

POLISHED STONE IMPLEMENTS OF THE NEOLITHIC STARČEVO CULTURE IN NORTHERN CROATIA

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Trnsko 1



The Starčevo Culture, the first agricultural community in northern Croatia has been archaeologically documented by more than 60 permanent settlements. They are mostly located in the southern Pannonian basin of the river Sava. Favourable natural conditions of the region enabled high population density during the early and middle neolithic and so far a great number of archaeological traces. Various aspects of the Starčevo Culture have often been discussed in archaeological literature but its stone production has been neglected although the new technology of producing stone artifacts, the techniques of abrading and polishing were usually emphasized as one of the important neolithic features. Polished stone implements, specifically the last-shaped wedges, flat axes and chisels have generally been noted in all areas of the Starčevo Culture distribution. The polished stone implements from the Starčevo settlements, such as Vinkovci-Hotel, Zadubravlje, Slavonski Brod-Galovo, Pepelana have been chosen for analysis in order to solve the problem of their function, but also to investigate and determine the possible sources of the exploited raw material and the way of its circulation among the Starčevo settlements.

Key words: polished stone implements, Starčevo Culture, Neolithic, Northern Croatia

Given that the main goal of the international project IGCP/UNESCO No. 442 are "The raw materials of Neolithic/Aeneolithic Artefacts", in Croatia we decided to concentrate upon the polished stone implements of two main neolithic cultures of Northern Croatia, the Starčevo and the Sopot Culture. This part of Croatia, known as Slavonia, representing the southwestern edge of Pannonian basin, is the most fertile and most densely inhabited area today as well as during the holocen prehistory. Thus it was perfectly suitable for the life of the first neolithic farmers and their agricultural economy. Eastern part of the area specified are marked lowlands composed of loess terraces, elevated well-drained soils along the rivers and marshy plains. Great part of the region is and was covered by common-oak forests. Central and western part is bordered by two low mount ranges, Papuk and Krndija in the north and Psunj, Požega hills and Dilj in the south.

The Starčevo Culture, beginning in 7th Millennium B.C., has been archaeologically documented by more than 60 permanent settlements (Minichreiter 1997). They are mostly located on elevated river banks or on natural rises near streams, small rivers, or marshes along the interfluvial region of the Sava and the Drava. Favourable natural conditions of the region enabled high population density during the early and middle Neolithic and so far a great number of archaeological traces. Various aspects of the Starčevo Culture have often been discussed in archaeological literature but its stone production has been neglected although the new technology of producing stone artifacts, the techniques of abrading and polishing, were usually emphasized as one of the important neolithic features. In the monograph on the Starčevo Culture in Northern Croatia, K. Minichreiter only states that stone products were numerous in the domestic inventory of Starčevo settlements, especially

in early and classic phases but declining in the later phases (Minichreiter 1992 : 50). She considers this logical, given that the late phase was more distant from the Mesolithic basis which she considered to have held a decisive role in the production of stone artifacts in the early Starčevo Culture. This however refers to chipped stone implements, represented at the site of Zadubravlje with over five thousand artifacts. Polished stone implements are not mentioned specifically in the monograph, but the presence of last-shaped wedges, flat axes and chisels has generally been noted by other authors in all areas of the Starčevo Culture distribution (Dimitrijević 1979 : 254, Garašanin 1979 : 123, Benac 1979 : 377, Kalicz 1990 : 99). From the Starčevo sites in Vinkovci Dimitrijević recorded flat axes and last-shaped wedges (Dimitrijević 1979 : 254), noting that most of them were made from lightweight material – a light yellowish stone and sandstone. Having a chance to view almost all the stone implements of several Starčevo settlements, such as Vinkovci-Hotel, Zadubravlje, Slavonski Brod-Galovo, Pepelana, we decided to pay more attention to that neglected neolithic production because the number of such artifacts rises with each new excavation. At the moment we shall concentrate upon the polished stone axes and related tools although stone querns, grinders, pestles, and various grinding surfaces were also objects that required the knowledge of polishing and abrading techniques. Three main types of polished tools are noted at all the mentioned sites: last-shaped wedges or axes, flat axes and chisels. The last-shaped wedges are still considered by some authors to be agricultural tools for working the land (Jurić et alii 2001). But even a deficient petrographic analysis showed that many of them were made of sandstone or siltstone and thus could not have had any practical function of an axe let alone to dig with them. But they could have been used as whetstones for abrading and polishing other types of stones or as tools for polishing and burnishing of pottery vessels. So a thorough petroarchaeological analysis of the Starčevo Culture polished stone artifacts become a necessity not only to solve the problem of their function, but also to investigate and determine the possible sources of the exploited raw material and the way of its circulation among the Starčevo settlements. The most common opinion was that the nearest resources were lying in the mountains of the Northern Bosnia but there are some other solutions to be considered. First, we have to take into account the fact that many artifacts were made of river-pebbles and the most of North-Bosnian rivers are tributaries of the river Sava, the main economic and cultural artery of the mentioned region. Further, some of the Starčevo settlements, considered in this paper, are situated in the bottom of Mount Dilj and Požeška gora/Hights or on their lowest slopes. These mounts could also be potential sources and most probably they are.

We have chosen to analyze polished stone artifacts from the Starčevo sites of Vinkovci, Slavonski Brod-Galovo and Zadubravlje-Dužine because they were properly excavated and the artifacts are accompanied by essential archaeological context. We can be certain that they were produced by the specific neolithic community we call it Starčevo Culture. For many of them we know their exact position in the settlement, their relation to various settlement objects and/or to the other artifacts. In that sense the most interesting will be the site of Galovo in Slavonski Brod, where systematic excavation is still being carried out (Minichreiter 1999). Until now on the explored area of about 1775 m², more than forty polished stone axes have been found, though most of them being fragmentary and/or damaged. Seventeen stone axes e.i. wedges had been found in context of two burial pits. Five of them were placed next to the entrance section of the pit in which a contracted skeleton had been buried. K. Minichreiter, the leader of the excavation, suggested “*the possibility of a ritual placement of stone axes during visitation of the deceased*” (Minichreiter 1999). The similar situation had been observed by Alojz Benac at the site of Obre I in Central Bosnia (Benac 1973). It is a site of mixed Starčevo and Adriatic impresso culture. The earliest phase of the settlement is extremely poor on stone artifacts, but the next one, still belonging to the same cultural context is somehow different. In the broader area of the grave No 8 Benac had found 6 stone axes, 5 of the last-shaped type and 1 flat, almost rectangular in shape. One of last-shaped axes showed the traces of boring a hole, but during that process it broke and was left unfinished. Benac supposed the axes had belonged to the burial context thus having cult meaning. This was still better evident in the later Butmir Culture at the nearby site of Obre II (Benac 1971). So Benac concluded that the axe cult, well known from the Butmir Culture, had originated already in Starčevo Culture. Unfortunately he said nothing precisely about the raw material the Obre axes had been manufactured of, he only mentioned some sort of greyish stone. J. Müller, who compared the neolithic sites of the Eastern Adriatic to those of Central Bosnia, noted the earliest polished artifacts of both regions as being made from greenstone, but having no thin sections of those artifacts, he could not precisely determine their structure and mineral content (Müller 1994). At the moment we also can tell nothing specific of the raw material of the axes from Slavonski Brod-Galovo, as the necessary analyses are still in progress. But we hope to get the results very soon and then we shall be able to give more satisfactory answers to the problem of stone production of the neolithic Starčevo Culture.

The other site in consideration, that of Zadubravlje, located on rolling plain in the hinterland of the Sava River, on the bank of what was once Brezna Stream (today a channel), is only 17 km eastern of Slavonski

Brod. On the explored area of 6.200 m² some twenty polished stone axes were found. Most of them were damaged, fragmentary and of the same type – last-shaped wedges. With exception of two examples, all of them were made of the same material – siltstone, siliceous clastic sedimentary rock which has been registered in the neogene sediments of the Mount Dilj in the hinterland of Slavonski Brod (Šimunić et alii 1973). According to some authors (Jurić et alii 2001) exactly this site should prove their thesis that the polished stone axes and wedges were used as agricultural tools. The site is located in the most fertile area, carbonized (charred) cultivated grains and the bones of domesticated sheep, goat, cattle, even pig, testify to developed agricultural way of life. But a relatively small number of stone axes made of

quite inappropriate material can't confirm such a supposition.

After the preliminary study and analysis of the polished stone implements we may conclude that such stone production existed and had its meaning within the community of the Starčevo Culture but in limited range having no greater impact to its economy. The raw materials in use were autochthonous, originating from the nearest sources, very often in the forms of pebbles brought by water courses. Long distance search and trade were not practiced. The next step would be the study of stone production of the following late neolithic Sopot Culture, distributed in the same area and having roots in previous Starčevo Culture. It would be interesting to see if the situation had changed and to what extent.

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GLAČANE KAMENE IZRAĐEVINE NEOLITIČKE STARČEVAČKE KULTURE U SJEVERNOJ HRVATSKOJ

Ključne riječi: glačane kamene izrađevine, starčevačka kultura, neolitik, sjeverna Hrvatska

Glavni cilj međunarodnog projekta IGCP/UNESCO No. 442 jest proučavanje sirovina od kojih je izrađeno neolitičko i eneolitičko kameno oruđe i oružje. Na području sjeverne Hrvatske odlučili smo krenuti s proučavanjem kamenih izrađevina dviju glavnih neolitičkih kultura, starčevačke i sopotske. Riječ je o jugozapadnom rubu panonske nizine, najplodnijem području i stoga najgušće naseljenom kako danas tako i u prapovijesnim vremenima. Idealan je to životni okoliš za prve neolitičke zajednice i njihovo gospodarstvo utemeljeno u poljodjelstvu i uzgoju stoke. Starčevačka je kultura do danas na području sjeverne Hrvatske potvrđena na više od 60 lokaliteta, mahom trajnih naselja smještenih na povišenim riječnim obalama ili na prirodnim uzvišenjima pokraj potoka ili močvara u međuriječju Save i Drave (Minichreiter 1997). Izvanredni prirodni uvjeti rezultirali su gustom naseljenošću tijekom ranog i srednjeg neolitika, pa stoga i brojnim arheološkim tragovima. Starčevačka je kultura često proučavana iz raznih aspekata svoga života, ali je njezina kamena proizvodnja nekako uvijek bila zanemarena, iako se nova tehnologija obrade kamena i proizvodnje kamenih izrađevina ističe kao jedno od bitnih obilježja neolitika. U monografiji posvećenoj starčevačkoj kulturi u sjev. Hrvatskoj K. Minichreiter tek usput ističe kako su u okviru kulture brojne kamene izrađevine, posebice u ranoj i klasičnoj fazi, ali da njihov udio opada u kasnijim fazama (Minichreiter 1992 : 50). Smatra to logičnim s obzirom da je kasna faza najudaljenija od mezolitičke osnove za koju drži da je imala presudnu ulogu u litičkoj produkciji rane starčevačke kulture. No tu tvrdnju možemo vezati uz cijepanu litiku, koja je u Zadubravlju prisutna s preko 5 tisuća primjeraka. Glačane se pak kamene izrađevine ne spominju posebno iako je prisutnost kalupastih klinova, plosnatih sjekira i dljeta odavno posvjedočena u svim područjima rasprostiranja starčevačke kulture (Dimitrijević 1979 : 254, Garašanin 1979 : 123, Benac 1979 : 377, Kalicz 1990 : 99). U starčevačkom naselju u Vinkovcima Dimitrijević bilježi plosnate sjekire i kalupaste klinove (Dimitrijević 1979 : 254), zapažajući da je većina njih izrađena od laganog materijala – svijetložučkastog kamena ili pješčenjaka. Nakon pregleda svih dostupnih kamenih izrađevina s nekoliko starčevačkih naselja, kao što su Vinkovci-Hotel, Zadubravlje, Slavonski Brod-Galovo, Pepelana, odlučili smo nešto više pozornosti posvetiti upravo glačanoj kamenoj produkciji. Ponajprije ćemo se usredotočiti na glačane kamene sjekire i srodna oruđa iako i različiti žrvnjevi, satirači, drobilice i slično, također zahtijevaju određeni stupanj poznavanja tehnologije glačanja kamena. Na spomenutim se lokalitetima zapažaju tri glavna tipa glačanih alatki: kalupasti klinovi ili sjekire, plosnate sjekire i dljeta. Kalupaste klinove još uvijek neki autori smatraju poljodjelskim alatkama (Jurić et alii 2001). Ali već i površna petrografska analiza pokazuje da su mnogi od njih načinjeni od pješčenjaka ili silta i stoga nisu mogli služiti kao oruđe za kopanje zemlje. No mogli su imati svoju ulogu upravo u obradi i glačanju drugih vrsta kamena ili kao oruđa za glačanje i poliranje keramičkog posuda. Dakle, temeljita petrografska

analiza kamenih izrađevina postaje nužnost ne samo zato da bi se riješilo pitanje njihove funkcije nego da bi se otkrili mogući izvori sirovina i putovi njezina kruženja među starčevačkim naseljima. Najčešća je pretpostavka kako su se najbliža ležišta kamena nalazila u planinama sjeverne Bosne, no ima i drugih mogućnosti. Kao prvo treba imati na pameti da je dobar dio artefakata izrađen od riječnih oblutaka, a većina sjevernobosanskih rijeka pritoke su Save, glavne gospodarske i kulturne arterije spomenute regije. Nadalje, neka od spomenutih starčevačkih naselja smještena su na najnižim obroncima Dilj gore i Požeške gore. A upravo te gore mogu i vrlo vjerojatno jesu izvor sirovine.

Za analizu glačanih kamenih izrađevina izabrana su starčevačka naselja u Vinkovcima, Slavonskom Brodu-Galovu i Zadubravlju jer su ona zadovoljavajuće istraživana pa kamene izrađevine imaju neophodan arheološki kontekst. Možemo, dakle, biti sigurni da su izrađeni upravo od te specifične neolitičke zajednice koju nazivamo starčevačkom kulturom. Za velik dio izrađevina znamo točan položaj u okviru naselja te njihov odnos spram različitih nasebinskih objekata i/ili drugih artefakata. U tom je smislu najzanimljiviji lokalitet Galovo u Slavonskom Brodu gdje su sustavna arheološka iskopavanja još uvijek u tijeku (Minichreiter 1999). Na dosad istraženju površini otkriveno je četrdesetak glačanih kamenih sjekira, doduše veći dio njih oštećenih ili samo u ulomcima. Sedamnaest je sjekira, odnosno klinova pronađeno u kontekstu dviju ukopnih jama. Pet od njih bilo je odloženo uz ulazni dio jame u kojoj se nalazio kostur u zgrčenom položaju. K. Minichreiter, voditeljica istraživanja, pretpostavlja “mogućnost ritualnog odlaganja kamenih sjekira tijekom posjete umrlomu” (Minichreiter 1999). Sličnu je situaciju uočio A. Benac na lokalitetu Obre I u Srednjoj Bosni (Benac 1973). Riječ je o lokalitetu gdje se miješaju starčevačka kultura i kultura jadranske impreso keramike. Najranija faza naselja izuzetno je siromašna kamenim izrađevinama no već se u sljedećoj fazi, koja još uvijek pripada istom kulturnom kontekstu, situacija bitno mijenja. Na širem području groba broj 8 otkriveno je 6 kamenih sjekira, 5 u tipu kalupastog klina i jedna plosnata, gotovo pravokutnog oblika. Benac je pretpostavljao da sjekire pripadaju grobnom kontekstu i shodno tome imaju ritualno značenje. To je još upečatljivije u butmirskoj kulturi na obližnjem lokalitetu Obre II (Benac 1971). Stoga je zaključio da kult sjekire, otprije dobro poznat u okvirima butmirske kulture, podrijetlo vuče još iz starčevačke kulture. Na žalost u spomenutim Benčevim objavama nema potpunijih podataka o sirovinskom materijalu od kojega su sjekire izrađene – spominje se samo neka vrsta sivkastog kamena.

Na lokalitetu Zadubravlje, 17 km istočno od Slavonskog Broda, pronađeno je dvadesetak kamenih sjekira, također uglavnom oštećenih i fragmentiranih i većinom kalupastog tipa. Osim dvije iznimke sve su izrađene od silta, sedimentne stijene uočene u neogenskim sedimentima Dilj gore (Šimunić et alii 1973). Po nekim autorima (Jurić et alii 2001) upravo bi taj lokalitet trebao dokazati uporabu kamenih sjekira kao poljodjelskog oruđa. No toj pretpostavci proturiječi činjenica da je nađen relativno mali broj spomenutih sjekira i da su načinjene od sasvim neprikladne vrste kamena.

Nakon preliminarnog proučavanja glačanih kamenih izradevina možemo zaključiti da je takva produkcija postojala u okvirima starčevačke kulture, ali samo u ograničenim razmjerima, nemajući većeg utjecaja na gospodarstvo

spomenute populacije. Sirovinski materijal, koji se rabio, mahom je autohtonog podrijetla, potječe iz najbližih mogućih izvora ili je donešen u obliku riječnih valutica. Iskorištavanja udaljenih ležišta i trgovina na daleke rute nisu uobičajeni.