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HORIZONTAL AND VERTICAL COMMUNICATION AXIS IN THE MIDDLE AND LATE ENEOLITHIC[1]

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Introduction

Southeastern Europe with Central Balkans as its core area includes diverse geographic end cultural regions whose level of economic, commercial and socio-cultural integration in Eneolithic cultural milieu varied depending on many cultural and geographical distinctness. The favor of river courses for communication and moving of people, goods and ideas was recognized even since Epipaleolthic, Mesolithic and early Neolithic. Courses of big rivers such as Danube, Tisza, Velika Morava, Vardar, Sava, Drava, and Mures remained main communication routes up to present. It should be mentioned that even smaller river courses like Kolubara and Drina in western Serbia and eastern Bosnia, Bosna, Una and Neretva in nowadays Bosnia and Croatia, Nera, Olt, Arges and Jigul in Serbia and Romania had a great significance for communication both on micro and macro regional scale. Also, owing to the knowledge of seafaring and open water navigation even since early Neolithic, bearers of Starčevo and Cardium impresso cultures traveled, communicated, traded and exchanged goods and ideas within whole area of Adriatic Sea (Forenbaher - Kaiser 1997, 15-28; Idem 2005, 7-25; Malone 2003, 235-312).

As opposed to relatively slow and inert moving in Neolithic a sudden change or to say an improvement occurred during the middle and late Eneolithic period by introducing the domesticated horse, wheeled wagons and drought animals in communication and transmition of people, ideas and goods. Further impacts of those innovations are reflected in tighter connection, far trade and cultural relations of distant geo-cultural regions and groups, but also in seasonal moving, migrations, wars and conquer (Anthony 1986, 291-313).

Therefore, the central theoretical background in discussing the communications in Eneolithic of South-eastern Europe is the Sherratt's hypothesis of *Secondary Products Revolution* which suggests almost simultaneous introduction of domestic livestock usage for milk, wool, riding, traction and pack transport (Sherratt 1981, 261-305; Idem 1983, 91-97). Living aside the fact that the first evidence for wheeled wagons and animal traction in Central and South-eastern Europe could indirectly be dated to classical phase of Baden culture (Banner 1956, Taf. CXX; Foltiny 1958, 53-58, Fig. 3-6), fixing the upper chronological limit of *Secondary Products Revolution* is rather questionable. Lipid analysis showed that the first use of milk should be dated to the late Eneolithic Boleraz culture, while the same analysis showed that none of the middle Eneolithic *Milktopf* vessels contained traces of lipids (Craig *et alii* 2003, 261-262, Fig. 2)[2]. Although there are some evidences that bones of domestic horse appear exceptionally in graves of early Eneolithic Tiszapolgar culture (Sherratt 1983, 92), the appearance of domestic horse and its use in everyday and ritual activities of population in Central and South-eastern Europe is also dated in late Eneolithic Boleraz culture, which is testified by numerous osteological finds from necropolis of this period (Banner 1956, 147-150, Taf. XLIII-XLV). All other mentioned innovations from the package of *Secondary Products Revolution* could also be dated to the same time horizon, keeping in mind that late Eneolithic is to be considered just as a real *terminus post quem* since there are already strong evidences for shifting the upper limits (Evershead *et alii* 2002, 73-96; Sherratt 2002, 61-71; Craig 2002, 102-104).

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[2] In addition to lipids and milk protein analysis, milking and traction could be studied by zooarcheological analysis on animal bones (cf. Sherratt 1983, 94; Greenfield *et alii* 1988, 574-576; Halstead , 19dp, 157).

Another important issue for discussing communications in Eneolithic of Southeastern Europe is so called *Economic stress and material culture patterning* thesis (Hodder 1979, 446-454; Idem 1986, 2, 128-138; Kimes *et alii* 1982, 113-132) which imposes that homogeneity and similarity in material culture over vast geographic area, as it is the case with distribution of lobate vessels and Bratislava type bowls, could indicate much more then just a mere fact that interaction between groups increased. Presuming the fact that such contacts must have occurred, we could concentrate more on inquiry about the nature of that contacts, socio-cultural and economic biographies of them. By studying the nature of contacts between eneolithic groups sharing the same stylistic expression, which in our case is displayed in lobate vessels and Bratislava type vessels, we will see that similarity and circulation of material culture is strongly connected with trade, competition over resources, migrations, gift exchange, wars and raids.

The first part of paper presents catalogue of finds of lobate vessels and Bratislava type bowls from Serbian territory. Distribution, and mechanisms of distribution of studied vessels, their relation with increased communication, and their chronological position in Eneolithic of South-eastern Europe are to be considered in addition.

Lobate vesseles from serbian territory

Prigrevica

The site is situated on a small Danube terrace, in vicinity of Belgrade. It has a marked horizontal stratigraphy with Salkuţa III-IV and Baden cultural layers. Lobate vessel is a stray find (Гарашанин 1949, 78-86; Idem 1950, 106-112, сл. 1), it's made out of nicely refined local clay, tempered with small grained quartz sand. Lavishly applied lenticular knobs below the rim and at the edges of vessel are one of the best examples of this ornamental technique. The vessel is well fired, in oxidizing conditions, after firing it was burnished and decorated with white painting, which is peeling of.

Rospi Ćuprija

The site is situated on a gentle Danube slope in Belgrade, and it is well known owing to exhaustively explored Bronze and Iron Age necropolis. It has a marked horizontal stratigraphy, with Tiszapolgar, Bodrogkeresztur, Salkuţa IV and Baden cultural layers (Тодоровић 1956, 27-62; Tasić 1979, 69). To finds of lobate vessel were recovered during 1953. excavations, form a mixed Bodrogkeresztur- Salkuţa IV cultural layer, both are made out of nicely refined local clay tempered with small grained sillicious sand and crushed river shells, fired in controlled reduced conditions. First one is supported on four small feet, and it has a small knob like applications on each lobe and a pair of *Scheibenhenkel* handles. The second one is modelled on a flat bottom, with unprofiled rim with a row of linear incisions. Rectangular vessels from Rospi Ćuprija are the only examples from Serbia which have a pair of *Scheibenhenkel* handles.

Višesava

The site is located about 7 km southeastern from Bajina Bašta in western Serbia. It is a hill fort type settlement with marked horizontal stratigraphy, with Bodrogkeresztur B, Salkuţa IV- *Scheibenhenke* and Baden cultural layers (Zotović 1963, 18-20; Idem 1985, T. III/1, 2, 5, 6, 9, 10). The example of lobate vessel from Višesava is made out of nicely refined clay, tempered with crushed river shells. It is fired in controlled reduced conditions and it is supported on four small feet. Along the edges it is decorated with plastic applied ribs with slanting incisions, and a small knoblike application is placed on each lobe.

Zlotska pećina

The site is located in the vicinity of Majdanpek, in Iron Gorge hinterland. It is the only cave settlements with this type of find from Serbia. Zlotska pećina has a marked vertical stratigraphy with Bubanj Hum-Salkuţa II-III, Salkuţa IV- *Scheibenhenkel*, Kostolac-Coţofeni and Early Iron Age cultural levels. The find of lobate vessel is from Salkuţa IV layer. It is made of nicely refined clay, tempered with large amounts of inorganic inclusions and crushed river shells, fired in oxidizing conditions. It has four volute-like handles modelled out of lobes, and four square applications on each edge.

Bratislava type bowls from serbian territory

Gladnice

The site is located on a small river terrace, in the vicinity of Priština, the capital of Serbian county Kosovo and Metohija. It has a marked

vertical stratigraphy with Starčevo, Boleraz – Černavoda III, Baden, Kostolac and Early Bronze Age cultural layers. Bratislava type bowl was recovered from a Boleraz – Černavoda III refuse pit (Глишић 1961, T. I/2-3; Тасић 1998, Кат. 110), it is made out of refined clay, tempered with crushed shells and fired in incomplete oxidizing conditions. Vessel is decorated according to, what looks like, a well known an accepted canon. Alternation of small and big incised spiral covers almost the whole surface of the outer part of bowl, while the interior is ornamented with net like incise motive.

Gradina na Bosutu

The site is located on the Bosut river terrace, in the vicinity of Šid. It has a marked vertical stratigraphy with Sopot-Lengyel III, Lasinja-Balaton I, Boleraz-Černavoda III, Bronze Age and Iron Age cultural levels (Tasić 1986, 51-56; Idem 2001, 342-358; Spasić 2007, 56, T. XXIII/1-4). Two fragmented Bratislava type bowls were recovered from homogeneous Boleraz-Černavoda III cultural layer. Both examples are made out of local, refined clay, tempered with crushed shells and silicious sand, fired in oxidizing conditions. The finds are decorated in the same manner, incised spirals on outer side and net like motive on inner side. The only difference between the Bosut examples is in morphology of the first vessel which has horizontally cut rim that is decorated with single row of incised on-going lozenges.

Jaričište 1

The site is located on a small river terrace, in western Serbia. It has a marked horizontal stratigraphy with Starčevo, Boleraz-Černavoda III, Baden, Bubanj Hum III cultural layers. During the 2007 rescue excavations on the site, 8 heavily fragmented Bratislava type bowls were recovered in secure Boleraz-Černavoda III level. Although not a single vessel could be fully reconstructed, this is an exceptional number of finds, which is not comparable with any other site in Central and Southeastern Europe. Technological aspects of Bratislava type bowls from Jaričište 1 are various. Each example is made out of nicely refined, local clay, tempered with silicious sand, mica and crushed shells. Very often vessels are tempered with big amount of different inorganic material, crushed into big particles which could be larger then 5 mm in diameter. Decoration is canonized, outer surfaces bears incised spirals, concentric circles, punctuated dots and triangles, inner surface, as in case of all other vessels of this type, has incised net like composition. Two find have horizontally cut rim, decorated as is one of examples from Gradina na Bosutu. Rescue excavation at the site is still in progress.

Kovin-Brza Vrba

The site is located on Danube river terrace, in Iron Gorge. It is a single layer site with Boleraz-Černavoda III occupational horizon. Bratislava type bowl was recovered from a pit, it is fully reconstructed, and now is kept in City Museum of Vršac (Медовић 1976, 5-18; Tasić 1995, Pl. XIV/1; Uzelac 2002, 21-22, T. 49/2). Vessel is made out of refined clay tempered with crashed sand and fired in oxidizing conditions. Its outer surface is decorated with incised concentric circles in alternation with multiple triangular lines, its inner surface has incised net like motive.

Masinske Njive

The site located on a small river terrace, in western Serbia, about one kilometre from Jaričište 1. It has a marked horizontal stratigraphy with Starčevo, Vinča, Boleraz-Černavoda III and Baden cultural layers. One Bratislava type bowl was discovered during the 2006. rescue excavation in a pit dated to Early Baden culture. Vessel is made out of refined, local clay tempered small grained sillicious sand and fired in oxidizing conditions. Outer surface of the bowl is decorated with incised concentric circles enchased with a single row of punctuated dots, incised net like motive is on inner surface. Horizontally cut rim is ornamented with incised zigzag lines.

Vršac-Kanal Mesić

The site is of an open type of settlements, located in immediate vicinity of Vršac. It is a multilayered site with Tiszapolgar and Boleraz-Černavoda III cultural layers. One fragment of Bratislava type bowl was recovered in the course of systematic reconnaissance (Uzelac 2002, 41-42, T. 24/6). Vessel is made out of refined clay tempered with large amount of crushed shells and fired in reducing conditions. Outer surface of the bowl is decorated with incised spirals, while inner one has a net like motive.

Vršac-Kozluk

The site is of an open type of settlements, located in immediate vicinity of Vršac. It is a multilayered site with cultural layers from Paleolithic to Hallsttat. One fragment of Bratislava type bowl was recovered in the course of systematic reconnaissance (Uzelac 2002, 42, T. 25/2). Vessel is made out of refined clay tempered with large amount of crushed shells and fired in oxidizing conditions. An outer surface of the bowl is decorated with deeply incised spirals, while inner one has a net like motive.

Distribution patterns of lobate vesseles and horizontal communication axis in middle eneolithic

About ten more rectangular and lobate vessels are evidenced in the neighboring territory. The easternmost find of lobate vessel is the example from Cucuteni AB settlement Calu-Piatra Soimului in Romanian Moldova (Monah 1998; Makkay 2005, 205, Abb. 1/5). The most intriguing fact about the lobate vessel from Calu is its decorative aspect, since the morphology of the find does not contrast the outlined typological patterns. Oblique rows of white painted meanders cover the whole outer surface of the vessel, which is an exceptional decorative manner, both in the aspect of the used technique and ornamental composition. The employment of various ornamental techniques, motives and composition on, in essence the same morphological type of vessel, over a vast territory, in fact isn't surprising. This is especially true considering Eneolithic pottery manufacture in much of the Central and Southeastern Europe. Ever since Sopot-Lengyel III and Vinča D horizons there is an obvious restrain towards the painted pottery decoration, against which as an only oppositional match stands out exceptionally painted pottery of the Petreşti, Cucuteni and Kodjadermen-Gumelniţa-Karanovo VI cultures (Spasić 2007, 78).

Rectangular and lobate vessels are also found in Cucuteni settlement Traian-Dealul Fantanilor in Moldova (Monah 1998), one example is known from a Salkuţa IV cave settlements in Cheile Turzii (Luca 1999, 129, Fig. 35/1), Romaneşti and Baile Herculane-Peştera Hoţilor (Petrescu 2000, 204-206, Pl. LVII/3, LIX/5, 6) in Romanian Banat. Rectangular and lobate vessels from Romanian Banat are dated to so called Baile Herculane-Cheile Turzii *torţile pastile* horizon (Roman 1971, 33; Petrescu 2000, 53-56), which is synchronized with Vajska-Hunyadihalom culture. The northernmost finds of here discussed lobate vessels are examples from Middle Eneolithic necropolis Tiszalúc-Sarkad in Hungary dated to the Vajska-Hunyadihalom culture of the *Scheibenhenkel* horizon (Patay 1995, 107–115; Idem 2004, 63-79). Both vessels are of a simple, reduced form, still, one of them is an unique example being the only double-binnacle form. A heavily fragmented find was recovered from Paszab-Zádó, a Bodrogkeresztur site in eastern Hungary (Patay 1961, 66-68, T. XXVI/11), whose chronological attribution should be accepted with caution since scarcely published material isn't of any chronological value (Patay 1961, T.XXVI/10-14).

The find of rectangular vessel from Bodrogkeresztur grave in Basatanya necropolis, in Eastern Hungary (Bognar-Kutzian 1969, 188-190, CIV/8, CXXXII/12) bears close typological resemblance to here discussed type of vessel, is in fact an earlier manifestation, or a reminiscence of similar Tiszapolgar and Bodrogkeresztur rectangular vessels which are known from Tiszaug Kisretpart, Derecske-Bikasdulo (Bognar-Kutzian 1972, 133, Fig. 25/O, Pl. XV/10) and Bosrogkeresztur (Patay 1961, 6-18, T. II/9) in Hungary, Pecica-Forgaci and Ciumeşti (Luca 1999, Fig. 11/6, 29/3) in Romania and from Omoljica site near Pančevo in Serbia (Uzelac 2002, T. 13/4). In this group of finds, an important place has a vessel of different morphological type, decorated with lenticular knobs, so typical for rectangular and lobate forms. This find was recovered from Reci site in Eastern Transylvania (Luca 1999, 53, Fig. 31/3) which is the easternmost site with Bodrogkeresztur cultural influences in classical Cucuteni-Ariusd cultural area. Therefore the site of Reci has outstanding significance for the study of Middle Eneolithic communications and chronology.

Communications between Dobrudja, Moldova and Transylvania in East and Romanian Banat and Vojvodina on West were developed alongside major river course such as the Danube, Maros, Tisza and their tributaries (Olt, Jigul and Arges in South, Seret and Bistriţa in North). In fact, the courses of the Danube, Maros and Tisza are the most important part of horizontal communicational axis, its eastern half, its beginning and its end. Therefore, it is possible to distinguish three

main communicational routes in Eastern part of horizontal communicational axis:

1. *The Danube transversal* connected Dobruja and gravitating regions around the Seret, Prut and Dniester rivers in North with Muntenia, Oltenia, Banat and Vojvodina with close geo-cultural areas around courses of the Jigul, Olt and Arges rivers.

2. *The Maros transversal* is the central communicational route of the eastern part of horizontal communicational axis which joined Moldova and Transylvania with Crisana, Banat and Vojvodina. Some of the northern regions of Muntenia and Oltenia are also gravitating towards this transversal.

3. *The Tisza-Bistrita transversal* is the northernmost communicational route of the eastern part of horizontal communicational axis which connected northern Moldova, Transylvania, Bucovina and Maramures with Crisana and eastern Hungary. River courses of Prut, Seret and Cris have an important role for communication alongside the Tisza-Bistrita transversal.

All of the outlined transversals have very good connection with western hemisphere of the horizontal communicational axis which was developed alongside the river courses of Danube, Sava and Drava. Here presented routes and paths of horizontal communicational axis are the most passable and mostly used ways for circulation of people, goods and ideas among the Middle Eneolithic communities of the East and West, Steppes and Balkans, Eastern and Central Europe. Contacts among various cultural groups along horizontal communicational axis in Southeastern Europe are ongoing ever since Early Neolithic.[3] The most vivid communication along the horizontal axis is developing during the Middle and Late Eneolithic period and, as it was mentioned, it is in strong relationship with Secondary Products Revolution, that is with domestication of equides and first use traction wagons. Upper chronological limit of those contacts is the Middle Eneolithic Bodrogkeresztur culture whose bearers clear the paths horizontal communicational axis. Evolution of Bodrogkeresztur culture marked the development of Middle Eneolithic in Southeastern Slovakia, Eastern Hungaria, Northern Serbia and Romanian Banat is synchronous with Lasinja-Balaton culture in Eastern Austria, Slovenia, Northern Croatia and Serbia, and Hungarian Transdanubia, Ludanice culture in Slovakia, Petreşti B in Transylvania, Cucuteni AB in Transylvania, Moldova and Ukraina, and various cultural manifestations of Bubanj Hum-Salkuţa-Krivodol cultural complex in Eastern and Western Serbia, Western Romania, Northwestern Bulgaria, Northern Macedonia and Albania. On the territory of Central and Southern Europe this period is designated by evolution of Jordanow/Jordanshmul, Münchshöfen II, Bisamberg, Oberpulledorf, Rachmani and Agora-Kephala cultures (Spasić 2007, 95).

Distribution of rectangular and lobate vessels is associated with the beginning of disintegration of this big cultural horizon of Central and Southeastern Europe and it is limited on the Eastern half of horizontal communicational axis inhabited by the bearers of Bodrogkeresztur B, Vajska-Hunyadihalom, Salkuţa IV and Cucuteni AB cultures. Still, it is impossible to discuss the circulation patterns of the rectangular and lobate vessels without consideration of socio-cultural and economic evolution of the preceding period. The cultural horizon of initial Middle Eneolithic in central and Southeastern Europe is marked with vast morphological homogeneity in pottery production. The leading types of vessels which occur in the whole of mentioned area include biconic cups, beakers and kantharoi with two lateral stripe handles, conical bowls with everted rim and *Milktopf* type vessels. On the other hand, it looks like the ornamental techniques and compositions on pottery are in stronger relationship with micro-local and autochthonous traditions (Spasić 2007, 94).

The Middle Eneolithic horizon in Southeastern Europe is also marked with the first significant Steppe elements in material culture of Central Balkan population, such as stone scepters (Govedarica 2004; Idem 2006, 415-433), corded pottery (Гарашанин 1973, 280-281; Čović 1989-1990, 51-61) and long flint knives (Garašanin 1954, 225-238; Idem 1973, 222; Luca 1999, 30-31, Fig. 33/1-6). All

[3] Circulation of people, goods and ideas along the horizontal communicational axis during the Neolithic period was mostly discussed in the light of Neolithization process in Early Neolithic and the so called *gradient migration* thesis of Balkan-Anadolian complex in Late Neolithic (cf. Jovanović 1972, 12-14; Гарашанин 1973, 114-126).

mentioned material culture elements are of the clear Steppe origin and they appearance is associated with Bodrogkeresztur and Bubanj Hum-Salkuța-Krivodol settlements necropolis. Corded decorated pottery and stone scepters came in use during the Middle Eneolithic period, undoubtedly as an (in)direct eastern influence. On the other side, late Vinča flint industry is typified with tendency towards relatively large sized flint blades (Kaczanovska-Kozlowski 1990: 45; Богосављевић-Петровић 2001:139), also bigger knives are known since Tiszapolgar culture necropolis in Kisvarda and Deszk B (Bognar-Kutzian 1972, 137, Pl. XXXIII/3-5, XXXIV/7-9). Although there are some evidences for local development of large flint knifes, the steppe origin of the Kladovo and Decea Muresului finds is indisputable.

Distribution of all mentioned elements of material culture is limited on Central and Eastern Balkan regions, that is on Eastern part of my horizontal communicational axis, while the Westernmost Steppe find is a cord decorated vessel from Gudnja cave on Pelješac isle which was recovered from Gudnja V level which is synchronous with Bubanj Hum-Salkuța-Krivodol cultural complex (Čović 1989-1990, 51). Considering all above mentioned an imposing conclusion is that the most intensive and the most vivid contacts alongside the horizontal communicational axis were developed among the bearers of Bodrogkeresztur and Bubanj Hum-Salkuța-Krivodol cultures of Eastern Hungary, Eastern and Southern Serbia, Northern Albania and Macedonia, Northeastern Bulgaria, Banat, Crisana, Mehedinti, Oltenia and Moldova on one side, and bearers of Cucuteni, Cernavoda I, Kodjadermen-Gumelnița-Karanovo VI cultures in Transylvania, Moldova, Dobrudja, lower Danube area and Circumpontic regions of Bulgaria, Romania and Southern Russian and Ukrainian Steppes on the other side.

Circulation patterns of rectangular and lobate vessels should be considered in the light of achieved contacts among the bearers of all mentioned cultures. All three transversals of Eastern half of horizontal communicational axes are spreading across the territory of nowadays Romania so it isn't surprising that the vividness of those contacts and distribution of people, goods and ideas is to be sought best here. Although the find of lobate vessel from Calu-Piatra Soimului in some sense differs from observed stylistically patterns, in fact it is local adaptation, in which the form of vessel is fully adopted, while painted decoration bares a true Cucutenian stylistic expression. It is the decorative aspect of the Calu find through which the foreign form of vessel was accepted, that is, in this case, the acceptance is an act of modification which is performed through the adaptation and transformation of lobate vessel decoration to Cucutenian art symbolism. Also, Piatra Soimului lays on the Tisza-Bistrita transversal, therefore the exceptional morphological similarity with the find from Vajska-Hunyadihalom necropolis in Tiszalúc-Sarkad isn't surprising (Makkay 2005, 205).

Tiszapolgar and Bodrogkeresztur cultural influences were probably spread from Eastern Hungary to Salkuțan and Cucutenian cultural areas in Romanian Banat, Maramures, Crisana and Trasylvania through the paths of Tisza-Bistrita transversal. The appearance of Bodrogkeresztur material on the Cucuteni site of Reci in Transylvania clearly outlines the intensiveness of the mid Eneolithic contacts in Southeastern Europe and their far-reaching effects. The find of lobate vessel from Cheile Turzii near Cluj in Western Transylvania should also be considered in the light of the mentioned contacts along the Tisza-Bistrita or Maros transversal. Later on, during the Late Eneolithic and Early Bronze Age periods both first and second transversals were the main routes for the spread of Steppe population and their material culture to the West. This thesis is sufficiently confirmed by the vast appearance of Steppe tumuli in Eastern Hungary (Calico 1968; Eased 1979). However, considering the finds of stone scepters and long flint knifes of clear Steppe origin on the site of Decea Muresului in Western Transylvania (Govedarica 2006, 422-423, T. 2/1-3, T. 5/8; Luca 1999, Fig. 33/1-6), it is obvious that contacts between the Steppe population of Circumpontic area on the East and inhabitants of Balkans to the West have even deeper historical roots.[4] Decea Muresului lies on the second transversal of the horizontal communication axis which has a direct link with Eastern Hungary. Undoubtedly corresponding finds to Decea ones are to be found in tumuli from Csongrad-Ketoshalom and Kétegyháza in

[4] Acknowledging and bearing in mind the fact that Decea finds are to be dated in very early period of Bodrogkeresztur culture, the only one published calibrated date for Decea Muresului, 4237 BC (Luca 1999, 48), still seems to be a measurement deviation, because the earliest dates for Bodrogkeresztur culture in Hungary fall of around 4000 BC (cf. Parkinson 1999, 145-146).

Eastern Hungary (Ecsedy 1979, 11-13, 26-27, Fig. 2, Pl. 7-9).

The finds of lobate vessels from Românești and Baile Herculane are gravitating towards the First-Danube transversal which clearly outlines the live contacts in the Iron Gorge and its hinterland on the both sides of the Danube. The find of lobate vessel from Zlotska pećina, Rospi Ćuprija, Prigrevica, Višesava and hoard of flint knifes from Kladovo should be considered in the light of those contacts also. Earlier mentioned homogeneity of material culture during the Middle Eneolithic in Central and Southeastern Europe is achieved through the contacts of Salkuțan, Bodrogkeresztur and Lasinja-Balaton population along the Danube transversal. As a result of those vivid contacts typical material for all of the three cultures appears in the Vinkovci and Kalenić Livade settlements (Dimitrijević 1979, 35-78; Blagojević 2005, 31-79).

Distribution patterns of bratislava type bowls and vertical communication axis in late eneolithic

About ten more Bratislava type bowls are evidenced in Central and Southeastern Europe besides the finds from Serbian territory. The Northernmost ones are from the Slovakian sites of Bratislava and Jevišovice dated to the Boleraz culture (Nemejcova-Pavukova V., 1981, 261-296, Obr. 12/1-2). Both examples are folowing the morphological patterns of the type bowl, while the decorative composition with double incised and joined running spirals on Jevišovice find is unique. Considering the chronological relation of the Boleraz culture, V. Nemejcova-Pavukova outlined that origin of this type of bowl is to be sought outside the Carpathian Arc (Nemejcova-Pavukova 1981, 278).

There are two more Bratislava type bowls evidenced in Hungary. Both the find from Szekszárd and Kétegyháza bare all classical morphological and stylistic aspects of Brastislava type (Bondar 2001, Fig. 8; Ecsedy 1973, Fig. 14). The first one is found in a Boleraz culture settlement while the example from Kétegyháza are found in the Boleraz-Cernavoda III settlement, at the base of later pit-grave kurgan (Ecsedy 1979, 28-31, Pl. 13-16).

The westernmost find of Bratislava type bowl is the vessel from Boleraz- Cernavoda III settlement at Loznik in Eastern Bosnia and Hercegovina (Govedarica 2001, 358-368, Abb.4/1). Inner surface of the bowl is decorated with incised net-like composition, while the outer one is decorated with incised girlandoid composition. Exception from incised spiraloid decoration on the outer surfaces of the Bratislava type bowl from Loznik is an exclusive evidence for the stylistic modification of the accepted typological pattern.

Fragmented Bratislava type bowl from Radomir-Vakhovo (Aleksandrov 1995, Fig. 2:1-5) so far is the easternmost find of this type, while the examples from Ezero (Георгиев 1979, Obr. 182; Nemejcova-Pavukova 1981, Obr. 14/3) are wrongly associated with our type of vessel (Tasić 1995, 48) and are of later date.

The Southernmost finds of Bratislava type vessel are the examples from Late Chalcolithic/Early Bronze Age settlements Doliana and Petromagula in Greece (Maran 1997, 171-192; Idem 1998, 497-525; Douzougli - Zachos 2002, 111-143, Fig. 10/4-5, Fig. 11/1-2). Striking morphological and stylistic similarities with Greek finds and finds from Central Balkans and Carpathians led J. Maran to the same conclusion as V. Nemejcova-Pavukova has already drawn, that is that the origin of the Bratislava type bowls should be sought in Greece (Maran 1997, 177-179). The discussion about the origin of Bratislava type vessel overcomes the subject of the present paper, but it should be stressed that the main foundation for such J. Marans claim is the spiraliod decoration, which in fact has a good background in the Central Balkan mid Eneolithic Bodrogkeresztur and Lasinja-Balaton cultures (Luca 1999, Fig. 7/5, Fig. 8/7, Fig 11/6; Kalicz 1973, Abb. 2/4, Abb. 5/2; Težak-Gregl 1980-1981, Abb. 1, 5, 7). The presence of similar spiraloid decoration in Bodrogkeresztur and Lasinja-Balaton contexts isn't brought up here to confirm the local origin of the Bratislava type bowls, but rather to point out that presence or absence of certain decorative elements shouldn't be the argument for such a claim. The solution to the question of the origins of this exclusive type of vessel is currently out of reach. Instead, we should concentrate ourselves on the impacts and nature of the vast communications and contacts during that time period.

Communications between the Carpathians and Sub Carpathian areas, Transdanubia, Hungarian Alfold and Vojvodina in the North with Central Balkans, Thrace, Macedonia and Aegean region was also developed along major river courses such as the Danube, Tisza, Velika

Morava, Drina and Vardar. It is possible two outline two main communication routes of the northern half of vertical axis:

1. *The Danube axis* connected Slovakian Sub Carpathians and Hungarian Transdanubia on the North with Slavonia and Vojvodina on the South. Some Central European regions such as Bavaria, Bohemia, Moravia and East Austria also gravitated to the Danube axis for communication with south areas.

2. *The Tisza axis* connected the Eastern areas of the Romanian, Ukrainian and Hungarian Carpathian and Sub Carpathian regions on the North with Vojvodina, Romanian Banat and further on with Iron Gorge and Pontic area to the south and Southeast.

Both outlined communication axis have very good connections with South. The major one is the Velika Morava-Vardar route which was used ever since Early Neolithic for transmission of people, goods and ideas from the South to North and *vice versa*. Supposing this was the main way of movement of the bearers of Sesklo, Dimini, Starčevo Anzabegovo-Vršnik-Gura Baciului cultures. Creating and clearing this epic communication which will remain the basic the North-South road, the first Neolithic farmers spread the idea of agriculture from the Ageans, Macedonia and Thrace further to the north of Central Balkans. Later on, during the Late Eneolithic period Danube/Tisza-Velika Morava-Vardar communication persisted as the most important vertical communication axis. An alternative path led along the courses of Drina and Kolubara rivers, throughout the regions of Western Serbia and Eastern Bosnia. As it was stressed earlier, the intensification in circulation of people, goods and ideas during the Late Eneolithic period in Central and South-eastern Europe is in the closest connection with the Secondary Products Revolution, and domestication of equids, and the first traction wagons. Both innovations are of undoubtedly Late Eneolithic origin as it is testified on Boleraz and Baden sites (cf. Sherratt 1981, 261-305; Idem 1983, 90-104).

Distribution of the Late Eneolithic Bratislava type bowls is associated with continuation of homogenisation process of material culture which started in the previous period. Unification of pottery forms over the vast territory of the Central and South-eastern Europe coincides with the duration of the Boleraz-Cernavoda III cultural complex. Similar morphological and decorative patterns of pottery production, like conical or biconical cups and beakers with channelled decoration, conical or biconical *S* profiled and sinuous bowls, pseudotorded handles, channelling, plastic band application and incising as the leading ornamental patterns appear from the territory of Arbon Bleiche III, Horgen, Rossen, Schöningen and Salzmünde cultures of South Bavaria, East Switzerland and Austria, through the areas of Classical Boleraz culture in Eastern Slovakia, Transdanubia, Serbia, to the far South and East regions of Cernavoda III and Aegean Late Chalcholithic cultures (Spasić 2007, 96-106).

The homogeneity of material culture and vast distribution of Bratislava type bowls were achieved throughout the mentioned intensification of circulation of people, goods and ideas during the Late Eneolithic. Slovakian finds of Bratislava type bowls from Jevišovice and Bratislava lie on the first communication axis, their similarity with the examples from Masinske Njive in Western Serbia isn't surprising considering the fact that it is the Danube-Drina/Kolubara route along which Slovakian obsidian was imported to this site (Tripković B., Milić M., in prep). On the other hand, Bratislava type bowl and other recovered material from the site of Kétegyháza in Eastern Hungary which lies on the Tisza communication axis coincides with the mixed Boleraz and Cernavoda III morphological and decorative elements in pottery production of the settlement in Brza Vrba. On the basis of this data it could be imposed that along the Tisza River was some kind of mediating area between two great Late Eneolithic cultures.

Conclusion

Presented paper dealt with Middle and Late Eneolithic communications in the light of distribution of the rectangular, lobate vessels and Bratislava type bowls. It was outlined that the central reason for the contact intensification on a macro-scale was a Secondary Products Revolution, which eased the communication by introducing the domesticated equides and wagons in circulation of people, goods and ideas over the vast territory of Central and South-eastern Europe. Both types of vessels were distributed in the course of micro and macro scale migrations, wars and raids and through the acts of exchange, trade and acquisition of prestige and utilitarian goods such as gold, copper,

opsidian, ochre, *Spondylus* and *Glycymeris* shells, salt, flint... Homogeneity of the material culture during the both periods is also to be considered as a result of a growing economic stress caused by the competition over the natural resources and trade of prestige items. It is not to be forgotten that although there is a fair ground for a claim that vivid contacts developed between Aegean and Central Balkans trade with sea shells stopped and are to be renewed not until the Early Bronze Age (Tripković 2006, 99). The conclusion could be that the control over these prestigious items came under control of the local hierarchy that wasn't interested in shearing it with others. Also, in a much broader sense, the vast circulation of rectangular, lobate vessels and Bratislava type bowls should be considered as a willingness to join or to retreat from the current socio-cultural and economic milieu through the act of acceptance, rejection and negotiation both on micro and macro-scale.

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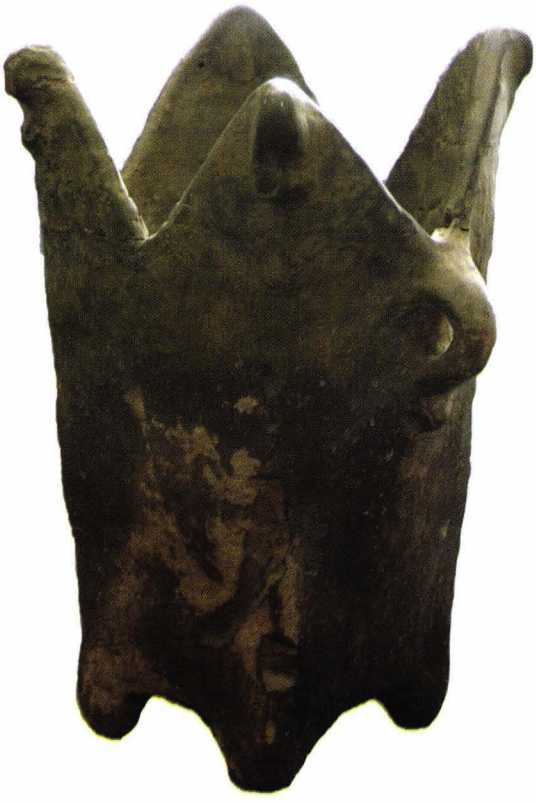
1.



2.

3.

4.

Plate 1. - Lobate Vessels.
1. Prigrevica; 2. Rospi Ćuprija; 3. Rospi Ćuprija; 4. Zlotska Pećina

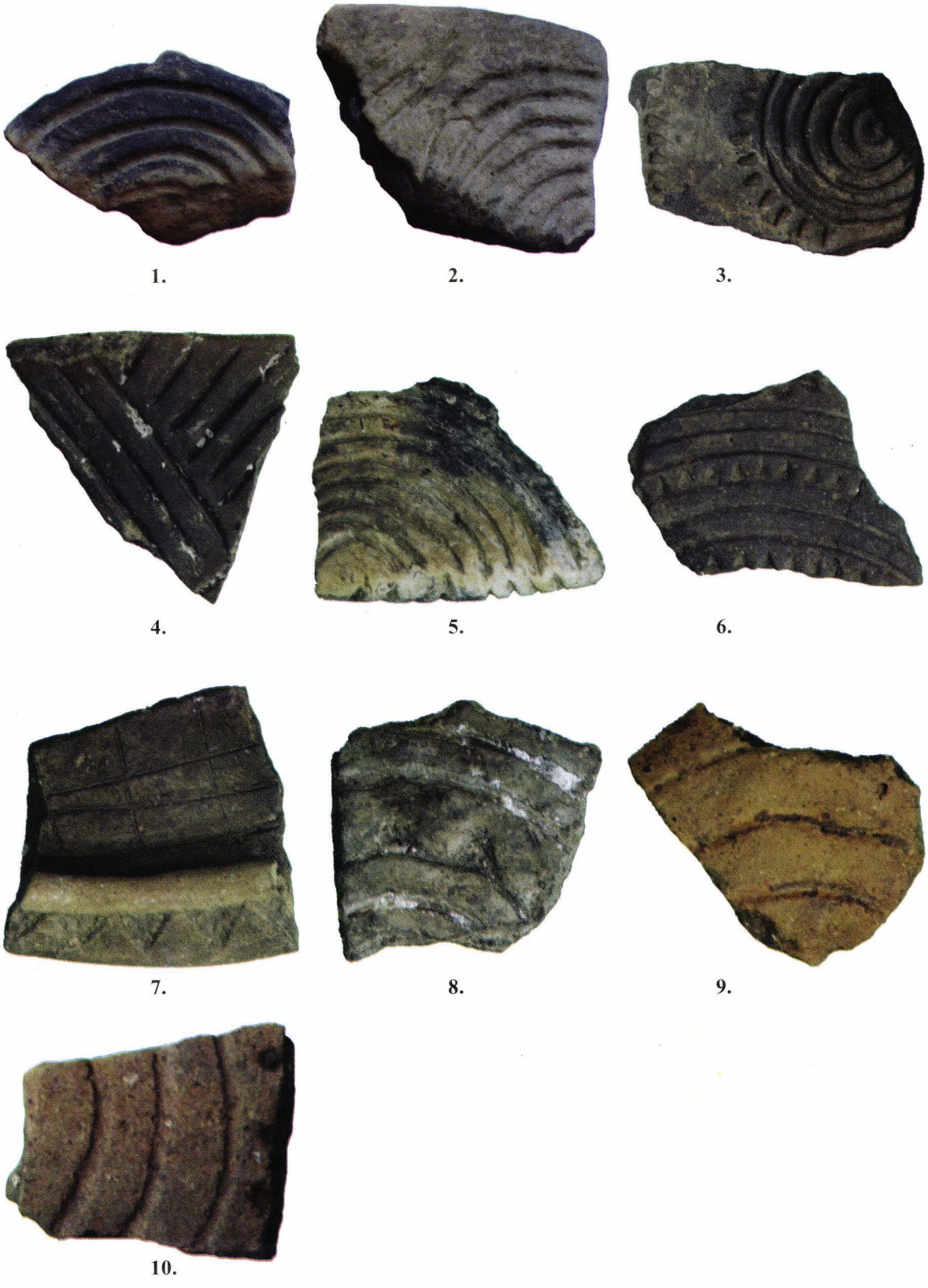


Plate 2. - Bratislava type bowls.
1-2. Gradina na Bosutu; 3-10. Jaričište 1.

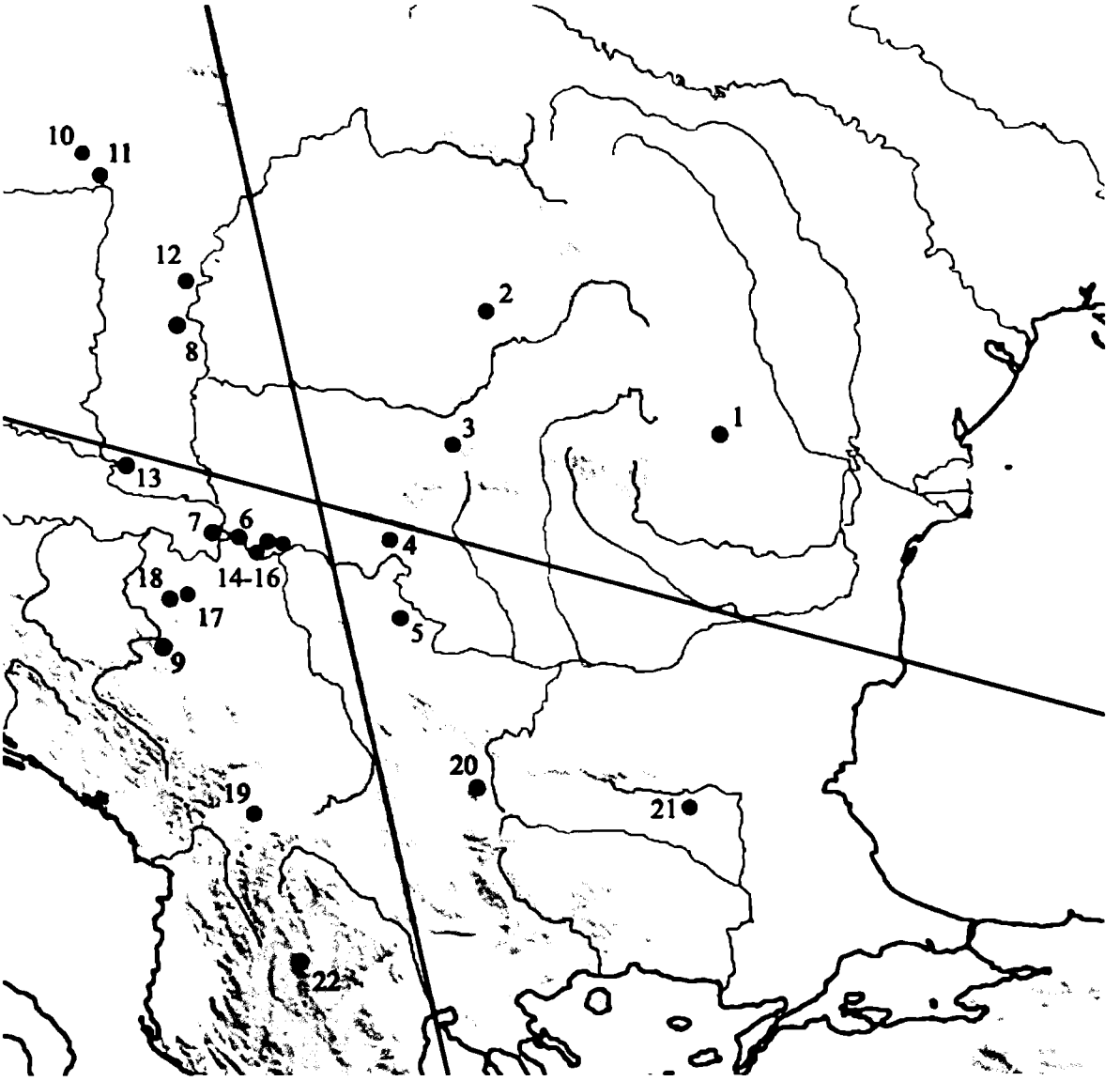


Plate 3. - Distribution of lobate vessels
(1-9) and Bratislava type bowls (10-21): 1-Calu Piatra Soimului; 2-Cheile Turzii; 3-Romanești; 4-Baile Herculane-Peștera Hoților; 5-Zlotska pećina; 6-Rospi Ćuprija; 7-Prigrevica; 8-Tiszalúc-Sarkad; 9-Višesava; 10-Bratislava; 11-Jevišovice; 12-Kétegyháza; 13-Gradina na Bosutu; 14-Kovin-Brza Vrba; 15-Vršac-Kozluk; 16-Vršac-Kanal Mesić; 17-Masinske Njive; 18-Jaričište 1; 19-Gladnice; 20-Radomir-Vakhovo; 21-Ezero; 22-Doliana.