with an elite complex. As such, inclusion of production-attributes in the indicators of elite status is certainly not as improbable as might appear at first sight. Sacralization of labor has been reliably identified for more complex societies than Sintashta (Avilova, 2011). However, our example requires taking into account rather small demographic parameters of communities, and weak social differentiation. Both are associated with the scales of manufactured products through the society's needs (everyday and/or prestige) and, as a consequence, with the significance of metal-production in the eyes of society members. In this regard, we can conclude that these activities were reserved to few individuals or small groups* that were not strictly separated from other society members in the actual life and ritual sphere. Professional membership was one among many, but not the main, criterion of personal and group identity.

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*The necessity of transferring special knowledge and skills was an important factor as well.

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