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Late Bronze Age Socketed Hammers in Bulgaria

Lyuben LESHTAKOV

Abstract: The article discusses a group of moulds and socketed hammers used in sheet metal working during the Late Bronze Age. They are compared with similar finds from Europe which allowed their dating. The existence of these tools brings forward the idea of Bronze Age sheet metal working practiced in the Eastern Balkans. Until now this craft was attested by only a few finds, such as the Valchitrun treasure, the lids from Călărash and artefacts in the Bulgarian National Museum of History in Sofia. Now we can prove the existence of bronze smiths who produced such items locally.

Key words: Late Bronze Age, tools, sheet metal working, moulds, Valchitrun treasure.

The aim of this paper is to introduce the socketed hammers as an individual group of Late Bronze Age (LBA) tools in Bulgarian archaeology. Since 1939, this type of artifacts was thoroughly studied by various scholars throughout Europe (Ohlhaver 1939; Hralová / Hrala 1971; Jockenhövel 1982; Armbruster 2000; Gogâltan 2005; Nessel 2008; Dietrich / Ailincăi 2012). Some of them have been discussed briefly in various volumes of Prähistorische Bronzefunde (Novotná 1970; Kibbert 1984; Carancini 1984; Žeravica 1993; König 2004). In 1976, B. Hänsel was the first and the only author who mentioned that such tools existed also in Bulgaria (Hänsel 1976, 40). Unfortunately, he did not study them further. For this reason, almost 40 years later, it is necessary to describe these tools and their purpose in the Bronze Age society. This would open an unexplored chapter of the Late Bronze Age (LBA) archaeology in Bulgaria regarding the crafts and sheet metalworking in particular.

The Finds

Up to the present day, two bronze hammers and six stone moulds, used for their production, were found in Bulgaria. They came to light in different parts of the country and in various contexts – as stray finds, as a part of hoards, and found in caves (fig. 1). These tools are quite similar in terms of construction, design, and decoration to the much more common socketed axes. Judging by the moulds from Pobit Kamak (fig. 2/A), Belyakovets (fig. 3/B), Starosel (fig. 3/A), Hotnitsa (fig. 3/C) and Drenov1, one can conclude that they were produced using uniform technology. The hammer from Gradeshnitsa (fig. 4/B) is in fact a reused socketed axe with a damaged blade. Identical recycling of damaged axes has been attested also in Hungary (Mozsolics 1985, 39).

Morphology

The main differences between the finds under consideration lay in the cross-section of the hammerhead: flat (fig. 4/B); curved (fig. 4/A); narrow and pointed (fig. 5/A, C-F); or with curved sides (fig. 5/B). Other differences can be observed if one compares the hammers' size and

1 This mould will be published soon by M. Vassileva from Regional History Museum Lovech. I am grateful for the opportunity to actually see the artifact.
Fig. 8. Socketed hammers from Bulgaria and their European analogues, not in scale
Contributions to the Periodization and Absolute Chronology of the Early Iron Age in South Thrace

Georgi NEKHRIZOV / Julia TZVETKOVA

Abstract: The archaeological excavations during the last 30 years of Early Iron Age sites in Thrace, south of Haemus, have brought the accumulation of a solid data base which allowed for specifying our knowledge for this period. The investigations of sites with considerable cultural accumulations made it possible to distinguish at least three phases within the EIA. The analysis of the pottery complex, mainly from site in Southeast Thrace, enabled tracing the specifics of the technology, forms and decoration for each of the observed phases. This, on the other hand, would allow for synchronization and chronological identification of other less stratified EIA sites. The already available radiocarbon dates, collected from several well stratified contexts, suggest more definite arguments for the reconstruction of absolute chronology of the EIA in Thrace.

Key words: Early Iron Age in Thrace, Thracian EIA Pottery styles, Relative Chronology, Radiocarbon chronology, LBA-EIA Transition in Thrace, Ada tepe, Gluhite Kamani.

Periodization of the Early Iron Age in Thrace: A Bibliographic Overview

Already the first investigations on the chronology and periodization of the Thracian Early Iron Age (hereafter EIA) have connected the local culture to synchronous phenomena in Central Europe and the Aegean region, including Troy (table 1). In her essential work from 1968 Maria Chichikova offered a robust chronological schema for the EIA. Based on observations of the pottery assemblages originating mostly from NW Bulgaria, she suggested a three-stage periodization of the epoch, placing its start in the 12th century BC. The beginning of the second and third stage was set respectively in the 8th and 6th century BC and its end in 5th century BC (Чичикова 1968, 19-20; Čičikova 1971, 92). The parallels used by Chichikova were mainly from Central Europe. The elaborated chronology of the Hallstatt culture by H. Müller-Karpe was the starting point for her proposed chronology.

Along with Chichikova’s periodization, another study influenced a number of modern investigations of the Thracian EIA. In 1976, Bernhard Hänsel published his work on the EIA in the lower Danube region which included Thrace. He applied two basic periodization approaches according to the analysis of the excavated settlements and of the metal hoard finds. Generally, he distinguished two EIA periods and placed the beginning of the first between Ha A1 and Ha A2, and the second period within Ha B, suggesting correlations with the Central European and Aegean chronologies (Hänsel 1976, 22-24). In his periodization, he deliberately avoided numbering the individual periods but defined cultural groups named after the most important sites, and assigned each one to a certain chronological period. For south-east Bulgaria he defined the successive EIA groups of “Chatalka” and “Pshenichevo”, and synchronized them with similar groups to

1 With contributions of Yana Dimitrova, NAIM-BAS. We would like to express our gratitude to Prof. Christopher Pare for the language amendments of the first two parts of the text.
the north (Babadag I and II) and south (Limnotopos, Axiochory, Kerameikos). Concerning the absolute dating, he suggested 11th century BC for “Chatalka” and the beginning of the 10th – end of the 7th century BC for “Pshenichevo” (Hänsel 1976, 195-213). His proposed label “Pshenichevo” became axiomatic. Even now, after decades of investigations of the EIA culture in Thrace revealing better stratified and studied sites, the term is used synonymously for the typical EIA stamped decoration.

Soon after Hänsel’s work, a new important monograph was published by Goranka Tončeva. It summarized her investigations of EIA sites in north-east Thrace with contributions to the periodization, based mainly on pottery analysis. Tončeva accepted for the beginning of the EIA a date in the middle 11th century BC, distinguishing two periods: EIA I (1050-800 BC) and EIA II (800-550 BC). She connected the transition between the Late Bronze Age (here after LBA) and the Early Hallstatt period with the emergence and spreading of the fluted ware and the “Buckelkeramik” (Tončeva 1980, 27ff., 119-136, 129f.).

In her study of EIA fibulae and jewellery, Diana Gergova also accepted the two period’s division of the EIA for southern Thrace: EIA I in the 11th – 9th century BC, and EIA II in the 8th – 6th century BC. For the second stage, she suggests two further sub-phases: the first in the 8th – middle 7th century BC and the second in the middle 7th – middle 6th century BC (Гергова 1986, 12).

Analysing various elements appearing in the EIA, some authors have defined a distinct horizon (“horizon of fluted ware”) at the be-

Table 1. Synopsis of the main chronological and periodization schemes of the EIA in Thrace
Armour of the *Cataphractarius* from the “Roshava Dragana” Burial Mound

Andrei NEGIN / Maria KAMISHEV

Abstract: This paper will present all preserved fragments of armour from the “Roshava Dragana” burial mound in Bulgaria. This is the first assessment of its type for this date set. Armour found in burials can be attributed to two or three types; they include the remains of chain mail, fragments of scale framework and badly preserved plate set. This armament was staffed with an excellent quality silvered Roman face-mask helmet. Apart from this helmet, the suit of armament was not Roman, having either a Sarmatian or Parthian origin. The most intriguing comes from burial 2 at “Roshava Dragana” mound where Sarmatian tamgas on the golden pommel of the sword and on the bronze belt’s buckle and images of two-headed dogs on the plates of the armour were discovered. The burial-mound is one of the largest of the mounds in Bulgaria in which influential and respected nobleman may have been buried. In our opinion, the most important and respected man in the neighborhood was Titus Flavius Dinis, the son of Skeles of the tribe Quirina. He was *archiereus* of so called *koinon Thracon* – the general assembly of the cities in the province of Thrace. It is possible that villa Chatalka and burial mound “Roshava Dragana” were connected with the Dinis family. Although there is no direct evidence for the participation of Dinis in campaigns against the Sarmatians and Dacians. But some parts of defensive armament from “Roshava Dragana” mound can be attributed as a trophy. Based on the analysis of the remaining elements of the armour, we can assume that many of them have parallels on the Sarmatian territory and in armament of neighbouring regions. Apparently, this armour could have been made in *Panticapaeum*, since the only parallel for a two-headed dog image, like on the armour, has been found there.

Key words: Balkans, 1st – 2nd centuries, Chatalka, Roshava Dragana, armour, helmet, Thracians, Roman auxiliary troops.

Deposition and Description of the Burial #2

The first mentions in the archaeological literature about mounds near the river Chatalka were reports by I. Velkov (Велков 1932-1933, 180-181) and N. Sabchev (Събчев 1906; 1938, 26). In 1965, during rescue excavations of a flood plain near the Chatalka river to the west of Stara Zagora in Bulgaria, a big mound called by local inhabitants as “Roshava Dragana” was investigated (fig. 1). The excavation revealed that the mound was a necropolis for the inhabitants of a *villa rustica*, located about 100 meters from the burial-mound on the bank of the Chatalka river (Николов / Буюклиев 1967, 19-20; Буюклиев 1986, 5-8). The barrow has a height of 21 meters and a diameter of 90 m making this tumulus one of the biggest in Bulgaria. The earliest burial in the mound dates to the second half of the 1st century AD, and the latest grave can be dated to the first half of the 2nd century AD. All burials were cremations (Буюклиев 1986, 11).

The rich burial of a warrior-rider was placed into the mound to a depth of 10 meters and is superior to other graves (Николов / Буюклиев 1967, 20-28; Буюклиев 1986, 14-17, 69-73). In the grave was found a stone sarcophagus in which was placed a tin urn containing burnt human remains (fig. 2). A golden wreath imitating oak leaves (this is most likely a premium wreath for military service, so-
interpreted as a sign of strength, courage and masculinity (if the owner demonstrated heroism on the battlefield). It is known from written sources that the Roman soldiers distinguished in action could receive silver horns to be put on their helmets (Liv. X.44.5; Aur. Vict. De vir. ill. LXXII.3). In this case, it is obvious that the horns were placed on Montefortino type helmets, especially as there are several images and similar finds in the territory of Italy. The painting of the tomb in Nola depicts a cavalryman in a bronze Montefortino helmet with large bronze horns (De Caro 1983-1984, 71-74). A real piece from Fosdinovo has horns identical to those on the painting in the tomb (Paribeni, Ambrosi 2001, 41ss.). It is difficult to say who influenced the Italic tradition of attaching decorative horns to helmets more, the Greeks or the Celts. Dionysius of Halicarnassus (Dion. Hal. V.30) mentioned that Gauls had sometimes placed horns on their helmets, attached so that they seemed to be integral with the helmet. Based on the horned Montefortino helmets found on the north of the peninsula, we can state that the second wave of the fashion for such decoration comes from the south of the peninsula under the influence of the Celts in the late 4th century BC, subsequent to the examples of Greek horned helmets of the 7th – 6th centuries BC. Horned helmets from Thrace can be attributed to the influence of Greek or Celtic armament traditions. We assume that the horns were placed on the helmet from “Roshava Dragana” barrow, as the tubes are exactly the same shape as tube mountings for horns on the Hellenic helmet from Bryastovets. If assumption about relationship of the villa “Chatalka” owner’s with Sabazios cult is correct, we can talk with greater confidence about placement of horns on the helmet from “Roshava Dragana” (fig. 14).

**Scale Armour**

Among the materials stored in the Regional Historical Museum of Stara Zagora, there are iron scales with a central vertical rib. The individual rows of scales are sewn onto the leather lining and baked onto the inner surface of the metal strips and plates of armour. The central rib and shape of scales are like the Roman “lorica plumata” example (Rose 1906, 8; Robinson 1975, 173; Charles 2003, 158). Despite

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1 According to Diodorus Siculus, Sabazios is called “horned” (Diod. Sic. IV.4.2). In Thrace Sabazios was even depicted as a bull or a man with a small bull’s horns (Elworthy 1900, 240). See also horned hats on a bronze plate with the figure of Sabazios from the National Museum in Copenhagen. Interestingly, in ancient art the bull can be combined with the image of a crescent placed upon the horns of the animal. This follows the shape of the crescent-shaped horns, which apparently is the personification of the moon. In this regard, there is an interesting silver applique in the form of crescent, found in the burial (Буюклиев 1986, 72, # 99, pl. 9), because, as it is well known Sabazios has been identified with Men (Phrygian god of the moon), who had among his attributes the crescent moon (Tacheva 1983, 173).
The Bas-Relief of a Centurion from the Armoury of the Roman Legionary Camp in Novae (Moesia Inferior): Identification and Techniques of Execution

Abstract: During the excavation seasons of 2015–2016 at the Novae legionary camp research was focused on a unique structure consisting of six enormous rectangular pillars, each measuring 5.3 × 1.4 m. The structure was most likely erected in the second half of the 2nd century. In later periods, it was enlarged to about 43 × 43 m, thus covering an area of over 1800 sq. m. Based on the results of previous research, we can tentatively say that the building is likely to be the remnants of an armoury or ‘armamentarium’, a building which stored not only the weapons of the soldiers of the Legio I Italica, but also artillery pieces such as onagers, carrobalistae and catapults. Chief among them is a relief-decorated limestone block, unearthed in 2016. The relief-decorated block has the following dimensions: height 460 mm, width 400-422 mm, and the largest thickness of 310 mm. The bas-relief depicts a leather cuirass of a Roman centurion. The bas-relief was carved out as the last step, most likely after the stone block had been placed in the wall structure. The composition was planned out very roughly, without a previous drawing or sketch. The tools used for the job were clearly chosen with care and forethought. Thick chisels were used to cut out the rough shape of the sculpture, and smaller ones for carving out background parts in the corners. The raised areas were finished out with a thin chisel. The raised parts and the receded backgrounds were smoothed out as a final step. It is worth noting that there was no accidental damage done to the bas-relief in the process of its creation, despite the brittleness of the material and the complication of the form – a testimony to the stonemason’s skill. It is therefore likely that the decoration was sculpted because of an urgent need to mark an important facility, e.g. an entrance to an armoury. Essentially, it is not only an artistic decoration, but also a pictogram. The author of the bas-relief was most likely a local, well-experienced stonemason. The execution of the composition seems effortless, but at the same time shows professional expertise. The doubtless fact that the limestone block from Novae was re-used in a structure dated at the earliest to the turn of the 3rd and 4th century, its technological, stylistic and artistic characteristics, as well as the results of comparative studies, all suggest that the bas-relief was made in the 2nd century. During this period, the wall-mounted relief depicting the leather cuirass of a centurion performed its original function by marking the unique armamentarium of the camp of the Legio I Italica in Novae.

Key words: Novae, legionary camp, armoury, centurion, bas-relief, Moesia Inferior, techniques.

The Roman legionary camp and early-Byzantine city of Novae (Moesia Inferior) was of an immense importance to the Lower Danubian limes of the Roman Empire. The scholarly-and-scientific team of the International Interdisciplinary Archaeological Expedition ‘Novae’ of the Adam Mickiewicz University of Poznań has been carrying out archaeological excavation work on this site since 1970.

During the excavation seasons of 2015–2016 at the Novae legionary camp research was focused on a unique structure consist-
archaeologically proven; however, taking into account the size of the building and its structural requirements, it can be assumed that there were twelve pillars total, placed in two rows of six. At this stage, it is difficult to determine the purpose of this later, two-story structure with brick-and-stone pillars, on which rested a vaulted ceiling for the second floor, tentatively dated to the 3rd and 4th century (Fig. 1).

The long-term Polish-Bulgarian archaeological excavation at the legionary camp in Novae (Moesia Inferior) has yielded a plethora of very diverse portable archaeological sources. Chief among them is a relief-decorated limestone block, unearthed in 2016 (Бернацки / Кленина 2017, 271, обр. 3). It resided in a secondary deposit in a cultural level at an elevation of 47.69–47.52 m ASL. The block was a part of an unidentified stone structure, built roughly without using lime mortar (Fig. 2/1-2). This structure, laid on an East–West axis, was placed between two opus mixtum stone-and-brick pillars which were constructed earlier than the block. The relief-decorated block has the following dimensions: height 460 mm, width 400–422 mm, and the largest thickness of 310 mm (Fig. 2/3-4). The bas-relief depicts a leather cuirass of a Roman centurion.

The rectangular block of stone is decorated on one side. The front side is adorned with stonework decoration and there are visible signs of a stonemason’s work on the sides, none are preserved on the rear side. The block was most likely made through stone splitting, with the use of wedges. By examining the surface, it can be assumed that the block was carved out in a quarry and that it was meant to be used...
Contributions to the Late Antique Fortification of Durostorum (Silistra): An Attempt at Reconstruction. 
Addenda et corrigenda

Georgi ATANASOV / Kristian MIHAYLOV

Abstract: After the late 3rd – early 4th c. the fortification agglomeration of the Lower Danube Durostorum (now Silistra) was composed of three mutually related but relatively autonomous structures: The camp of Legio XI Claudia – Durostorum I (ca. 22 ha); the fortified residential areas (former canabae) – Durostorum II; and the castellum on the Danube bank built in parallel with Durostorum II (ca. 70 ha); – Durostorum III (ca. 6 ha). Thus, during 4th – the first half of the 5th c. AD, Durostorum had the largest fortifications system on the Lower Danube limes. However, the fortified area of Durostorum decreased almost 3 times after the beginning of the 6th c. AD.

Key words: Late Antiquity, fortification, Durostorum, Lower Danube, Bulgaria.

The fortified camp of Legio XI Claudia was built in the second century AD and functioned with some reconstruction and additions until the late 6th-7th c. The camp was identified as a result of the archaeological research from 1970s to the late 1990s (Donevski 1990, 236-245; 2004, 15-18; Иванов et al. 2006, 169-176, fig. 2). It is located about 900 m south of the Danube bank. The camp is rectangular in plan, measuring 510 x 430 m, i.e. about 22 hectares (fig. 1/I).

In 1969-1970, next to the Danube bank, to the north-west of the legionary camp, research of a new Late Antiquity fortification began. The use of the Late Antiquity fortification is yet to be clarified (Ангелова 1973, 83-93, fig. 1, 2). Initially a wall was revealed along the river, 57 m in length and 2.20 m wide, dating from the 4th c. Its foundation is up to approximately 2.60 m wide. Its face is constructed of medium to large rectangular stone blocks fixed with light rose mortar and empletton of medium to small crushed stone mixed with the same kind of mortar (Angelova / Buchvarov 2007, 67-72). The foundations, up to 3.1 m deep, are constructed of crushed stone with rose mortar. The sub/superstructure borderline is marked with a plinth 0.10-0.18 m wide. At two spots the foundation overlaps earlier walls of the buildings associated with pottery and artifacts from the 2nd (?) - 3rd c. At the western end there was a narrow gate in the form of a simple arched entrance (postern) 2.00 m wide. At the eastern end of the revealed wall, 40 m from the postern, there was a rectangular tower about 6 m in width which was recently identified thanks to some older architectural plans and slides from 1971 in the archive of the Museum of Archaeology in Silistra (fig. 2, 3, 5/1) (Атанасов 2013, 52-70; Atanasov 2013, 495-496, fig. 2). A small section of the wall was also detected in the east during the construction of the ‘Drastar’ hotel (fig. 4, 5/1a). It is about 15 m long and lies above a foundation made of semi-processed crushed stone1. Four courses of the superstructure have survived, constructed

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1 The foundation of the wall in this sector remains partially explored archaeologically and a plan and profiles are missing. The photographs (fig. 4) show that the superstructure lies above two courses of crushed stones small and medium in size but the substance that fixes them as well as the depth of foundation are not quite clear.
4th c. (Bononia, Oescus, Novae, Transmarisca, Marcianopolis, Zaldapa, Tropaeum Traiani, Ibida, Istria, Tomis, Halmiris, etc.) were without exception and necessarily protected by a fortification wall (Scorpan 1980; Иванов 1999; Torbatov 2002; Динчев 2016). Furthermore, serious arguments have been presented in favour of Durostorum as the capital city of the province of Moesia during that time (Velkov 1977, 241-144; Zahariade 1998, 52-53; Piso 2014, 489-504). The investigations in recent years though have largely overcome this doubt.

Newly Revealed Fortification System around the Residential Areas (Former Canabae) of Durostorum from the Late 3rd – Early 4th c.

In the course of large-scale excavation works in 2014-2015 during the renewal of the sewerage and water supply system in Silistra, which covered large sectors of the Antique and Medieval town, more than 30 new archaeological structures were revealed and documented including sections of the fortification of Durostorum, Dorostolon and Drastar. Thanks to these works, some previous observations and conclusions in this regard were confirmed, others were supplemented or entirely corrected. First of all, strange and unknown until recently was the purpose of a wall discovered in 1988 during excavations for a swimming pool about 630 m east of the Danube castellum and only 70 m away from the bank of the Danube River (fig. 1.4; 8) (Атанасов 1992, 22; 1

The distance of 300 m east of the castellum indicated by St. Angelova (Angelova / Buchvarov 2007, 72) is probably a technical error.