

**THE INGUL-DONETS
EARLY BRONZE CIVILIZATION
AS SPRINGBOARD FOR TRANSMISSION
OF PONTIC CULTURAL PATTERNS
TO THE BALTIC DRAINAGE BASIN
3200 – 1750 BC**

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Editor's Foreword

In 2009, the 14th volume of *Baltic-Pontic Studies (BPS)* ran a series of papers summing up the state of research at that time into the routes between the Baltic and Black seas between the 4th and 1st mill. BC. They are an expression of an early reflection prompted by the need to look more closely at the impact Pontic cultural environments – where composite metallurgy was practised, designated as Early Bronze in this volume – had on the Decline Neolithic and Proto-Bronze settlement centres in the Baltic drainage basin. It is to this question that successive volumes of the *BPS* shall be devoted.

Specifically, according to the research programme aims mentioned above (initial fruits being the papers included in *BPS*, vol. 18) the environments of Northern Pontic cultures – Yamnaya, Catacomb and Babyno – and the Trzciniec cultural circle were identified as generators of the Ingul-Donets Early Bronze Civilization or their immediate neighbours. In proposing this modification of the gamut of phenomena making up the prologue to the European Bronze Age, we intend to suggest the need for a more integrated ('extra-taxonomic') and at the same time, territorially wide-ranging reading of Northern Pontic civilization environments and its cultural interaction in the period from the 3rd to the first half of the 2nd mill. BC.

More arguments in favour of the above opinion can be found in the introductory paper: *The Baltic Drainage Basin in the Reconstruction of the Mental Map of Central Europe Held in Common by Northern-Pontic Early-Bronze Civilization Communities; 3200 – 1600 BC, An outline of research programme.*

Editorial comment

1. All dates in the B-PS are calibrated [BC; see: Radiocarbon vol. 28, 1986, and the next volumes]. Deviations from this rule will be point out in notes [bc].
2. The names of the archaeological cultures and sites are standarized to the English literature on the subject (e.g. M. Gimbutas, J.P. Mallory). In the case of a new term, the author's original name has been retained.
3. The spelling of names of localities having the rank of administrative centres follows official, state, English language cartographic publications (e.g. *Ukraine, scale 1 : 2 000 000*, Kyiv: Mapa LTD, edition of 1996; *Rèspublika BELARUS', REVIEW-TOPOGRAPHIC MAP*, scale 1:1 000 000, Minsk: *BYELORUSSIAN CARTOGRAPHIC AN GEODETIC ENTERPISE*, edition 1993).

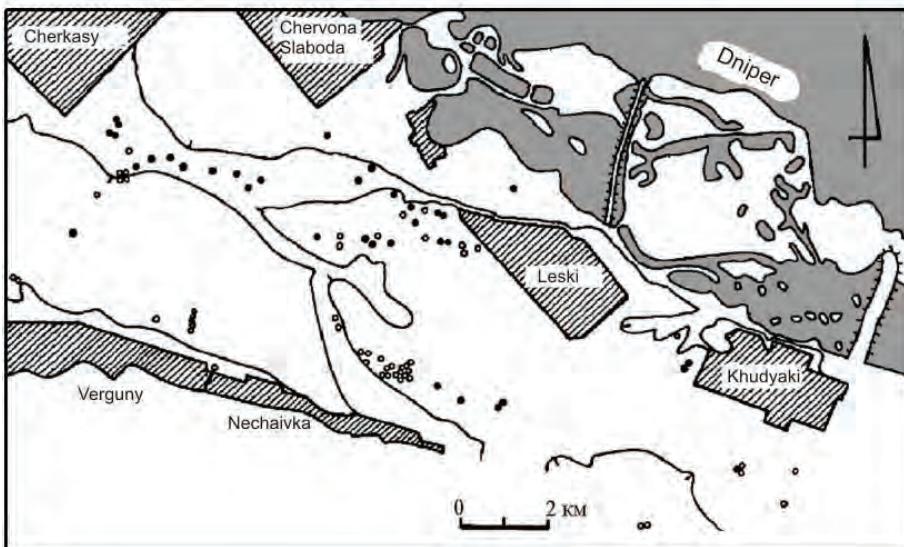
Przemysław Makarowicz, Jacek Górski, Sergey D. Lysenko

PONTIC AND TRANSCARPATHIAN CULTURAL PATTERNS IN THE TRZCINIEC CIRCLE BETWEEN THE PROSNA AND DNEIPEP

The purpose of this paper is a comprehensive study of Pontic and Transcarpathian cultural inspirations found in the societies of the Trzcinięc Cultural Circle (TCC) in the area bounded by the Prosna and Dnieper rivers in the 2nd mill. BC. Generally speaking, we intend to identify a package of cultural traits and behaviour patterns within the TCC, characteristic of the populations occupying lands neighbouring on this vast communication community [Makarowicz 2010]. The connections with the steppe/forest-steppe zone are seen in the interactions with societies bordering on the TCC in the east and southeast. They involve direct or indirect inspirations which made TCC communities adopt goods made of metal, clay, amber, glass, stone and antler of a specific style or assimilate the knowledge and technology necessary to make such goods according to original models. The paper shall also attempt to interpret the nature of interactions between the TCC and its Pontic and Transcarpathian neighbours – the steppe and forest-steppe cultures and Carpathian Basin groups groupings as well as ones developing immediately east of it (Babyno, Srubna, Noua-Sabatiniwka, Costișa, Otomani-Füzesabony, Mad'arowce, Tumulus, and Piliny). It also appears that some TCC rituals and material culture elements can be interpreted as reminiscences from the environment of steppe cultures from the Early and Middle Bronze Age such as Yamnaya and Catacomb cultures.



1



2

Fig. 1. Distribution of barrow cemeteries between the Samara and Orel rivers (1) and between the Dnieper and Tiasmyn rivers (2) [Kushtan 2013: Fig. 52]

1. THE HERITAGE OF THE YAMNAYA AND CATACOMB CULTURES IN THE TRZCINIEC CIRCLE

An indirect heritage of the 3rd mill. BC steppe cultures, large barrow cemeteries, often extending along watersheds and the banks of large rivers (Fig. 1), are known earlier in the forest and forest-steppe zones from the Corded Ware culture (CWC). Within the TCC they are found in all its regional versions: Trzciniec, Komarov (Fig. 2), and Sosnitsa cultures [Makarowicz 2010: Fig. 4.1].

The ritual of dismemberment originated no doubt with the funerary rites of megalithic cultures (especially the Globular Amphora culture) but it is also encountered on the steppes in the Early and Middle Bronze Age (in the Yamnaya culture – 1.71% and in the Catacomb culture – 3.98% of all studied cases; Litvinenko 2011, Tab. 2-3). Dismemberment is a diagnostic trait of the ‘Trzciniec’ funerary rites (Figs. 3 and 4).

Certain common traits can be observed in the form, rim shapes and ornamentation of vessels. In the Yamnaya culture, there were encountered vessels with a round belly and S-shaped profile (Fig. 5:1), which were also common in the Komarov culture – the southern version of the TCC (Fig. 5:2-4). Collars on Yamnaya-Catacomb pottery (Fig. 5:6) can be viewed as the precursors of a characteristic thickening of rims of Middle Dnieper culture vessels and later of the pottery of the classic TCC phase (so-called Iskovshchina type from the middle Dnieper area; Bondar 1974:174). The vessels of the Yamnaya and Catacomb cultures often bear an incised ornament (Fig. 5:5) which later became one of the major ornamentation techniques of TCC pottery in the eastern province.

A mention must be made here of the claim that fluted stone maces, recorded mainly within the TCC oecumene, have an eastern origin. Their precursors, according to Aleksander Koško, originated from the Middle East and spread west owing to steppe populations, in particular the Catacomb culture [Koško 2002].

2. TRZCINIEC CIRCLE AND THE BABYNO CIRCLE (FIG. 6)

Connections with the Babyno Cultural Circle (BCC; former *Mnogovalikovaya* culture) are visible in both funerary rite elements and pottery. In the Dnieper-Don and Dnieper-Prut cultures of the BCC, wooden grave structures are common (Fig. 7; Savva 1992: 78-81; Litvinenko 2006: 170-172; 2009: 7-8; Kushtan 2013: Fig. 58). In the Komarov culture, such features were recorded in barrow 2 at the cemetery in Ivanye, Volhynia Upland [Fig. 8:4; Sveshnikov 1968; Makarowicz 2008], in grave 48, at the cemetery in Kozarovitsi, middle Dnieper area [Fig. 8:6;

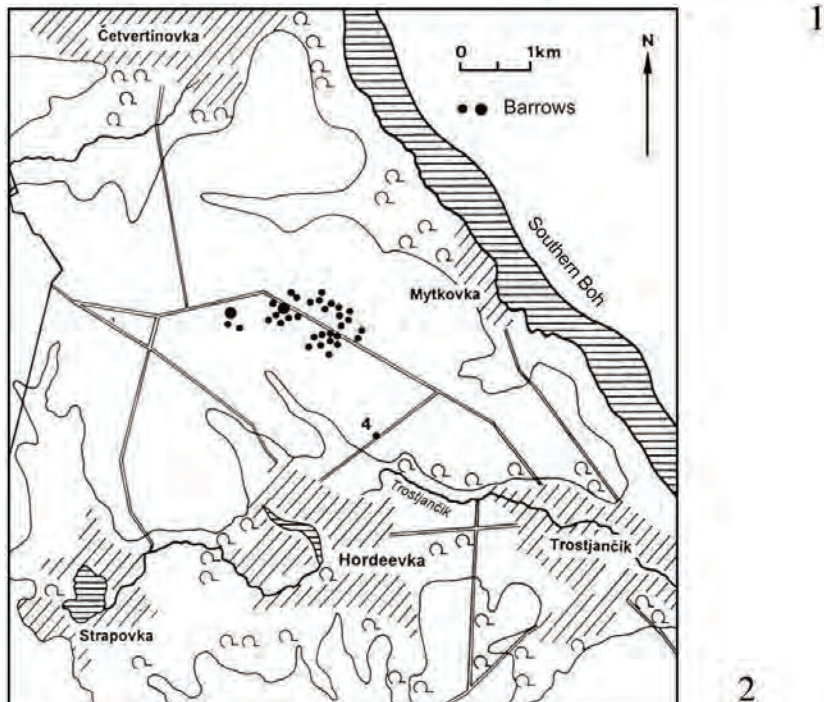
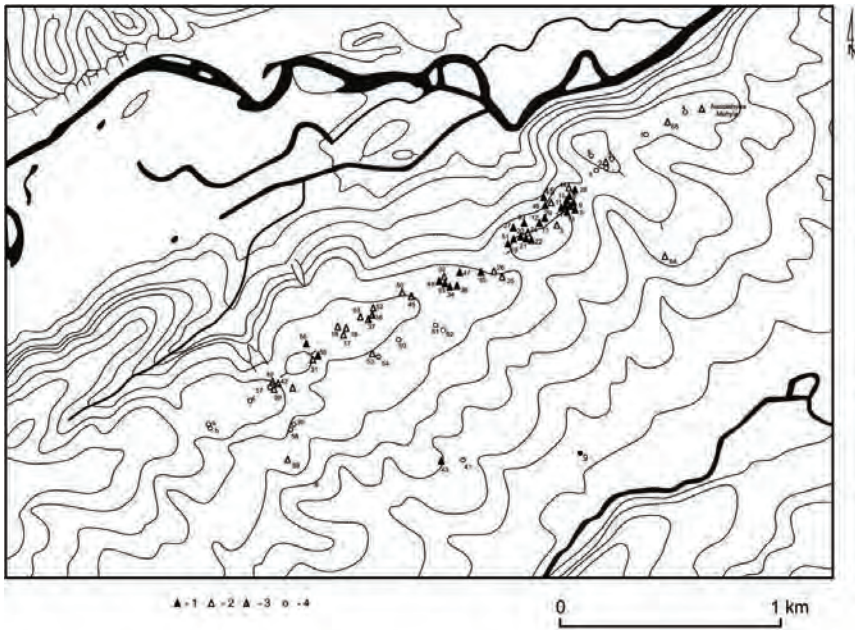


Fig. 2. Distribution of barrow cemeteries of the Trzcinec circle: 1 – Komariv; 2 – Gordiyivka. [after 1 – Makarowicz 2010: Fig. 4.14.B; 2 – Berezanskaja, Kločko 1998: Taf. 1]

Lisenko 1999: 72, Fig. 3], in graves 83 and 94 [Fig. 8:5; Lysenko, Lysenko Sv. 2002: 170-171, Fig. 2; 2003: 168-179, Fig. 3] at the cemetery in Malopolovetskoe, middle Dnieper area, and in barrows at the cemetery in Gordiivka [Fig. 8:1-3; Berezanskaya 1999: Fig. 2] in barrow 2/2012, in barrow group I, at the cemetery in Bukivna, on the upper Dniester [Fig. 9; Makarowicz, Lysenko, Kočkin 2013]. In both Babyno and Komarov features wooden vessels were recorded (Fig. 7:16; Fig. 9:2). The Dnieper-Don culture of the BCC practised also corpse dismemberment [1.27% of all burials; Litvinenko 2011, Tab. 3]

Particularly interesting, burials reflecting the rite of the Dnieper-Prut culture of the BCC but containing vessels analogous to the pottery of the Komarov version of the TCC. Two such features were identified in the vicinity of the villages of Porohy and Klembivka, in the area where the TCC and BCC overlapped. The burial located in barrow 3/2011 in Porohy held a vase with a protruding belly and a handle [Fig. 10:2-3; Razumov, Lysenko, Koško 2012]. In burial 11, barrow 1/2012, in Klembivka, a two-handled vase was discovered (Fig. 10:1; excavations by A. Koško and S.M. Razumov). It has a perfect counterpart in a vase from the TCC cemetery in Vojcechivka [Lahodovska 1948: Fig. 1: 2; Lagodovska, Zakharuk 1956: Fig. 3: 5].

Peripheral BCC groups – Desna-Seym, Dnieper-Prupet and Podolia-Volhynia [Litvinienko 2009:11 ff.] – partially overlap the oecumene of the Komarov and Trzciniac cultures of the TCC. They are represented chiefly by characteristic Babyno pottery found in syncretic assemblages. Pottery shards with similar ornaments were also on the upper Dniester. Barrows 1/2010 and 2/2010-2012 of barrow group I at the cemetery in Bukivna yielded pottery which in terms of ornamentation and surface finish resembles Babyno type vessels [Makarowicz, Lysenko, Kočkin 2013]. At the current stage of research it is not possible to determine its relationship to the TCC. It cannot be ruled out, however, that early TCC patterns co-existed with late BCC traits in the upper Dniester drainage basin. A similar co-existence can also be observed in the eastern TCC oecumene, in the middle Dnieper area and in the Desna drainage basin.

In the middle Dnieper area (Kyiv-Cherkasy group), in the Malopolovetskoe settlement complex, the BCC is considered a substratum on which the TCC developed. Babyno elements penetrated into this area from the southeast and overlaid a local epi-Corded substratum. In this region, the BCC development, situated in horizon MP-I, immediately preceding horizon MP-II (Malopolovetskoe), is dated to 1800-1600 BC, hence, in parallel to early and classic Trzciniac assemblages in the west and – in the light of recent dates from the barrow cemetery in Bukivna on the upper Dniester and from Romanian Bukovina – synchronously with the early Komarov culture [Makarowicz, Lysenko, Kočkin 2013] At the cemetery in Malopolovetskoe 3, the BCC is represented by burials without any grave goods in which the dead were laid on their side in a slightly flexed position, with the head pointing west [Lysenko 1998]. At the cemetery, in pits identified as ritual, characteristic

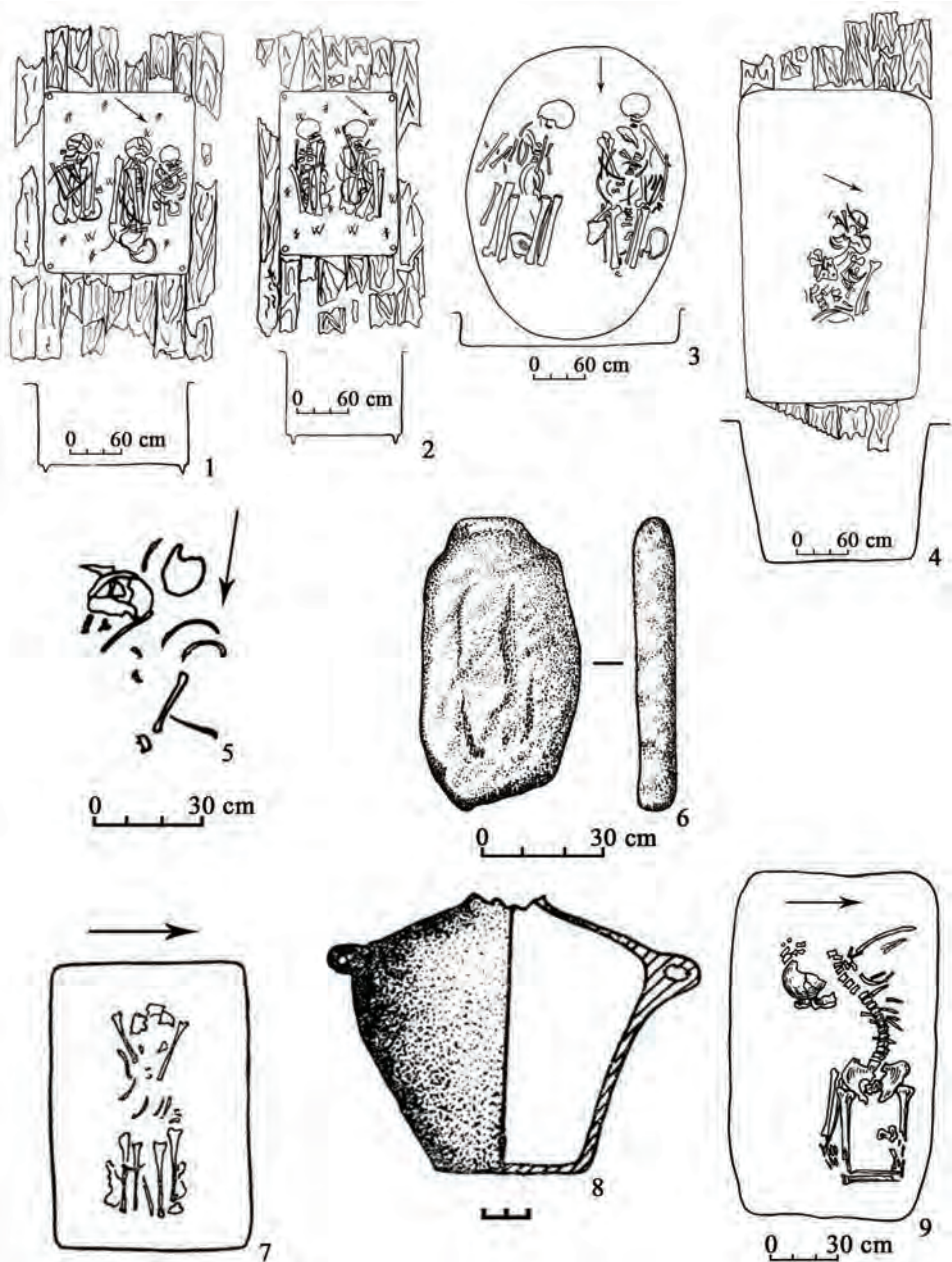


Fig. 3. Examples of dismemberment in the Yamnaya culture between the Prut and Dniester rivers [Agulnikov, Popovich 2010: Fig. 2]

pottery with a multi-cordon ornament is recorded and found to resemble classic ‘Trzciniac’ S-shaped pots with relief strips [Lysenko 2007]. Pottery with a typical multi-cordon ornament was found also on a site in Khodasivka on the Dnieper [Fig. 11:1, 2; Lysenko 2007: Fig. 6-12].

‘Babyno’ traits are also recorded further west of the compact range of this group (Fig. 6). They were transmitted mainly in two directions: north- and south-western. The first carried little Babyno-type materials to the south of upper Dnieper area and to the lower Pripet river. Further west, from Borysavshchyna in Belarusan Polissya, a cremation grave is known, holding a vessel in which ‘Babyno’ (cordons) and ‘Trzciniac’ traits are combined to make the local ‘Sosnitsa’ version (ornaments, angularity, granite temper in ceramic body; Fig. 11:3). The second resulted in the presence of the ‘Babyno’ component in Volhynia and Podolia [Sveshnikov 1990] and at the already mentioned cemetery in Bukivna, Ukrainian Sub-Carpathia.

At the next stage of TCC development (MP-II; 1600-1500 BC), on the forest-steppe on the middle Dnieper, from Kyiv to the upper Inhulets River, pottery of the Malopolovetskoe type (PMT) is found, which combines ‘Babyno’ traits (smoothed out pseudo-cordons, fine crushed stone and sand as a temper in ceramic body) with ‘Trzciniac’ ones [tulip-shaped vessel, broken stone in ceramic body, thickened rims; Lysenko 1998; 2007]. Being a product of a ‘symbiosis’, as it were, of Trzciniac and Babyno patterns in the early stages of the TCC, the PMT is characterized by large, tulip-shaped vessels, with a poorly marked profile, relatively thick walls and massive rims, frequently bearing traces of grinding. Their ceramic body has a large temper of broken crushed stone/gravel, often with chalcopyrite. The rims and bottoms of vessels are smoothed out or slightly polished, while bellies are intentionally rough-cast with thin clay (sometimes containing gravel) and ornamented for the most part with a ‘multi-cordon’ motif (horizontal pseudo-cordons on the neck and vertical ones on bellies) made by moving fingers over thin clay (Fig. 12). The sites on which PMT was identified were originally found on the Dnieper, in the Kyiv-Cherkasy area [Palaguta 1996; Lysenko, Kushtan 1997; Lysenko 1998a; Lysenko, Skiba 1998; Lysenko, Gaskevich 1999; Kushtan 2001; 2013: 41; Lysenko *et al.* 2011]. PMT sites are also recorded in the forest-steppe part of Ukraine, from the Chernivtsi Oblast [Lysenko 2012: Fig. 1:1] to the Chernihiv and Sumy Region (excavations by G.V. Zharov).

The PMT and a number of other pottery types of the eastern TCC developed no doubt under the impact of the Don-Volga culture of the Abashevo circle. The influence is seen in broad-opening fluted rims, sometimes with horizontal flutes on the inside [Fig. 13:2-3; Kuhtan 2013: Fig. 2-3]. A direct penetration of the TCC by ‘Abashevo’ populations was recorded on the Bilogorodka site, west of Kyiv (Fig. 13:1; excavations by E.N. Kucharska and Y.Y. Bashkatov). Abashevo pottery ornaments include broad, shallow, horizontal grooves and groups of slanting lines making them similar to the ornamentation of Trzciniac vessels. However, the Abashevo pottery differs from the latter in that it contains a temper of crushed shells.

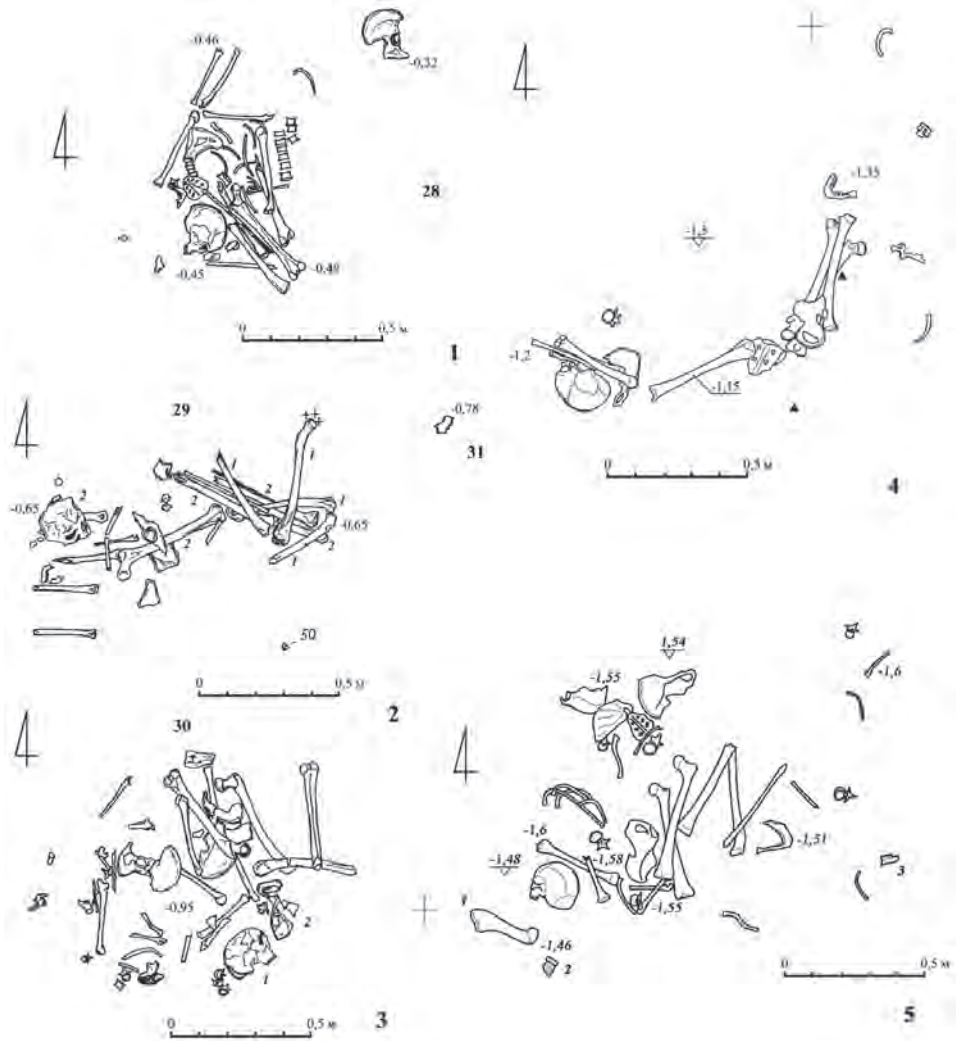


Fig. 4. Examples of dismemberment in the Komarov culture: 1-3 – Malopolovetskoe 3, burials 28, 29, 30, 31; 4-5 – Voytsekhivka, barrow group 3, barrow 1, burial 1 (4); barrow 2, burial 4 (5) [after 1-3 – Lysenko 1998: Fig. 19; 4 – Lysenko, Lysenko Sv. 2012: Fig. 1; 5 – Lysenko, Lysenko Sv. 2013: 24]

Only the next stage in the TCC development on the middle Dnieper – Teklino horizon (MP-III; 1500-1400 BC) – reveals the classic traits of the West Trzciniac Sub-Circle and stronger connections to its ‘Komarov’ enclave [pottery, metal; Lysenko 2007: 350-354].

3. TRZCINIEC CIRCLE AND SRUBNAYA CULTURE (FIG. 14)

On the middle Dnieper, the TCC and the 'Srubnaya' circle came into contact and produced the Berezhnivka-Maivka Srubnaya culture [BMSC; Otroshchenko 2001]. The impact of this culture is seen especially in the area (chiefly specific vessel types, bone tools and the Leboikivka metallurgical tradition) but also in the Dniester drainage basin and Volhynia.

Srubnaya culture pottery in the versions of Pokrovsk-Mosolovo and Berezhnivka-Maivka is encountered in ritual-funerary assemblages within the Malopolovetskoe cemetery [Fig. 15; Lysenko 1998: Fig. 7-8; 10-11; 14-16; Lysenko, Lysenko Sv. 2002: Fig. 5-6]. The pottery is found together with the PMT (horizon MP-II; 1600-1500 BC). In particular, these are cooking pottery types I and II and serving pottery types I, IV and VI. In the horizon in question of the cemetery under discussion, finds are also made of 'Late Srubnaya' cordon pottery. On the site in question, a number of ceramic forms were unearthed: pots, footed beakers, vessels with lids; they are ornamented with motifs specific to the Maivka variety of the Srubnaya culture such as triangles, finger impressions, chevrons, incised lines, as well as rough-cast.

At the cemetery in Malopolovetskoe 3 (horizon MP-II; 1600-1500 BC), vessels were encountered which combined the traits of the TCC and Srubnaya culture. From burial 1, assemblage 2, in which many Srubnaya culture vessels were found, two containers come: an S-profiled pot and a vase bearing a Komarov-type ornament but with the temper of fine sand, as in Srubnaya-culture vessels, and not broken flint and granite. A vase from assemblage 4, found in the context of 'Srubnaya' vessels, is decorated with a groove surmounting a 'Trzcinec' motif of groups of vertical lines, converging at the bottom at a certain angle [Lysenko 1998: Fig. 7:1, 2]. Grave 87, assemblage 5, radiocarbon dated to 1440-1250 BC, yielded a pot decorated under the rim with two rows of hatched triangles and an angular vase, the ornament of which consisted of a horizontal incised line, slanting lines and hatched triangles [Górski, Lysenko, Makarowicz 2003: Fig. 20]. Profiled vases are recorded in both the BMSC and TCC. Footed beakers, characteristic of the BMSC [Kovalova, Volkoboy 1976; Otroshchenko 2001], finding analogies in the Andronovo circle assemblages too [Berezanskaya, Gershkovich 1983], were discovered at Malopolovetskoe 3 cemetery, in assemblages 2 and 17, together with the PTM [Fig. 16:1-3; Lysenko 1998].

The stylistic patterns of the Srubnaya culture were noticed on settlement sites in the forest and forest-steppe zones of left-bank Ukraine, in particular in the drainage basins of the Desna and Seym rivers. Among these patterns are 'Srubnaya' globular vessels from Ivanivka, a geometric ornament on a mug fragment from Mezinskiy Ostriv, angular vessels, and ornaments made with a toothed stamp, as well as thick cord impressions from various 'Sosnitsa' sites. A lower portion

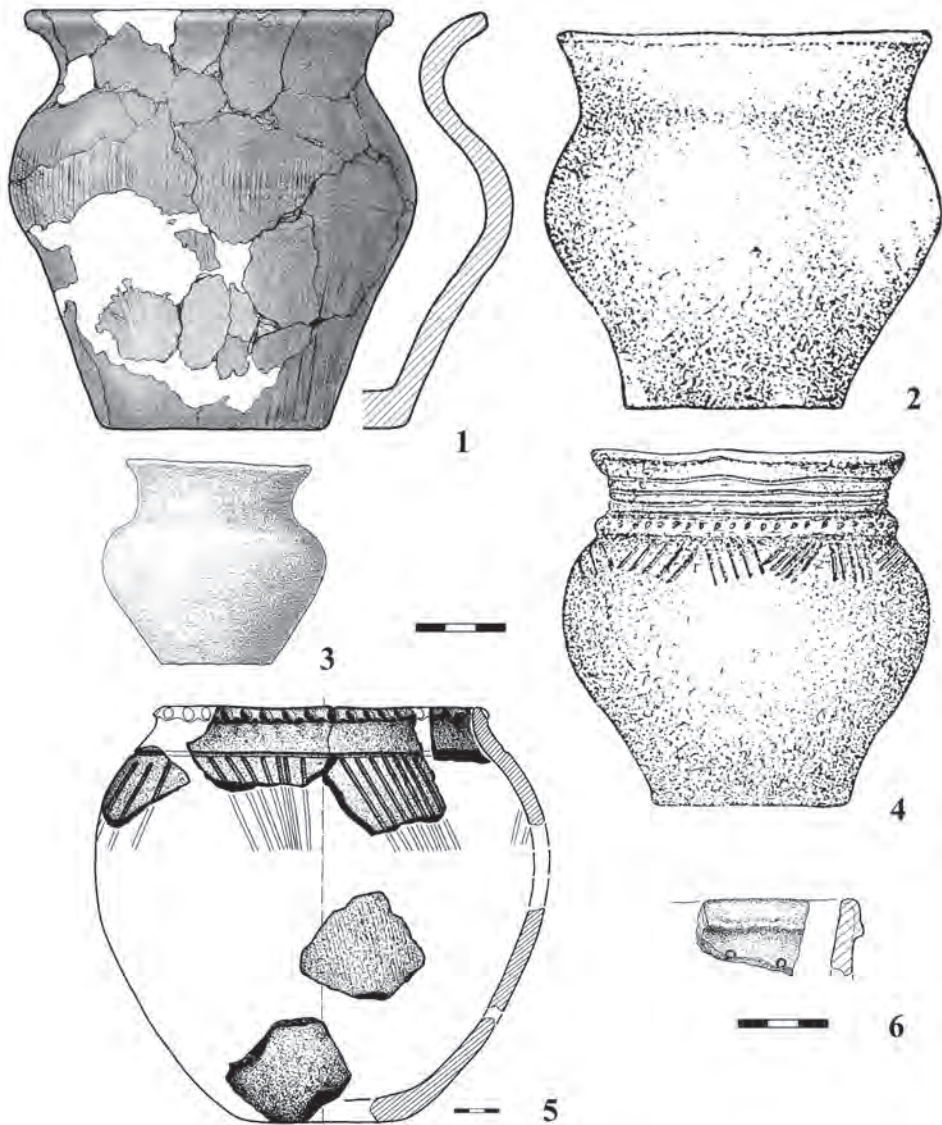


Fig. 5. Yamnaya-Catacomb (1; 5-6) and Trzciniac (2-4) type pottery. 1 – Pidlisivka, barrow 1 (2010), Yamnaya culture burial; 2 – Komarów, barrow 8; 3 – Gordiyivka, barrow 27; 4 – Komarów, barrow 6; 5 – Malopolovetskoe 3, feature 64; 6 – Malopolovetskoe 3, cultural layer. [after 1 – Razumov, Koško, Karnaukh 2011: Fig. 1:2; 2 – Sweszniukow 1967: Plate I:10; 3 – Berezanskaya, Lobay 1987: 6, Plate V:2; 4 – Swieszniukow 1967: Plate V:12; 5 – Lysenko, Lysenko Sv. 2004: Fig. 2:2]



Fig. 6. The range of (1) the Trzcinec circle [Makarowicz 2010: Fig. 1.1] and (2) Babyno circle [Berezanska, Otroshchenko 1997: Map 13]. Arrows represent impact directions

of a footed beaker, bearing a 'barbed wire' ornament characteristic of the TCC Sosnitsa culture, was recorded on site Mala Bugaivka 3, on the middle Dnieper [Fig. 16:4; Lysenko 2006]. A low footed vase comes from barrow 3, barrow group I, at the cemetery in Bukivna, in the upper Dniester drainage basin (Fig. 16:5; excavations by S. Lysenko, P. Makarowicz and I. Kochkin). Significantly, the vessel is decorated on its belly with oblique appliqué cordons, triangular in cross-section, which can be considered a vestige of the 'Babyno' style.

There is a striking similarity between the bowls/vases of the Maivka type and the analogous vessels of the Komarov culture [Lysenko 1998: Fig. 11:5; Górski, Lysenko, Makarowicz 2003: Fig. 20:1]. Some 'Srubnaya' specimens from this cemetery display traits characteristic of the Andronovo cultural circle [Berezanskaya, Gershkovich 1983]: oblique triangles, trellises [Lysenko 1998: Fig. 15:1; 16:15]. Andronovo elements can be observed also on later Komarov pottery from the middle Dnieper area [Kozarovichi, burial 43 – Fig. 13:4; Lysenko 1999: Fig. 1:2].

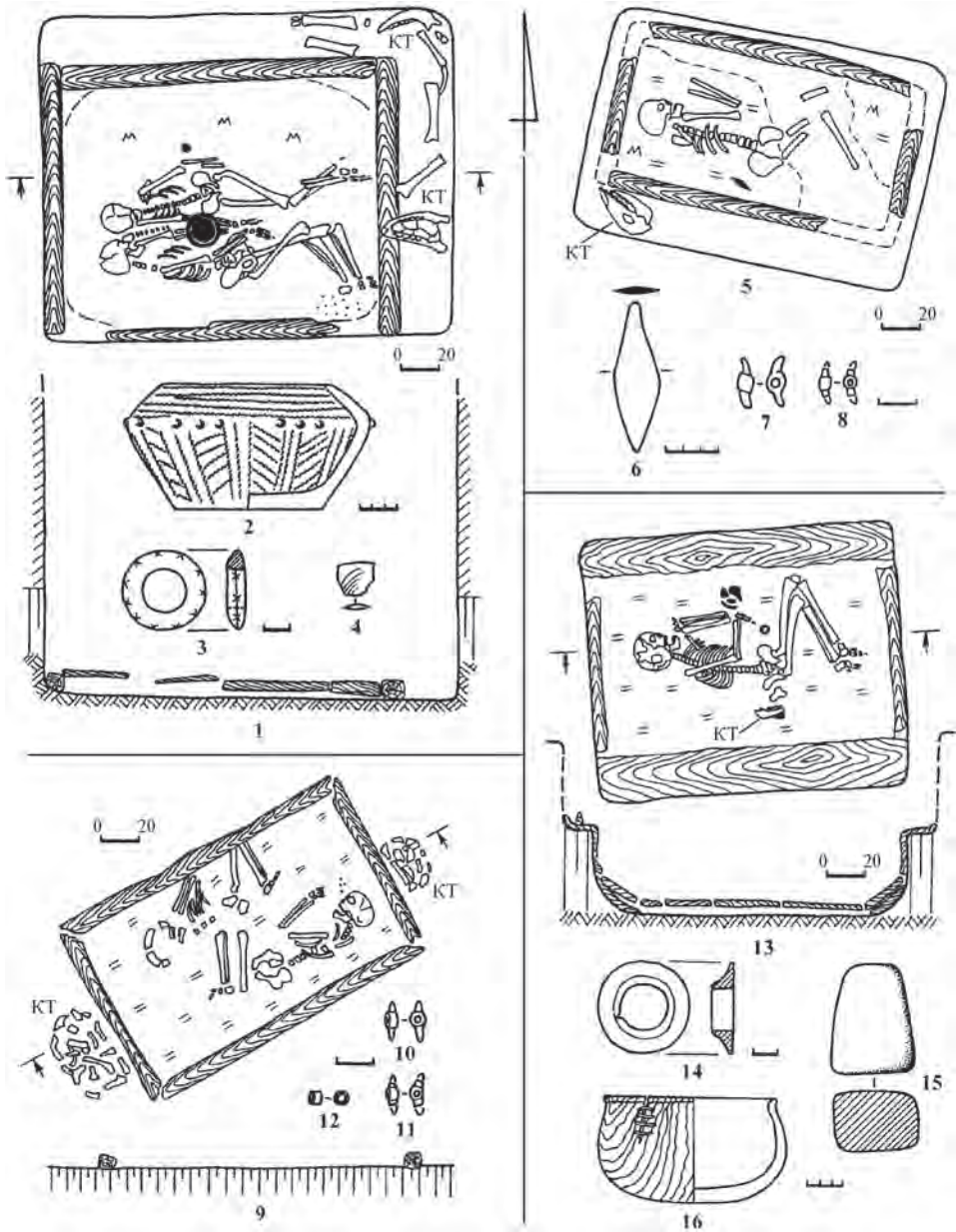


Fig. 7. Timber structures in Babyno cultural circle burials: 1-4 – Gubnykha, burial 3-4 (II)/10; 5-8 – Zaplavka, burial 5(I)/9; 9-12 – Mykhailykhy, burial 1/6; 13-16 – Oleksandrivka, burial 3(II)/3 [Kushtan 2013: Fig. 58]

MP-II horizon assemblages at the Malopolovetskoe cemetery and settlement Bezpalyche 1 (Cherkasy Oblast, Drabiv region) contain bone tools that find analogies on the sites of the Pokrovsk-Mosolovo culture and BMSC, as well as in the Sabatinivka and Noua cultures [Pankovskiy 2005; 2010; Lysenko *et al.* 2011].

Interestingly, the connections between 'Trzciniac' and 'Srubnaya' metallurgy look unclear in the light of finds. In a double grave from barrow VIII in Netišyn, a javelin point was recorded which was stylistically foreign to the TCC tradition [Berezanska, Goško, Samoljuk 2004]. It has a good equivalent in a specimen from a hoard from Odaje-Podari, Romania; the hoard contained also a sickle adhering to the early 'Srubnaya' style [Klochko 2001].

Assemblages 5 and 17, Malopolovetskoe 3 cemetery, contained fragments of clay casting moulds [Lysenko 2013: Fig. 1: 4-6], analogies of which are known from the Mosolovo settlement [Priachin, Savrasov 1989; Priachin 1996]. Assemblage 17 held also a bronze sickle, representing the Don-Volga variety of type I Brakayevo from the Volga-Ural group [Dergachev, Bochkarev 2002: 59-86]. Another metallurgical tradition is represented by a bronze leaf-shaped knife recorded in assemblage 4 in Malopolovetskoe 3 and finding direct analogies in the hoard from Leboikivka [Klochko 1998: Fig. 11]. It is also to the Leboikivka metallurgy that a fragment of a talc-schist casting mould from the same assemblage should be related.

The Leboikivka metallurgical centre tradition, dated to 1600-1200 BC by Viktor I. Klochko, rose where the oecumene of the TCC and Srubnaya Cultural circle overlapped. The centre first rose on the middle Dnieper where most of old workshops can be found (Golovuriv, Dereviana, Zazimye, Ivankovichi and Mazepinci) which once manufactured daggers and javelin points of the Golovuriv type (one such point was found in a barrow in Kvetun, on the Desna), Kabakov-type axes and sickles, and knives, chisels, awls, etc. Gradually, the centre extended down the river and further east [Klochko 1998: 217-218, 236]. Klochko associated the Leboikivka metallurgical tradition with the societies of the Sosnitsa culture [Klochko 1994: 119, 132; 1998: 236] and in a later work with the BMSC [Klochko 1998:73].

The oldest workshops in the Leboikivka centre on the Dnieper in principle coincide with the sites on which PMT pottery was found. The area over which talc-schist casting moulds are found within this metallurgical centre coincides with the area in which cups made from analogous raw material are discovered. Three such vessels were discovered in complexes 2 and 5, horizon MP-II, Malopolovetskoe 3 cemetery, and fragments of other two were found on sites Lipovskie 1 and Chikalivka [Fig. 17; Lysenko, Kushtan 2005; Kushtan, Lisenko 2005].

According to Petrun the basic source of talc-schist in Ukraine in the Late Bronze Age (according to the chronology for this area) was the region of Kryvyi Rih – the area over which the Sabatinivka-Noua-Coslogeni complex extended [Petrun 1967: 185-194]. Additionally, a schist outcrop was exploited, located close to the Vovnigskiy cataract [Sharafutdinova 1989: 175; Nikitienko 2011: 81]. It is

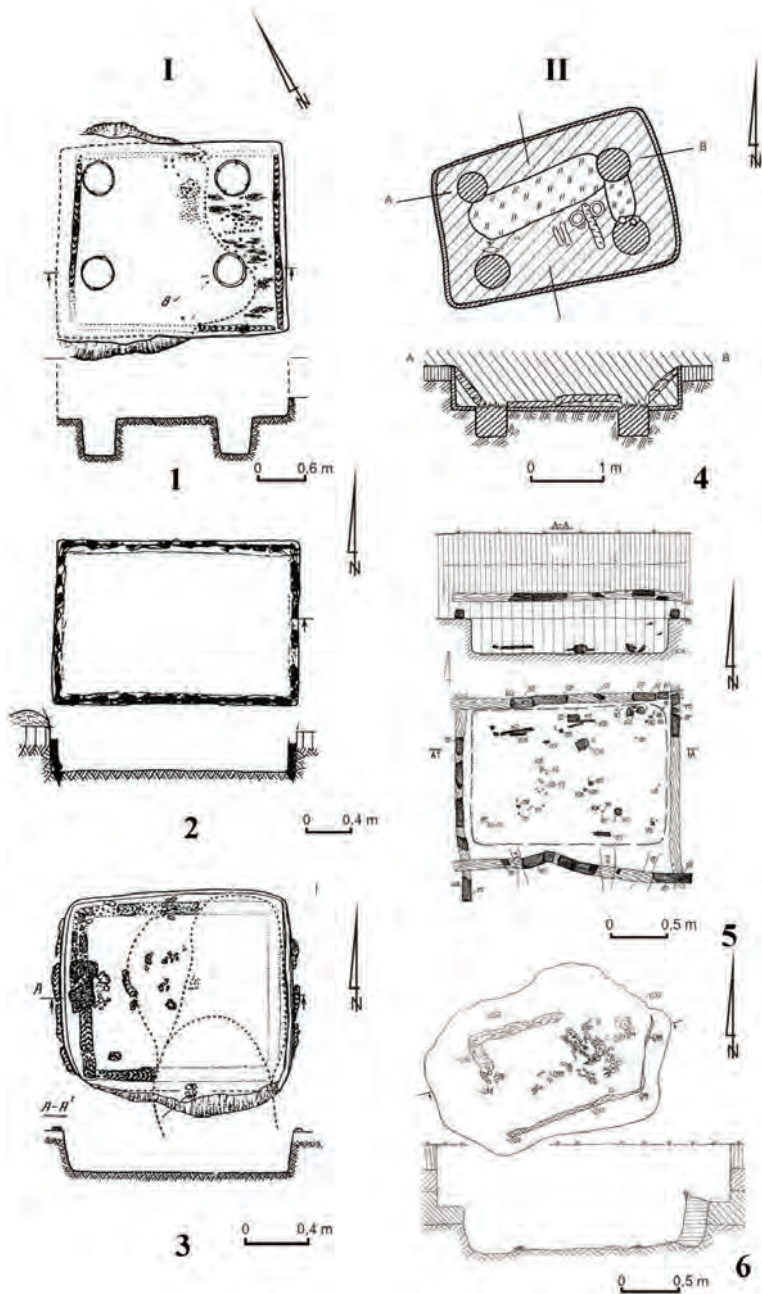


Fig. 8. Timber structures in Komarov culture burials: 1 – Gordiyivka, barrow 11; 2 – barrow 23; 3 – barrow 7; 4 – Ivanye, barrow II, burial 4-5; 5 – Malopolovetskie, burial 83; 6 – Kozarovychi, burial 49. [after 3 – Berezanskaya 1999: Fig. 2; 4 – Sveshnikov 1968; 5 – Lysenko, Lysenko Sv. 2002: Fig. 2; 6 – Lysenko 1999: Fig. 3]

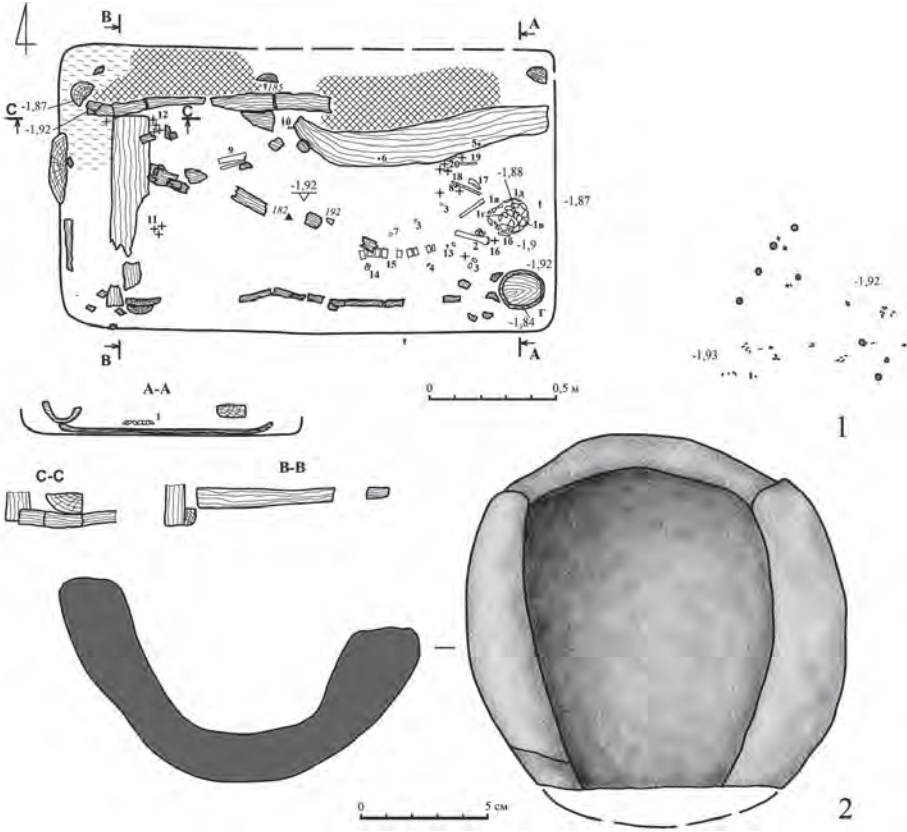


Fig. 9. Bukivna, barrow group I, barrow 2/2012, feature 3 (excavations by S. Lysenko, P. Makarowicz, I. Kochkin)

from the Dnieper cataract area or the Kryvyi Rih Region that the raw material came from which the mug included in complex 2 of the Malopolovetskoe cemetery was made (expert opinion of I.S. Nikitenko). In the light of the above data, it can be presumed that the Leboivivka metallurgical centre arose in the area interspersed with the sites of the Malopolovetskoe where the Trzciniec Circle, Srubnaya Circle and Sabatinivka culture overlapped. Further expansion east of the Leboivivka metallurgical tradition must have been related to the climatic optimum of the Subboreal period as it caused a major expansion of inhabited areas in the left-bank part of the forest-steppe and northern steppe.

The connections between the Kyiv-Cherkasy group of the TCC and the Donetsk metallurgical centre continued also in the next period (horizon MP-III). The spectral analysis of Komarov bronze ornaments found in graves at the Malopolovetskoe cemetery showed that their chemical composition resembled that of metal



Fig. 10. Babyno circle burials with Komarov type pottery: 1 – Klembivka, barrow 1 (2012), burial 11 (excavations by A. Koško, S. Razumov); 2-3 – Porohy, barrow 3 (2011), feature 5. [Razumov, Lysenko, Koško 2012: Fig. 1]

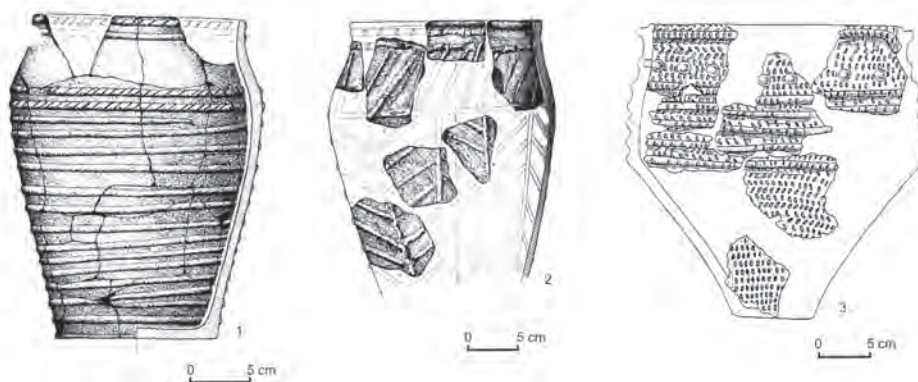


Fig. 11. Babyno circle pottery from Khodasivka [Lysenko 2007: Fig. 6, 7] and Borysavshchyna [Kryvaltsevich 1998: Fig. 10]

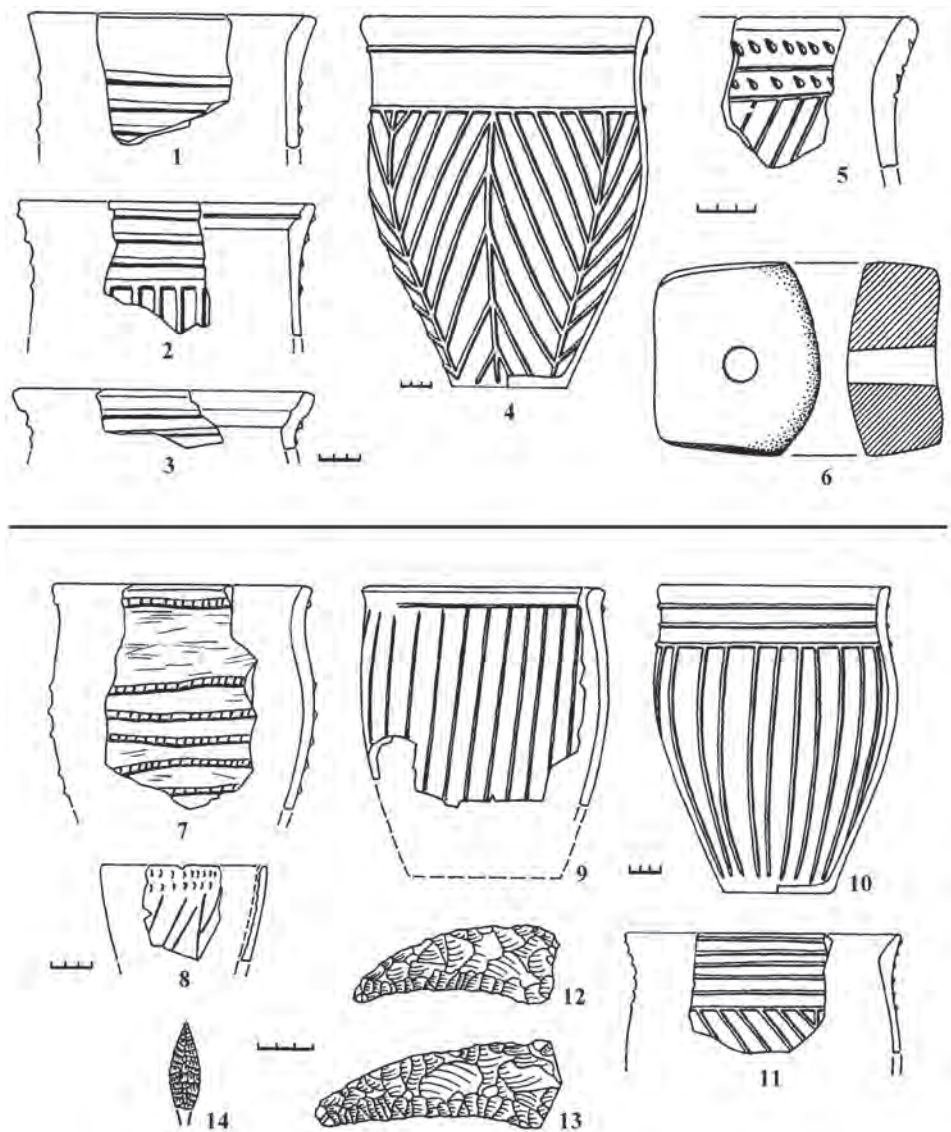


Fig. 12. Malopolovetskie type pottery and accompanying finds from the Dnieper drainage basin, Cherkassy Oblast: 1-6 – Chervonokhyzhentsy 5; 7-14 – Chapaivka 8 [Kushtan 2013: Fig. 27]

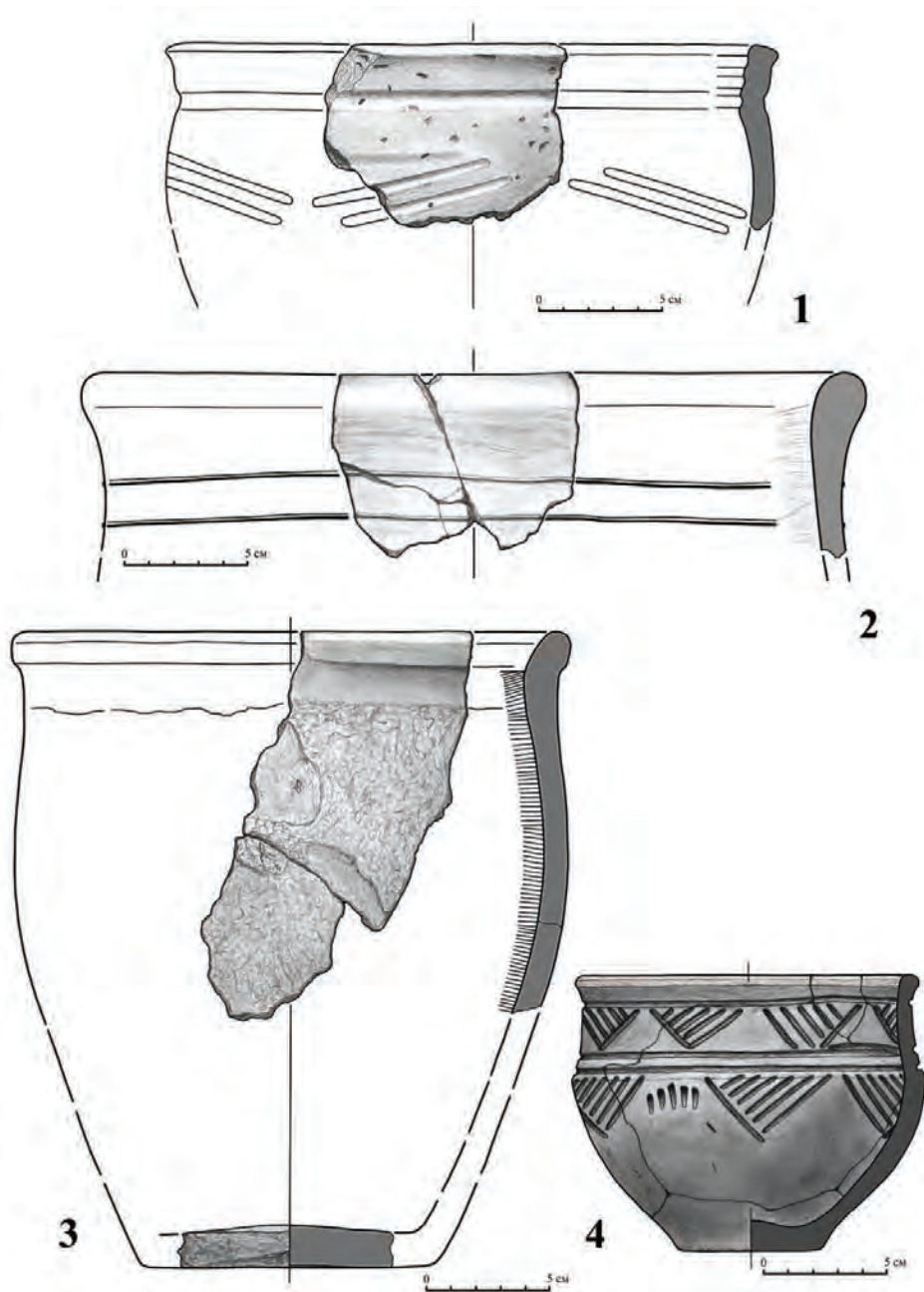


Fig. 13. Pottery of the Don-Volga Abashevo culture: Bilohorodka (excavations by N.E. Kukhar-skaya, Y.Y. Bashkatov); 2-3 – Malopolojetskoe type pottery: Voloshkove 1 [Lysenko 2012: Fig. 1:1] (2), Popovychka 2 (excavations by G.W. Zharov) (3); 4 – pottery showing traits of the Andronov culture, Kozarovychi, burial 43 (excavations by S.I. Kruts)



Fig. 14. The range of (1) the Trzciniec circle [Makarowicz 2010: Fig. 1.1] and (2) Srubnaya culture [Berezanska, Otroshchenko 1997: Map 14]. Arrows represent impact directions

obtained from both Carpathian ores and ‘Donetsk’ ones from which BMZK good were made [Goshko *et al.* 2009: 106].

4. TRZCINIEC CIRCLE AND THE COSTIŠA CULTURE (FIG. 18)

Contacts between these two groups occurred solely in the drainage basins of the upper Dniester, Prut and Seret rivers, i.e. in Ukraine’s Carpathian Foothills, part of Moldova and Romanian Moldavia. The similarity of Costișa pottery to some vessels of the TCC Komarov enclave in terms of their morphology and ornamentation is striking (Fig. 19). Some archaeologists consider the Costișa culture one of the

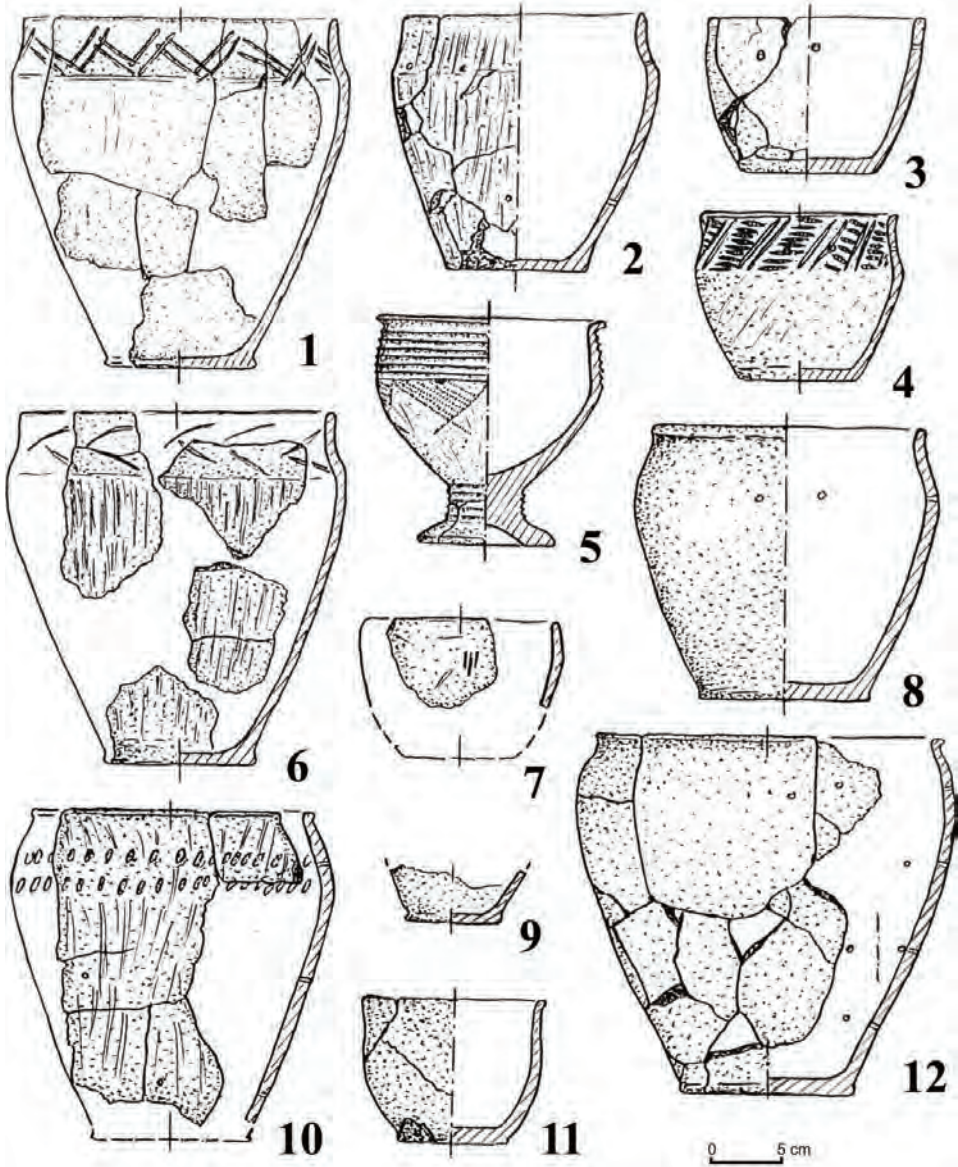


Fig. 15. Malopolovetskoe 3, complex 2. Vessels found together with Malopolovetskoe type pottery

southern groups of the TCC [Lysenko 2012a], while Romanian researchers have a problem with the taxonomic assignment of materials from some sites. They are usually classed as Komarov-Costișa or Komarov-Costișa-Biały Potok [Bilyi Potik] complex [Romaniszyn 2013].

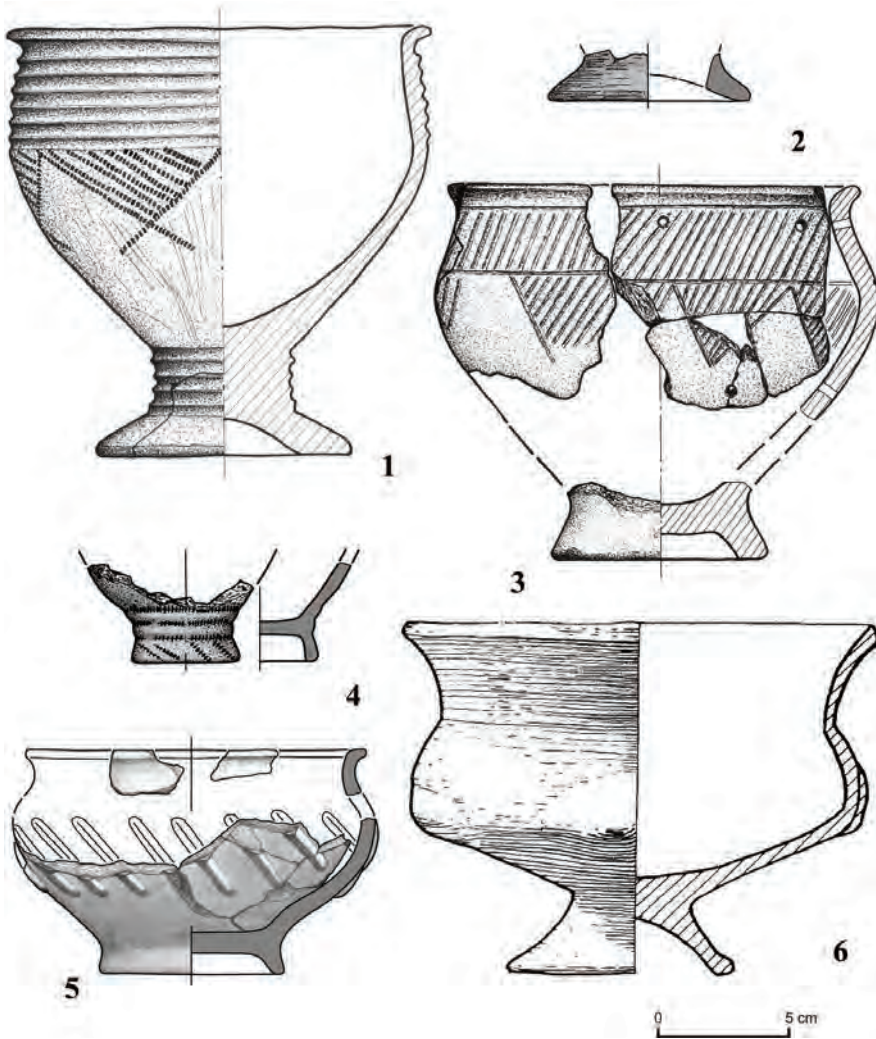


Fig. 16. Mugs and vases on a solid foot from Komarov and Trzcinec culture sites: 1-2 – Malopolovetskoe 3, complex 2; 3 – Malopolovetskoe 3, complex 17; 4 – Mala Buhaivka 3; 5 – Bukivna, barrow group 1, barrow 3 (2012) (excavations by S. Lysenko, P. Makarowicz, I. Kochkin); 6 – Samborzec. [after 4 – Lysenko 2006; 6 – Gardawski 1959: Plate XXXV:1]

The impact of the Costișa culture on the TCC Komarov enclave is noticeable among others on barrow cemeteries where similar vessel assemblages reoccur: vases and two-handled amphorae (the handles often protrude above the rim) or jars ornamented with the motif of hatched triangles or horizontal incised lines. Such specimens were recorded in Komarów, barrows 28, 33 and 46 [Sulimirski 1968:

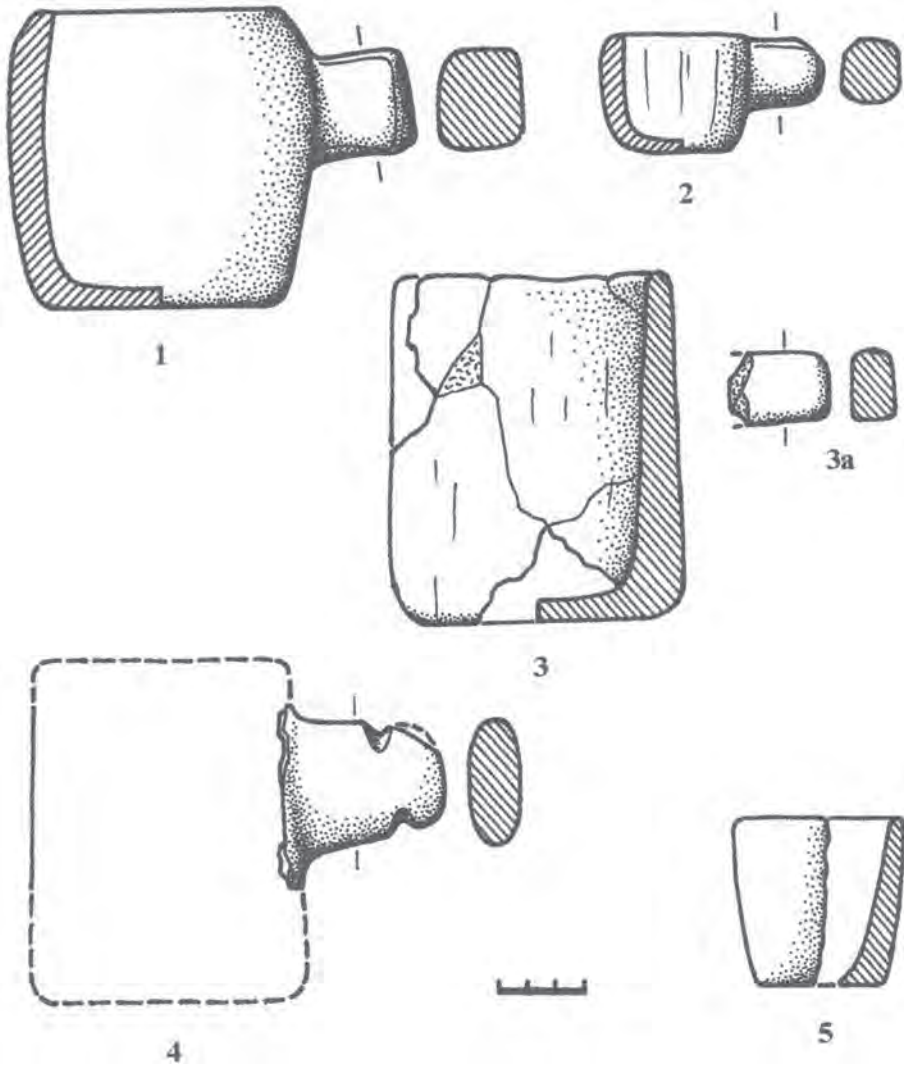


Fig. 17. Talc schist beakers: 1-2 – Malopolovetskie 3, complex 5; 3 – Malopolovetskie 3, complex 2; 4 – Chykalivka; 5 – Lypivske [Kushtan, Lysenko 2005: Fig. 2]

Plate 17: 13], Okniany, barrow II [Swiesznikow 1967: Tab. III: 14, VI: 11, XIII: 5; Sulimirski 1968: Plate 17: 11] and Bukówna, barrow IV [Rogozińska 1959: Tab. III: 5, 6; VII: 2, Tab. IX: 4-6]. Besides barrow cemeteries, Costișa culture patterns, especially ornamentation motifs, are found also in settlement materials, e.g. in Kostjaniets, Nezvisko, Vorosylivka, Babyno, and Ovechiy Yarok [Swiesznikow 1967; Sveshnikov 1990]. Vessels exhibiting such traits are found especially in the



Fig. 18. The range of (1) the Trzciniec circle [Makarowicz 2010: Fig. 1.1] and (2) Costișa culture [Klochko 2001: Fig. 78, Munteanu: Fig. 2]. Arrow represent impact directions

Biały Potok group of the TCC [Kostrzewski 1928: Figs. 1, 6, 7] and related assemblages from Moldavia and northern Romania [Vulpe 1961; Florescu 1964; 1970; Krušelnička 1985; 1999; Dimitroaia 2000; Coirvuc, Dumitroaia (Eds) 2001; Nicu-lică 2004-2005; Dascălu 2007; Munteanu 2010].

5. TRZCINIEC CIRCLE AND THE NOUA-SABATINIVKA COMPLEX (FIG. 20)

In the second half of the 2nd mill. BC, a strong impact coming from the Noua and Sabatinivka cultures, which border on the TCC in the south, is seen in a num-



Fig. 19. Costișa culture vessels: 1-3 – photo Covruc, Dumitroaia 2001: Fig. 22, 23 and Komarov culture vessels: 4-6 – photo J. Romaniszyn, P. Makarowicz and the Archaeological Museum archives in Poznań

ber of metal goods and vessel ceramics from right-bank Ukraine (chiefly the upper Dniester drainage basin), Volhynia and the middle Dnieper area.

The impact of the Noua culture on the Komarov enclave of the TCC is usually associated with the spread of two-handled vases in the latter. Now, we know of over

20 such vessels in the assemblages belonging to the various groups of the Komarov culture. The vessel from the 'Babyno' burial in Klembivka mentioned earlier shows that such pottery appeared quite early on the right-bank forest-steppe. The same is true for mugs/cups with a single handle occurring within the Komarov, Noua and Sabatinivka cultures [Savva 1992: 38: Fig. 15-17; Gershkovich 1997: 133, 135, Fig. 4:11-14; Savva 1998: Abb.14; 23, Abb. 5]. Igor K. Sveshnikov distinguished two types of cups in the Komarov culture. In the first, he included specimens without ornaments or ornamented with incised lines while the second type was to comprise cups ornamented with circular protrusions and flutes. In his opinion, the second type could have been a borrowing from the south in the Komarov culture while the first type finds many analogies in the Corded Ware culture in the Carpathian Foothills, Volhynia, southern Poland and Slovakia [Sveshnikov 1976: 104, 108, Fig. 4-5].

More two-way inspirations are observed in the relations between the TCC and the Noua culture, occupying roughly the northeast of the Carpathian Basin and the drainage basins of the upper and middle Prut and Seret rivers, and the middle Dniester. Its traits are visible in the pottery of the younger stage of the Komarov culture in the Carpathian Foothills, Podolia and Volhynia. They are also readily observable in the Lublin and Rzeszów areas, but in a later chronological context.

Coming from Noua culture pottery workshops, very clear stylistic models such as two-handled vases and – less often – mugs/cups and jars with handles are known from 'Komarov' mound-covered graves in the Carpathian Foothills and Podolia, for instance, in barrows 11 and 33 on the eponymous necropolis in Komarov [Fig. 21:1-3; Sulimirski 1968: Fig. 30: 1; Plate 21: 14, 16], barrows in Kulczyce Szlacheckie [Sulimirski 1968: Plate 22: 2 & 4], barrow V in Krasów [Sulimirski 1968: Fig. 30: 8], barrow II in Korytne [Sulimirski 1968: Plate 23: 2], barrow II in Okniany (Fig. 21:4) and barrow in Dubno (Fig. 21:5). A number of Noua culture pottery traits were recorded on 'Komarov' vessels from the Volhynia Upland: Kustovce [Kostrzewski 1928a: Fig. 2: 1, 2], Ivanye, barrow I and II [Svešnikov 1968: Fig. 1: 9; 4: 1, 8; for a broader account *see* Makarowicz 2008], Netishyn, barrow 1 [Berezanska, Samoljuk, Taras 2003: Fig. 5: 2, 4, 7], Dorogoshcha, barrow 2, grave 1 and 2 [Vinokur, Gucal, Magiey 1998: 438ff, Fig. 3: 1-5], Vojcechivka, barrows 1 and 9, burials 3 and 4 [Lagodovs'ka 1948: 63, Fig. 1: 2; Lagodovs'ka, Zacharuk 1956: Fig. 3: 5]. Vessels with Noua morphology and ornamentation are recorded in the materials of the Biały Potok enclave the TCC, e.g. in Beremiany, grave 3 [Sulimirski 1968: Fig. 32: 3] and Podgórzany [Sulimirski 1968: Plate 22: 8], as well as in the settlement on Moldavia Plateau between the Prut and Dniester rivers, in Kotjalia (Kotelnia), sites La chyrton and La gradine [Dergachev, Savva 1985: Fig. I; Dergachev 1986: Fig. 39: 12, 14, 15, 18, 19]. In the settlement in Magala, one of many recurrent stratigraphic arrangements was exposed in which the Noua culture stratum overlies the materials of the 'Komarov' version of the TCC [Smirnova 1976].

In terms of currently prevailing Komarov culture periodizations, Noua elements appear in its phases III and IV according to T. Sulimirski [1968] and in phase

II according to Svešnikov [Swieszniokow 1967], while their absolute chronology points to the middle of the 2nd mill. BC. Curiously enough, a similar process is witnessed in Moldavia and Bukovina, Romania [Dascălu 2007; Munteanu 2010]. At barrow cemeteries in Costana, Prajeni and Adacanta (excavation of B.P. Niculica), discoveries are made of two-handled vases and mugs manufactured following the style of the Noua culture.

In the western zone of the Trzciniec area, Noua culture elements were identified relatively early and discussed several times in a broader context [Czopek 1996: 38; 2003: 217-219; Taras 2007: 187ff, Przybyła 2009: 63]. These are very characteristic two-handled vases with knobs, which sometimes are seal-shaped. They are known from several sites located in the oecumene of the Tarnobrzeg Lusatian culture [Fig. 22:1-5; Taras 2007: Fig. 7]. Two such vases are particularly interesting: one was discovered in an inhumation grave in Paluchy [Lewandowski 1978: Fig. 10], the other in a cremation pit grave in Grodzisko Dolne [Czopek 1996: Fig. 14]. In the same area, similar vessels are known from the cemetery in Lipnik [Blajer 2000: Fig. 8:d] and from Przemyśl-Nehrybka [Lewandowski 1978:149]. Similar specimens or their fragments are also known from the western frontier of the Tarnobrzeg group [Piaseczno and Machów; Krauss 1977: 40, Tab. 6:27], as well as from beyond its range: the Volhynia Upland [Podlodów, site 2; Niedźwiedz, Taras 2006: 95-96, 103-104, Fig 5:1] and the vicinity of Kraków [Przybyła 2009:63]. Sylwester Czopek believes that the vessels in terms of their morphology show affinities with the Noua culture materials, whereas their ornamentation resembles the Tarnobrzeg patterns of the Lusatian culture. The dating of these artefacts should in principle be limited to phase A1 of the Hallstatt period [Czopek 2003: 219]. A fact is stressed that the style in question could have penetrated into Poland's present-day territory through the agency of the Komarov culture [Czopek 1996: 38; Dąbrowski 2009: 35] and been one of the elements making the San drainage basin part of multilateral cultural ties, covering the drainage basin of the upper and middle Tisa, Podolia and Volhynia as well [Przybyła 2009:64].

Characteristic of the Noua-Sabatinivka complex, infrequent in the Wietenberg, Monteoru and Coslogeni cultures, pins with rhomboid heads are recorded in TCC graves in Komarov, barrow 6, Bukivna, barrows 1/2010 and 3/2012 on the upper Dniester [Makarowicz, Lysenko, Kočkin 2013] or in Gulay Gorod and Malopolojetskoe 3 [Lysenko 1998] on the middle Dnieper. Most of them are encountered along the eastern edges of the Carpathians Romanian Lowland, Moldavian Upland [Dascălu 2007; Munteanu 2010] and in the steppe portion of southern Ukraine – on the Black Sea Lowland [Makarowicz 2010]. The diverse varieties of this pin are found in the inventories of the Early Bronze cultures of Central and Eastern Europe.

Specific to the Noua tradition too, the *Wurzennadel* comes from the mentioned barrow in Ivanye [Sveshnikov 1968; Lysenko Sv. 2006: 6]. Such specimens were made of bronze and bone, and the largest number of analogies come from the Great Hungarian Plain, Transylvanian Upland, Moldavian Upland and Podolian Upland,

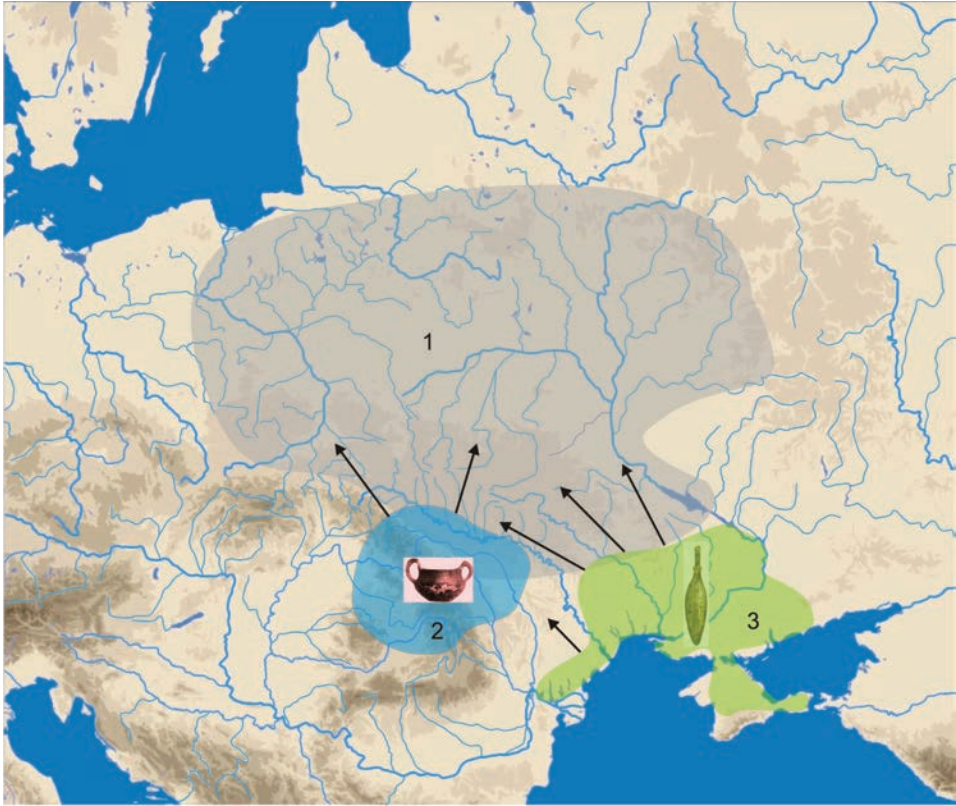


Fig. 20. The range of (1) the Trzciniac circle [Makarowicz 2010: Fig. 1.1], (2) Noua culture, and (3) Sabatinivka culture [Berezanska, Otroshchenko 1997: Map 14]. Arrows represent impact directions

for instance Ghindești, Rîșești, Cluj, site ‘Strada Banatului’, graves: 13, 18, Dealu Morii, Nyirkarász-Gyalaháza, Bohemia, and Magala [Kaiser 1997; Makarowicz 2008]. Radiocarbon dates from grave 72 in Malopolovetskoe 3 and barrows 1/2010 and 3/2012 in Bukivna permit to establish the chronology of the pins in Ukraine at 1700-1500 BC [Górski, Lysenko, Makarowicz 2003; Makarowicz, Lysenko, Kočkin 2013].

The impact of the Noua culture may be behind the emergence of ritual ash piles in the drainage basin of the Horyn River – a major enclave of the TCC. Examples of such features come from the younger development phase of the cemetery in Netishyn [Berezanska, Goško, Samoljuk 2004].

Less clear, the relations between the TCC and the Sabatinivka are illustrated in principle only by bronze objects, chiefly weapons. One of such objects is the celebrated dagger from Ślipcze, on the upper Bug. A similar specimen recorded in



Fig. 21. Komarov vessels showing Noua culture traits (1-3 – Komarów, barrow 33; 4 – Okniany, barrow II; 5 – Dubno [after Sulimirski 1968; photos 1-4 – Makarowicz]

Daumyany (Cuconești Vechi) [Fig. 22:6, 7; Taras 2007: Fig. 6], Moldavia, is alternatively associated with the Babyno culture by Savva [1992]. The impact of the Noua-Sabatinovka complex on the early Lusatian culture is responsible, according to Bukowski [1976], for the later daggers of the Sosnowa Maza type found in Przemyśl, Jarosław and Rożubowice [Taras 2007]. In the context of a Sabatinovka stylistic impact (next to the patterns of Transcarpathian and Mycenaean cultures), researchers consider a prestigious dagger from a barrow-covered grave in Ivanye, barrow 2, Volhznia. In this case, chief attention is drawn to the button at the end of its handle [Makarowicz 2008].

The Noua-Sabatinivka complex (Noua-Sabatinivka-Coslogeni) is associated with Krasnyi Mayak metallurgy [Ingul-Krasnyi-Mayak metallurgic centre according to Chernykh 1976]. The sites related to the metallurgy (workshops and hoards) are found on the right bank of the middle Dnieper and also on the lower Dnieper, hence already beyond the TCC oecumene. A special trait of the western regions of the Sabatinivka culture is the presence of objects following the Danube-Transylvania style, chiefly weapons: knobbed shaft-hole axes, javelin points, concave-sleeve axes [Klochko 1994: 119; 2006: 188-191; Terenozhkin 1961: 122-126, 133-134, 138-140]. Krasnyi Mayak inventories occasionally contain casting chalk-schist moulds, various types of sickles, pins and bracelets as well as adzes

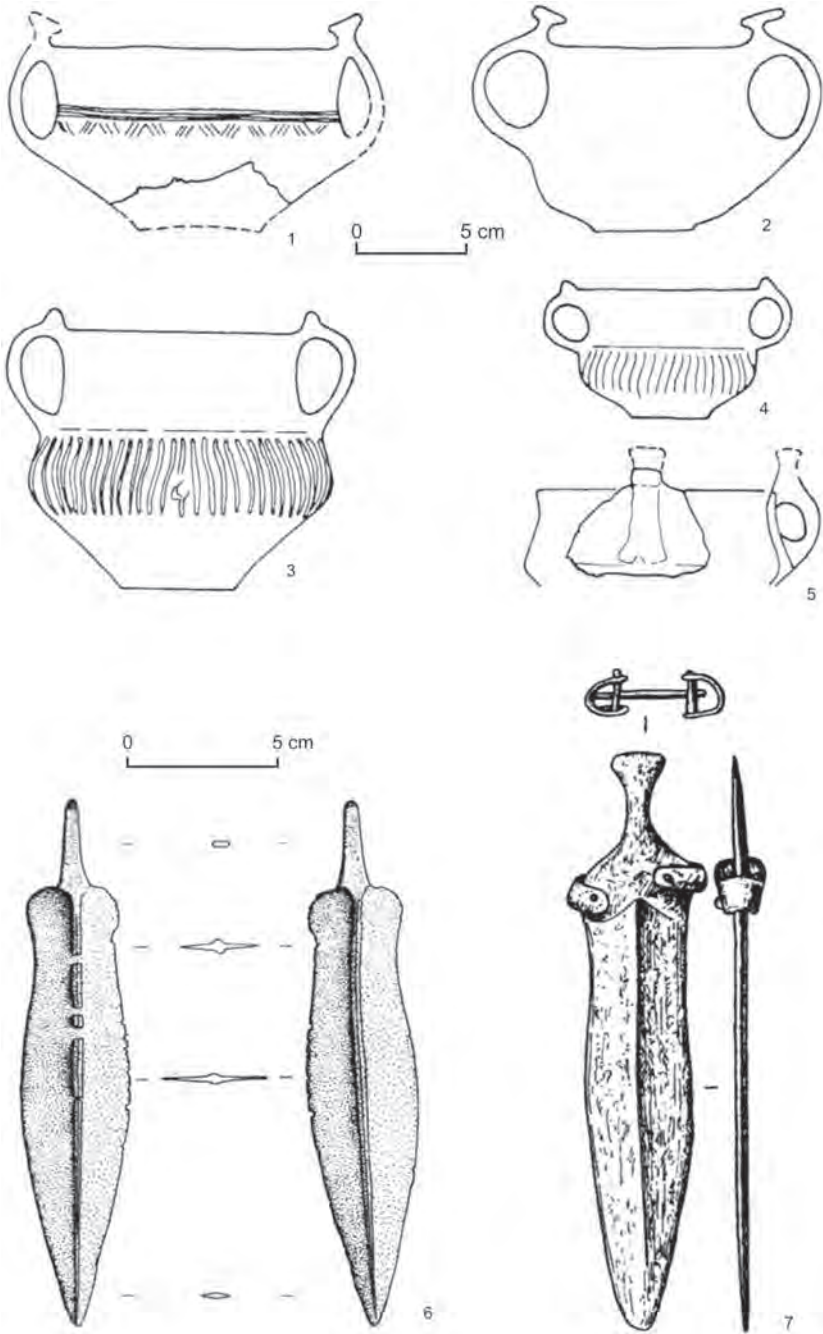


Fig. 22. The vessels of the Tarnobrzeg Lusatian culture showing Noua culture traits (1-5). Daggers from Ślipcz (6) and Daumiany (7) [Taras 2007: Fig. 6, 7]

and chisels. In the eastern (left-bank) part of the middle Dnieper area, there were also syncretic assemblages distinguished that combined sets of objects characteristic of Sabatinivka and Leboikivka metallurgical traditions [Klochko 1994:119].

The presence of casting moulds and metal objects on ‘Trzcinić’ sites on the middle Dnieper may result from barter (exchange) contacts. On the other hand, in spite of the fact that the origins of the two metallurgical traditions seem foreign – related to the neighbouring cultural units – one should not reject the idea that the impact led to the transfer of knowledge and the acceptance of patterns coming from these metallurgical centres in the TCC environment.

6. TRZCINIĆ CIRCLE AND THE CULTURES OF THE CARPATHIAN BASIN AND VICINITY (FIG. 23)

Crucial for the development of the TCC, contacts with Transcarpathian groups (Carpathian Basin and its immediate surroundings) resulted in the presence of prestige objects of bronze, gold, amber, glass and antler, as well as pottery in the lands occupied by TCC communities. The style of these objects resembles that of goods attributed to the Otomani-Füzesabony, Mad’arovec, Tumulus and Piliny cultures (inspirations coming from the Costișa and Noua cultures have been described earlier). Examples of such interactions were discussed already [e.g. Górski 2003; Makarowicz 1999; 2009; 2010], hence in this paper only a representative selection shall be given.

Within the TCC range, in both the drainage basins of the Baltic and Black seas, there appear varied vessels, finding analogies mainly in the Otomani-Füzesabony and Mad’arovec cultures. Other objects include bronze and gold goods, bone cheekpieces, amber and glass beads, stone knives (Krummesser) and clay models of wagon wheels. Such artefacts are found in hoards, graves and settlements. The presence of such objects coincides with the rise of stable Otomani-Füzesabony settlement, including fortified settlements, in Sub-Carpathia [Gancarski 2002; 2011 Przybyła, Skoneczna 2012]. Dating to the same period, Baltic amber finds are encountered south of the Carpathians [Makarowicz 2010: Fig. 6.1].

The cultural relations between ‘Trzcinić’ and Transcarpathian communities were described in detail, as was the set of ‘southern’ traits, for the west of the TCC oecumene. The conclusions are applicable to some extent to its eastern portion.

To identify Transcarpathian traits on pottery is not always easy. In the territory occupied by the TCC western branch, there are vessels that find analogies in the south and ‘Trzcinić’ ones in which motifs diagnostic of the Otomani-Füzesabony culture were strongly transformed. This is the case of knobs encircled with broad

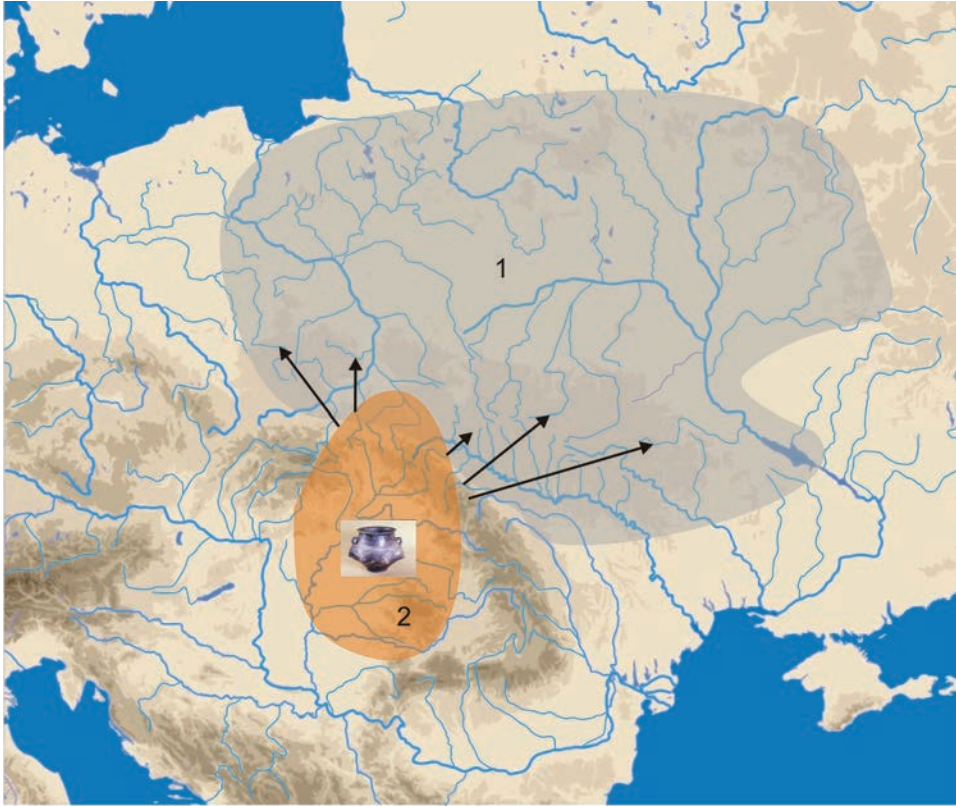


Fig. 23. The range of (1) the Trzciniac circle and (2) the Otomani-Füzesabony culture [Makarowicz 2012: Fig. 1]. Arrows represent impact directions

grooves [Polesie style; Górski, Makarowicz, Wawrusiewicz 2011: 60-64, Fig. 232a, 232b; Górski 2012]. Several independent mappings of such finds in the present-day territory of Poland brought similar results [Makarowicz 1999: Fig. 1; Górski 2003: Fig. 4, 5, 11; Dąbrowski 2004: Karte 8]. It is widely accepted that the following have southern provenance: jars, often footed, bearing ornaments of vertical flutes or ‘drooping’ knobs (less frequently these are amphorae) of the Otomani-Füzesabony culture or later units descending from it, long-necked jars, finding analogies in the milieu of the Mad’arovec culture as well as footed vases or beakers whose cultural provenance is unclear but not doubt southern. The first and third groups of vessels are also represented on sites in Ukraine, mainly Podolia and Volhynia; the third is also found, albeit very rarely, on the middle Dnieper.

Southern provenance is shared by a vast majority of bronze objects known from the drainage basins of the Vistula and Warta rivers. They are products of the Otomani-Füzesabony culture and later Piliny culture metallurgy. Only late-

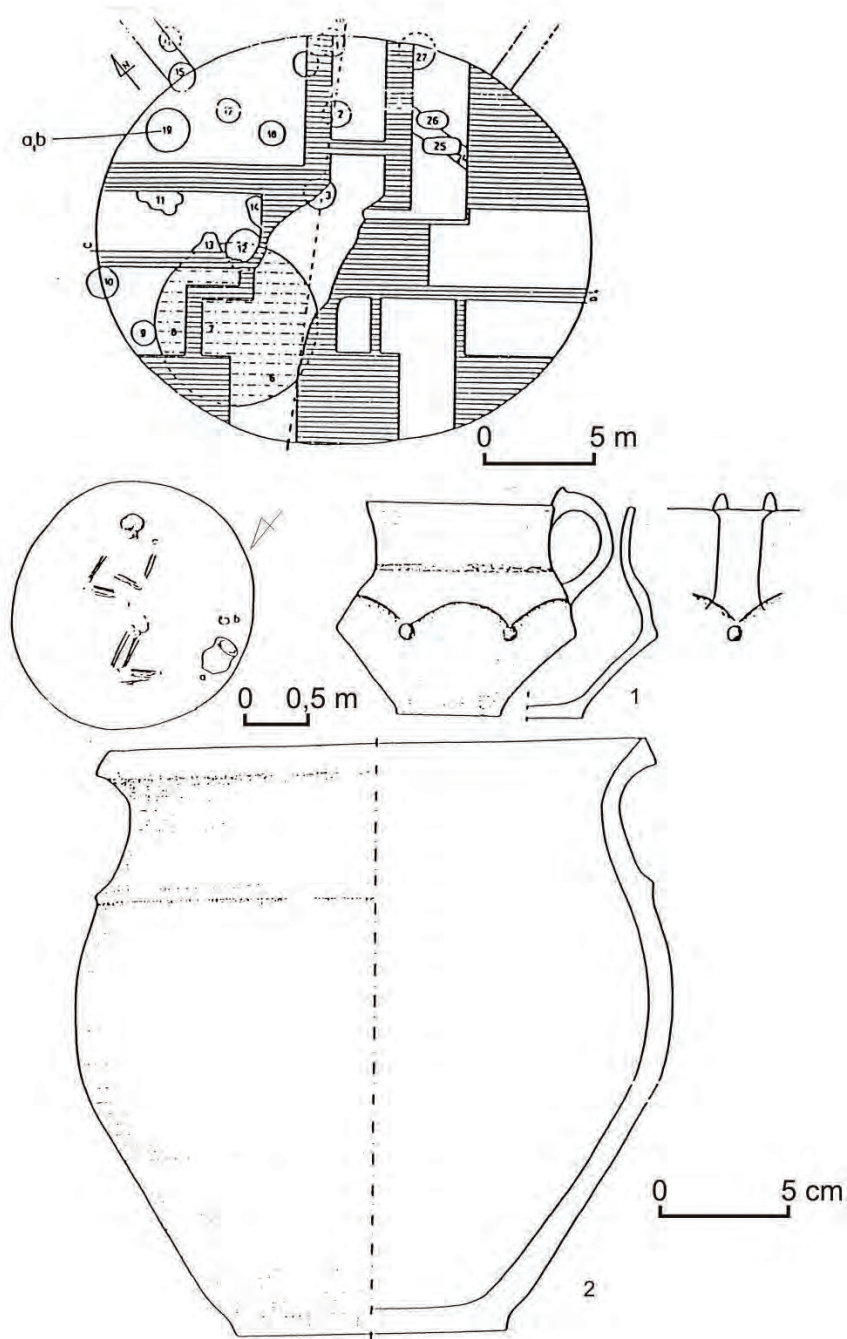


Fig. 24. Rosiejów, eastern barrow, grave 19 [Górski 1994: Plate IV:17, 18]

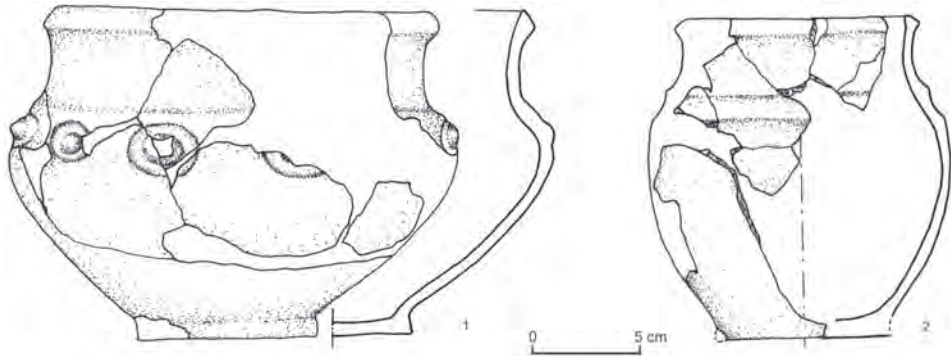


Fig. 25. Żerniki Górne, site 1. A deposit of two vessels from underneath a barrow mound [Kempisty 1978: 218; Fig. 260:1, 2]

Trzciniec goods, exhibiting traits of local production, followed the stylistic patterns of the Tumulus culture. In the context of the intercultural relationships, an interesting case study is western Małopolska. The area is known for stable and dense TCC settlement [Górski 2003: Figs. 6, 7] and widespread southern elements. In the rest of the TCC oecumene, only few relevant artefacts were found. However, there are enclaves with the artefacts of foreign, southern, provenance. One of them is the area between the Warta and Prosna rivers, and Kujawy [Makarowicz 1999, Fig 1; Górski 2003: Figs. 4, 5, 11; Dąbrowski 2004: Karte 8]. Moreover, a cluster of sites displaying southern traits is observable along the Vistula, which suggests a communication artery.

In western Małopolska, relevant traits not only co-occur with TCC materials [Górski 1994: Tab. IV: 17, 18; Górski, Wróbel 2000: Fig. 7], but also form autonomous settlement [Górski 1998] and funerary [Górski, Jarosz 2006: Fig. 16:1-9] contexts. These inspirations come from various cultures and directions, which can be seen in the references to Füzesabony and Mad'arovec styles.

There are relatively many examples of features which, next to Trzciniec pottery, held some foreign, southern elements. The following can be named: the inventory of grave 19 from a barrow in Rosiejów [Fig. 24; Górski 1994: Tab. IV:17, 18], the inventory of grave 108 in Kraków-Nowa Huta-Cło [Górski, Wróbel 2000: Fig. 7] or a deposit of two vessels from a barrow in Żerniki Górne [Fig. 25; Kempisty 1978: 218, Fig. 260:1, 2]. There are many cases of two groups of materials co-occurring in settlements [e.g. Mysławczyce, feature 29; Dobrzańska, Rydzewski 1992; Kraków-Nowa Huta-Mogiła, site 55, feature 228 ; Rachwaniec 1985: Tab. XVII, XVIII: 1]. In each of these features, typical Trzciniec vessels – S-shaped pots with a thickened rim and decorated with relief strips or vases with horizontal flutes – are accompanied by specimens with a knob ornament manufactured in the style of Otomani-Füzesabony culture.

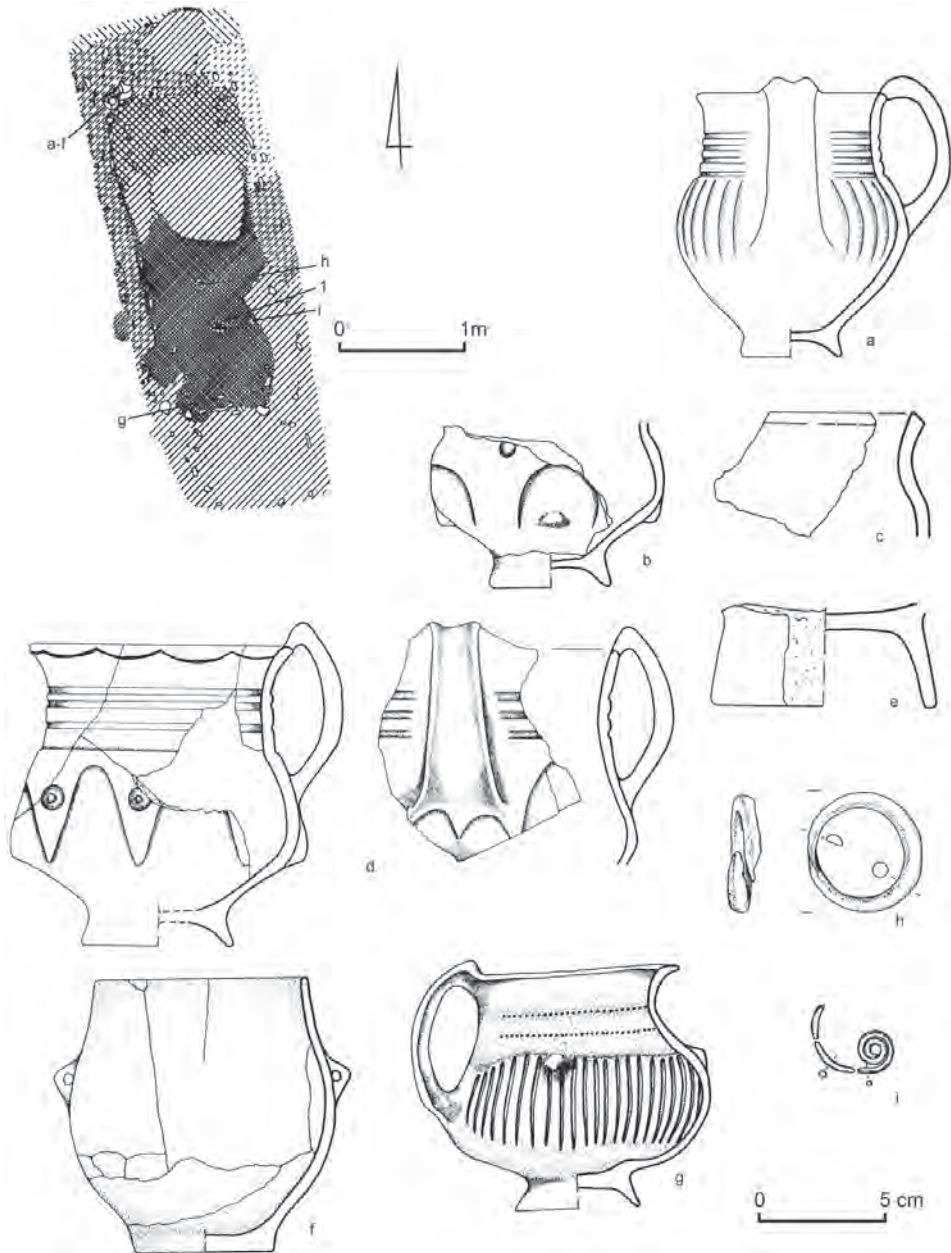


Fig. 26. Gabułów. Barrow-grave goods [Górski, Jarosz 2006: Fig. 16:1-9]

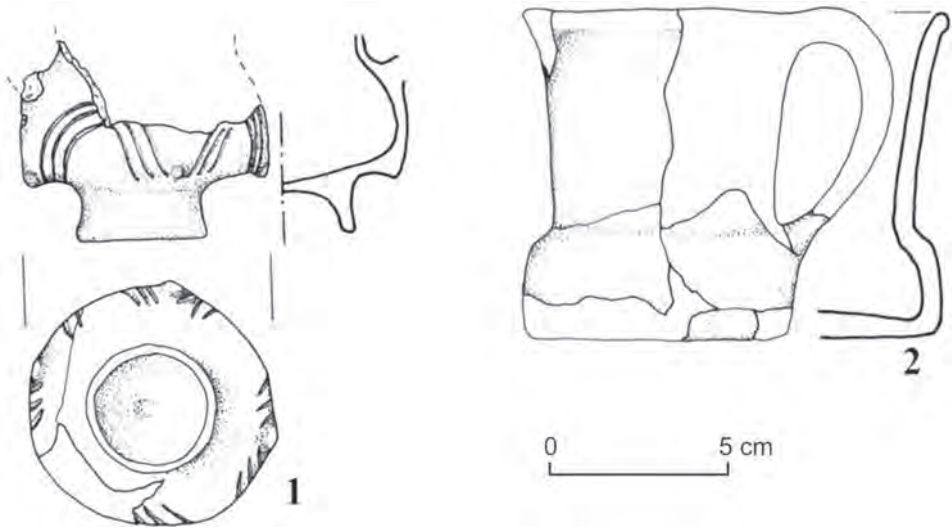


Fig. 27. Żerniki Górne, site 1. Part of grave goods from grave 69 [Kempisty 1978: Fig. 228, 229]

Many graves yielded only well-preserved containers, finding analogies usually in the milieu of the Otomani-Füzesabony culture (jars with the ornament of encircled knobs) and the Mad'arovce culture (long-necked jars, usually footed). In this context, one can name graves in Gabułów [Fig. 26; Górski, Jarosz 2006: Fig. 16:1-9], Iwanowice, grave 26/64 [Gajewski 1969: Tab. 133/1, 2], Kraków-Nowa-Huta-Pleszów, site 17 [Górski 1995] and some burials from the cemetery in Żerniki Górne, e.g. grave 69 [Kempisty 1978: Fig. 225-232], grave 123a [Włodarczak 1998: Fig. 7-8]. While discussing this group of materials, one should mention a deposit of three vessels discovered in the ceiling portion of grave 71 in the last-mentioned cemetery [Kempisty 1978: 86, 188, Fig. 235:1, 6, 13] and, believed to be entirely an import, a bronze hoard from Stawiszyce [Dąbrowski, Okuliczowa 1962]. A few settlement features can be indicated, too, in the fills of which pottery was found lacking any traits typical of the TCC or at least incidental to this taxon. Above all, they include pits 201 and A47, site 55, Kraków-Nowa-Huta-Mogiła [Górski 1998: Figs. 3, 5, 6]. Outside western Małopolska, there are no compact assemblages which would include only pottery with southern characteristics. In this context, materials from two barrows in central Poland appear very interesting [Łubna, barrow 23 and Strugi, barrow 2; Kłosińska 1997: Tab. LI, LII, LXXVI]. No well-preserved vessel found in any of the two features has any traits typical of the TCC.

A peculiarity of western Małopolska is grave assemblages in which vessels characteristic of various southern cultures co-occur. This is seen best in the grave

goods from grave 69 in Żerniki Górne [Fig. 27; Kempisty 1978: Fig. 225-232]. A knob-decorated jar with its lower belly characteristically undercut occurred in this grave with a long-necked jar. Analogies to the former are known chiefly from the Otomani-Füzesabony culture, while the latter is typical of the Mad'aróvce culture. A similar co-occurrence of traits of various cultures is observed in the settlement features in Nowa Huta-Mogiła referred to above.

The impact of Transcarpathian cultures was recorded also in the east of the TCC. Besides metals – bronze goods (twisted pins, bracelets, armlets, pendants with spiral ends and few gold objects (ear wraps, pendants)) manufactured following the style of the Otomani-Füzesabony culture and occurring mostly in barrows (Bukivna and Komarov in the upper Dniester drainage basin) – we see pottery-making patterns there which are popular in the Carpathian Basin [Makarowicz 2008; 2009; 2010; Lysenko, Lysenko Sv. 2009; Makarowicz, Lysenko, Kočkin 2013]. The pottery style traits of the Otomani-Füzesabony culture within 'Komarov' assemblages are not as many in the area under discussion as in the western province, especially on the Małopolska Upland. They occur mostly in Ukrainian Sub-Carpathia and on the upper Dniester, less frequently on the Podolia and Volhynia uplands. In turn, between the Seret and upper Dniester rivers (TCC Komarov variety), in dispersion also on the Podolia, Volhynia and Dnieper uplands, there are found – discussed earlier – the pottery style traits of the Costișa and Noua cultures.

The style of the late Otomani-Füzesabony culture may be discerned on jars, mugs and vases bearing a knobbed and spiral-knobbed ornament and found in a number of barrow cemeteries in the upper Dniester basin. Such artefacts were recorded in Komarov, barrows 8, 21 and 48 [Swieszniakow 1967: Tab. I: 7; Sulimirski 1968: Fig. 30:9; Plate 16:4, 10, 14; 19:4], Bukówna, barrows I, IV and VI [Swieszniakow 1967: Tab. VIII: 10; Sulimirski 1968: Plate 19:1, 5, 6, 7], Stopczatów [Swieszniakow 1967: Tab. IX: 5; Sulimirski 1968; Plate 19:2, 3], Wolica, barrow IV [Swieszniakow 1967: Tab. IX: 10, 16] and Ditinichi on the upper Styr River [Swieszniakow 1967: Tab. XII: 5]. A vase with a spiral-knobbed ornament was recorded also in Marochna between the upper Stokhid and Veselukha rivers – right tributaries of the Pripet [Volhynia Lowland; Kryvalcevič, Kalečyc 2006: Fig. 3:17], as well as in grave 1, assemblage 2, cemetery in Malopolovetskoe 3 [Lysenko 1998: Fig. 7:2]. In addition, on the upper Dniester, for instance in Wolica, barrow IV [Swieszniakow 1967: Tab. IX:11], jars showing southern traits are recorded, ornamented with vertical flutes or vertical and horizontal incised motifs, and pointing to connections with specimens recovered in western Małopolska. Relatively frequent there, vases, mugs and jars bear broad, often oblique flutes. They were discovered, for instance, in Komarov, barrows 11, 45 and 48 [Swieszniakow 1967; Tab. II: 12, III:2; Sulimirski 1968: Plate 17:1, 2, 6], Sarniki, barrow IV [Swieszniakow 1967: Tab. VII: 11], and Bukówna, barrow IV [Swieszniakow 1967: Tab. VIII: 9; Sulimirski 1968: Plate 19:14].

Otomani-Füzesabony-style bronze goods (pins and bracelets) are found in the cemetery in Malopolovetskoe 3, already much referred to, on the middle Dnieper. They are recorded in horizon MP-III – Teklino (1500-1400 BC) in the context of elite burials [Lysenko 1998; 2007].

In the west of the TCC oecumene, goods were recorded that are believed to be local imitations of Tumulus culture patterns. A strong impact coming from the Tumulus circle largely determined the style of ‘Trzcinec’ bronze artefacts between the Prosna and Vistula rivers and further east as well. Such artefacts are encountered in both hoards and as grave goods. Most stimuli related to the cultural environment under discussion come in principle from Silesia and Wielkopolska, less often from Pomerania and beyond the Carpathians [Dąbrowski 1977: 208]. The cultural tradition in question is associated with armlets with spiral disks from the hoard in Dratów [Gardawski, Wesołowski 1956] and armlets with a ‘wolf’s teeth’ ornament from the hoard in Piastów [Dąbrowski 1977; Blajer 1998: 338ff.]. To the local bronze manufacturing following the Tumulus culture style, especially on the Wielkopolska-Kujawy Lowland and in the borderland between the Małopolska Upland and Mazovia Lowland, may testify the special traits of some bronze goods found in the area in question [Blajer 1998:339, 342].

Next to the examples given earlier, ‘Tumulus’ connections are shown by two pins from grave 11/64 in Iwanowice, site Góra Klin, with perforated and bent shafts and disk-like and semicircular heads of the Sudoměřice and Leobensdorf varieties [Makarowicz 2010: Fig. 3.18:18, 19]. Such pins are found in Tumulus culture inventories in Silesia, the Carpathian Basin and in Germany [Gedl 1975: 17; David 2002: Taf. 323:3; 327:7; 333:1]. It is in the Tumulus inventories that one should look for the prototypes of richly ornamented pins from graves in Wolica Nowa, site 1, and a pin and a bracelet from a collective grave in Gustorzyn, site 1, Kujawy [Makarowicz 2010: Fig. 3.17:12; Grygiel 1987: Fig. 9:1, 2 and Fig. 13; Blajer 1998: 338]. Many of goods of this provenance were deposited in graves from the cemetery in Borek, site 1, between the Prosna and Warta rivers, where ‘Tumulus’ metals accompany the dead buried according to the ‘Trzcinec’ rules [Ziąbka 1987]. Tumulus culture patterns are discernible in the style of bronze goods from hoards. These are, for instance, bracelets, armlets with spirals, pins and a javelin point [Makarowicz 2010: Fig. 3.19:10] from Żyrardów, Mazovia Lowland, or objects from the hoard in Niechmirów on the middle Warta River [Blajer 1998: 340]. ‘Tumulus’ impact is also noticed on the Lublin Upland [Taras 2007: 260]. It is in this style that spiral armlets had been made which were found in the collective grave in Kosin [Chomentowska 1964] or objects included in the Dratów hoard mentioned earlier.

7. TRZCINIEC CIRCLE AND OTHER CULTURAL GROUPS – ROUTES AND MECHANISMS OF CONTACTS

It appears that the TCC owed its stability chiefly to the movement of people, circulation of ideas and exchange of goods along two directions: south – north and east – west. They tied together ‘Trzciniac’ settlement centres to the Carpathian Basin and regional centres on right-bank Ukraine to upland and lowland enclaves in the west. An important role in maintaining these ties was played by long- and short-distance transit routes along which the societies under discussion communicated. The contacts are borne out by the traits of southern and eastern provenance (for instance, stylistic patterns of bronze, flint/stone and clay – vessel ceramics – goods) but also some settlement-economic patterns and types of social behaviour.

Hence, it can be justifiably believed that the impact of cultures from the Carpathian Basin and its surroundings penetrated western Małopolska along two routes. From the areas occupied by the Otomani-Füzesabony cultures, the impact must have followed the valleys of the Dunajec and Wisłoka rivers [Furmánek, Veliáčik, Vladár 1991: 155ff; Makarowicz 1999: Fig. 1], while from the home area of the Maďarovec culture, it reached western Małopolska through the Moravian Gate [Górski 2003: 128; Dąbrowski 2004: 119]. Further north, southern patterns were transmitted along routes following the Vistula or continuing towards the Warta River and Kujawy.

In turn, the emergence of Transcarpathian patterns on the uplands of western Ukraine may be explained by the transmission of cultural patterns (ideas, skills or technologies) and the movement of small groups of people from the Carpathian Basin along the valleys of the right tributaries of the Tisa (Uzh, Latavitsa, Borzhava, Rika rivers), across Carpathian passes towards the right tributaries of the Dniester (Stryi, Svich, Limnitsa, Lukva, Bystrytsia) and further north and east along the valleys of the Stry, Horyn and Sluch rivers as far as settlement clusters in Volhynia, Polissya and on the Dnieper Upland.

The second category of routes along which cultural patterns were transmitted east-west in the Baltic-Pontic area comprised overland communication trails, avoiding river valleys and following watersheds; they were already discussed elsewhere. It may be presumed that their individual sections were controlled by local ‘Trzciniac’ elites, who profited from serving as intermediaries or taking care that certain crucial sections stayed passable. The mechanisms of exchange along the east-west axis between the TCC groups and Pontic zone communities have already been discussed in detail [Makarowicz 2009; 2010; 2012], hence here we shall largely focus on north-south relations between the TCC and the Carpathian Basin cultures.

The relations between the ‘southern’ and ‘northern’ cultural groups are described best, as it seems, by the world-systems theory [Wallerstein 1974; Braudel

1992:12-56], which helps anticipate the model of interactions between the ‘civilized’ world (centre) and peripheries (less developed territories). The question, in the context relevant to us here, has been discussed recently [Górski, Makarowicz 2007; Makarowicz 2009; 2010]. In the situation at hand, the central area would be the oecumenes of the Otomani-Füzesabony and Mad’arovec cultures also north of the Carpathians. The peripheries would comprise mainly western Małopolska and the upper Dniester drainage basin where TCC settlement was stable. The rest of its range is a marginal zone interspersed with settlement centres where southern traits are more conspicuous (Polish Lowland, Podolia and Volhynia uplands, middle Dnieper drainage basin).

The roles of these zones varied. Otomani-Füzesabony communities no doubt initiated and organized exchange routes, connecting the south with loess soils around today’s Kraków. Further north, ‘people of the route’ must have been TCC representatives [Górski, Makarowicz 2007; Makarowicz 2009, 2010]. Within an extensive exchange network, areas conveniently located along the trail from the Baltic coast to a territory occupied by the communities in question grew in importance [Dąbrowski 2004:123]. These may have been Kujawy, mentioned earlier, the area on the middle Warta-Prosna rivers, western Małopolska, and Podolia and Volhynia uplands in Ukraine all of which could have served as stage zones along the route. These areas played a special role in the system of long-distance exchange by supplying raw materials to the centre and importing readymade goods. Imported metal goods and objects made of other materials had solely a prestige function. They could have been monopolized by ‘peripheral’ elites and used to legitimize their authority. The marginal zone had a minor part only in this structure and the exchange system did not have a significant impact on the way it functioned.

An important question concerns the presence of local elites that could organize and manage the distribution of amber and bronze. Generally speaking, TCC communities were rather moderately ranked. Prestige goods of bronze, gold, amber and glass were rare and ‘exotic’ [Makarowicz 2003; 2009; 2010]. The study of the situation in western Małopolska in the classic phase of the TCC points to slightly different conclusions than those for the whole Trzciniec circle. Three groups of burials can be distinguished in this region. The first group comprises graves without any artefacts displaying Transcarpathian traits. Grave goods in such graves include ‘local’ TCC objects. The second group is made up of burials containing mix-trait pottery. Next to TCC pottery, graves in this group contain vessels, finding analogies in the ‘southern’ style. Finally, the third group consists of graves containing only objects of foreign provenance and lacking any objects typical of the local cultural environment [Górski 2012]. These are not only vessels but also prestige objects (mostly ornaments) of bronze, glass and amber, making burials in this group by far the richest in the area in question. They stand out in terms of the kind and quality of grave goods, betraying foreign origin. Whereas, the funerary ritual is typical of the local TCC communities. All the grave groups are encountered in the

same cemeteries (Iwanowice, Gabułów and Żerniki Górne, western Małopolska). The differences in grave goods among the grave groups are not a result of different chronologies. Collective inhumation graves are commonly believed to be the resting places of members of real units of social organization – families or lineages [Makarowicz 2003; 2010].

Keeping in mind, the diverse reservations to the simple representation of a social structure in a funerary rite [Kadrow 1995: 98-99], it can be accepted that grave goods do reflect to some extent the original status, wealth, role and prestige in the world of the living [Wason 1994; Parker Pearson 1999; Vandkilde 1999; Makarowicz 2010]. In our specific case we deal with the accumulation of ‘exotic’ and prestige objects in selected collective graves. They stand in a clear contrast to the analogous – in terms of the funerary rite – burials with meagre grave goods. These facts may support the hypothesis that in the time of the TCC, in western Małopolska and possibly also in the upper Dniester drainage basin, Podolia and Volhynia, people buried in mound-covered graves, local elites emerged (family or lineage ones) who gained control over the exchange with populations living across the Carpathians [Makarowicz 2009; 2010]. One of the manifestations legitimizing the domination by such groups is reflected in rich grave goods [Górski 2012].

The situation on TCC settlements in the Małopolska enclave resembles that in cemeteries. In some features, only pottery with southern traits was found or one with very few ‘Trzciniec’ vessels [Górski 1999]. An inescapable conclusion comes to mind that the inhabitants of farmsteads using features with such pottery used a different set of vessels and did not follow the ‘Trzciniec convention’ in making them. The differences between the compared ‘Trzciniec’ (local) and ‘southern’ (foreign) inventories are so large as to make one think that the makers of Transcarpathian-trait vessels had different typological and stylistic patterns imprinted on their minds. On the thoroughly excavated settlement in Kraków-Nowa Huta-Mogiła, it was observed that features with the discussed characteristics did not group within the settlement but were clearly part and parcel of regular village structures. The available data suggest that the settlement was inhabited, next to the autochthonous population, by families (or only potters – women, no doubt), who had come from outside and had not originated with the ‘Trzciniec’ environment. This situation could be explained by adopting a hypothesis about the exchange of women among the populations inhabiting western Małopolska (especially the vicinity of today’s Kraków), the Carpathians and lands south of the mountains. Such an exchange would explain the relationships discussed above.

The permanent contacts of western Małopolska dwellers with populations living across the Carpathians induced considerable changes in material culture. Post-classic phase pottery, from the end of the older period of the Bronze Age, finds no analogies in other zones of the TCC oecumene. Instead, it resembles the inventories of the Piliny culture [Górski 2003; 2007]. For this reason, it can be claimed that owing to intensive and permanent contacts, the most popular ele-

ments of the material culture were changed in the vicinity of today's Kraków. The evidence of this change is also visible in the lowland parts of the drainage basins of the Warta and Vistula rivers but only in regions saturated earlier with southern traits [Lutomiersk; Muzolf 2012]. Certain changes in the appearance of pottery is discernible in other parts of the Polish Lowland, far away from the trails along which southern patterns travelled. The 'Polissya style' developed there. It is highly probable that the emergence of this style involved a peculiar reworking of Transcarpathian patterns.

8. CONCLUSIONS

The impact coming from the circle of the named groups varied and – to a large extent – depended on the distance between 'Trzciniec' settlement clusters and steppe/forest-steppe and Transcarpathian cultural centres [Górski, Makarowicz 2007]. The mechanisms of cultural pattern transmission, circulation of luxury goods and everyday articles (or rather their 'mental representations'), as well as the transfer of knowledge and movement of people included a broad range of interactions: from exchange contacts (mercantile and ritual) through exogamy, imitation and local reproduction of certain ideas and/or objects to armed conflicts.

We do not wish to claim we know for a fact what the individual scenarios of the reception were in each particular case. However, considering the current factual knowledge and reflecting upon it theoretically, a more credible conclusion seems to be one about the existence of long- and short-distance communication routes and a formalized (institutionalized) exchange [Makarowicz 2009; 2010]. It was mainly thanks to an extensive network of inter-group contacts that Pontic and Transcarpathian cultural patterns appeared in the 'Trzciniec' world.

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