TRZCINIEC — KOMARÓW — SOSNICA

(A CULTURE CYCLE FROM THE EARLY AND MIDDLE BRONZE AGE) *

The following remarks are an attempt at giving a short report on the state of works concerning a large culture complex only recently faintly outlined in the papers of investigators. The Early and Middle Bronze Age are not among the best known sections of most ancient history of Eastern Europe and of some part of Central Europe as well. In many cases we have still to deal with an elementary stage of research in which the chronological and cultural classification of materials is the main subject of study. This will, among other things, apply to the eastern parts of the culture cycle Trzcinec—Komarów—Sosnica¹ discussed in this paper (fig. 1).

The materials of four cultures forming this cycle are known from over 800 sites, some 500 of which represent Trzcinec Culture stepping on to Polish lands.² It belongs to the earliest distinguished cultures of this cycle³ and is also best known among them (which still does not mean it to be fully known). Shortly after Trzcinec, Komarów Culture was distinguished,⁴ which allowed to determine a number of finds that were the result of amateur investigations since the 19th century. The two remaining cultures of this cycle have been distinguished only quite recently; before that the few sites known at that time used to be included into one of the two above mentioned cultures; thus statements confirmed in better explored territories were automatically applied to the materials often coming from very distant regions. Recent investigations have allowed to discern the cultures: East-Trzcinec in Ukraine,⁵ and Sosnica in Ukraine and White Russia,⁶ though both these denominations are still an object of discussion. It seems possible to point out the three main causes of this discussion. Besides very scanty and unequal knowledge about the areas in question, the great likeness of relic material (that will be referred to later) should certainly be mentioned here, as well as the existence of wide transition zones between particular cultures subjected to their cross influence (fig. 1).
We possess most scarce information on a small group of sites scattered over the Baltic coast; they are not yet fit to be jointly characterized.

Studies of materials of this culture cycle are particularly difficult, owing to their coming from different kinds of sites. For example, we know Komarów Culture nearly exclusively from burial inventories (mostly tumuli) and East-Trziniec mainly from settlement materials, published moreover in a random way. The present remarks have been made on the basis of not only literature, but also of data gathered during direct studies of materials in the collections of archaeological institutes in Poland and the Soviet Union. I owe my very grateful thanks to all colleagues who were kindly willing to give me free access to valuable materials they had collected and to discuss with me many problems of common interest.

As was said above, four cultures form the cycle under discussion and the sites north from the thick range of finds belonging to Trziniec and Sosnica Cultures (fig. 1) should be listed here. Therefore, the Trziniec Culture includes wide areas of Central and Eastern Poland slightly steep-
ping outside the Vistula's lower course to the south and reaching beyond the River Bug to the east. Some of its single sites are found west near the River Odra. Their exact frontier is difficult to determine, as along its western periphery Trzciniec materials appear to be mixed with relics of a so-called Pre-Lusatian Culture (Polish groups of Tumuli Cultures). A division of Trzciniec Culture into groups has been accomplished on the basis of differences observed in pottery (the proportion of vessels, their ornamentation and frequency in the appearance of forms) and in a lesser degree the differences of funeral customs. Besides the mentioned zone containing materials mixed with Polish groups of Tumuli Cultures the following groups have been distinguished here: Łubna (Central Poland), Opatów (situated between the Vistula and the Pilica), Lublin (South-Eastern Poland) and Mazovia-Podlasie. The Komarów Culture covers areas of Podolja and parts of Volhynia, while its extreme range (fig. 1) undergoes in later phases considerable regression and will comprise in phase IV only the higher Dniester basin. Some investigators distinguish in the compass of this culture a group of Biały Potok, naming it so on the basis of a certain amount of stone chest-graves. Such a distinction does, however, not seem well grounded, because of the lack of other characteristics that would differentiate such a presumptive group. S.S. Berezanskaja discerned four local groups within the compass of East-Trzciniec Culture, assigning here also a Sosnica group, treated here as a specific culture. We therefore assume that the East-Trzciniec Culture occurs in the area of the river Pripet southern lower basin and over the middle Dnieper (fig. 1), and within these may the Kiev group (territories along the Dnieper, Żytomieź part of Polesye and probably the Human region) and the Rovno group (Volhynian part of Polesye) be distinguished.

The range of Sosnica Culture is today most difficult to be distinguished. It spreads mainly over the Pripet part of Polesye, beginning with the lower course of the Jasiolda and higher Nemen course to the west and reaching out east to the basin of Iput' and Sož, also Desna and Seim to a distance of about 300 km from the Dnieper. Groups of this culture are not to be separated yet. Sites scattered in the north appear principally in three concentrations, displaying earthenware of a so-called Juodkrante type in North-Eastern Poland and the neighbouring territories, further in Estonia and over the middle Dvina course (fig. 1). The character of these cultural events is just now difficult to determine.

Before outlining the character of particular cultures in the cycle Trzciniec — Komarów — Sosnica, we shall briefly explain the bases of their dating, beginning with stratigraphic data. For the Trzciniec Culture most essential is the stratigraphic situation of the graves in great tumuli from the south of Poland, indicating its succession after late groups of Corded
Ware. Most instructive are data of a tumulus discovered in Żerniki Górne, Busko-Zdrój, district\textsuperscript{11} where graves belonging to two phases of Trzciniec Culture have been stated; they were lying over graves of Mierzanowice Culture and under these Mierzanowice graves were others of a Chłopice-Vesele group and two (?) phases of Corded Ware Culture. The materials of an earlier phase of Trzciniec Culture from this tumulus (phase V after A. Kempisty) may be synchronized with cultures Madarovce and Füzes-abony. Trzciniec Culture stratigraphically precedes Lusatian Culture.\textsuperscript{12} Materials of Komarów Culture are noticed to occur after late Corded Ware groups and also after those of Tripole.\textsuperscript{13} An important discovery is stating a layer of Komarów Culture under a "zolnik" of Noua Culture in Magala.\textsuperscript{14} We shall speak once more about connections linking those two cultures. Directly over the materials of East-Trzciniec Culture several layers of Byelohrudovka and Čornyj Les Cultures\textsuperscript{15} were found, and a direct succession of Sosnica Culture to the Srednyedneprovskaya Culture is also stratigraphically confirmed.\textsuperscript{16}

![Diagram of a barrow-grave](image)

**Fig. 2. Okalew, Wieluń distr. Plan of barrow-grave 3, eastern part.**

(After B. Abraměk)

1: grave pit; 2: trace of tree trunk; 3: hearths 4: traces of ploughing;
5: outline of barrow-grave

We possess practically only one date C\textsubscript{14} for materials of the culture cycle under discussion. The Komarów tumulus of Ivanie has been determined by the laboratory of Groningen to fall to the years 1285 ±35 B.C.\textsuperscript{17}

The initial phase of Trzciniec Culture should be dated to period A of the Bronze Age (after P. Reinecke), chiefly owing to the occurrence of some pottery belonging to Madarovce Culture among the mentioned ma-
terials of Żerniki Górne. It should, however, not be excluded that Trzciniec Culture may have occurred later in the northern part of its range.\textsuperscript{18} We have good premises to the dating of the beginning of Komarów Culture, provided by the recently described assembly of tumulus VI in this locality.\textsuperscript{19} The big pin found there (fig. 7: 1) has been given a date by the hoard of Borodino, and the dagger (fig. 7: 3) is an import from the east, showing affinity with the material of Srubnaya and Seima Cultures. The whole assembly may therefore by synchronized with the hoards of Hajdu-Samson horizon.\textsuperscript{20} Analogous pins are found in assemblages of East-Trzciniec Culture,\textsuperscript{21} which allows to synchronize all three cultures under discussion. On the contrary, the analysis of copper artefacts from the tumuli of Srednyedneprovskaya Culture leads to the conviction that the latter had still existed then,\textsuperscript{22} therefore the occurrence of Sosnica Culture falls to a later period, corresponding probably to period B of the Bronze Age.

![Fig. 3. Dratów, Opole Lubelskie distr., hoard inventory. About one-fifth natural size. (After A. Gardawski)](image)

The assemblages of Koszider horizon\textsuperscript{23} determine the second phase of Komarów Culture (fig. 7: 13, 14, 17–19) and also the time of Trzciniec Culture's lasting (fig. 3). Unfortunately, only in rare cases are they connected with the pottery of those cultures, which makes the repartition of their material difficult. Trzciniec Culture may pretend to a number of at least five hoards.\textsuperscript{24} Their date can be stated in territories lying north to the Carpathians after the group of assemblages that should be named
Arnimshain type. They fall to a late period II of the Bronze Age and also to the beginning of period III, according to the scheme of O. Montelius. The only hoard of this type from the eastern territories, i.e. Nikolaevsk, contains a flanged axe, which allows to ascribe a number of similar single found axes, that were no doubt imports from the west or their local imitations, to East-Trzciniec Culture (fig. 13: 1). Their longlasting use over the east is proved by the inventory of the Avramovka hoard.

To a further discussion on the chronology of Trzciniec — Komarów — Sosnica Culture cycle, will Noua Culture be of important meaning. Its Dniester group is thrust over a substratum of Komarów Culture (cf. above, stratigraphy in Magala), playing a considerable role in forming the character of this group. Later, that is in the period D of the Bronze Age (after P. Reinecke) this group began to act strongly on Komarów Culture, marking its influence in pottery forms (fig. 9) as well as in metal imports (fig. 8: 4). An important fact was the evidence of a distinct Noua Culture influence in earliest assemblages of Lusatian Culture in South-Eastern Poland. These Noua influences define therefore chronologically phase III of Komarów Culture and simultaneously mark out terminus ante quem to the evanescence of Trzciniec Culture. The presented results are readily confirmed by the quoted date C₁₄ for the Ivanie tumulus. At the same time our attention is attracted by the synchronization of Noua Culture with the Sabatinovka phase of Srubnaya Culture; the convergence of their final date is, however, uncertain. The acting of Sabatinovka phase on Byelorudovka Culture, and the appearance of imports from Noua Culture in the latter indicate that Byelorudovka Culture had occurred before the dying out of Noua Culture, therefore earlier than the beginning of Hallstatt B period.

Byelorudovka Culture is no doubt a continuation of East-Trzciniec Culture, therefore the end of this culture should be determined to a late Hallstatt A period.

It should here be stressed that the above mentioned date of the end of Trzciniec Culture, is the latest of possible versions and may be applied only to Poland's eastern lands. In its western and middle part did Trzciniec Culture disappear no doubt earlier, most probably at the turn of period II and III of the Bronze Age (after Montelius). It gives way there either to early Lusatian assemblages or to objects of a Łódź phase.

In assemblages of Komarów Culture, phase III, occur also bronze artefacts of the Rimavška Sobota type, therefore relics dated to the period D of the Bronze Age and Hallstatt A. They are not fully synchronized with the time of Noua Culture influence, their date is, however, possible to verify by analysing the acting of this influence. The lagging of Komarów Culture up to Hallstatt period B is shown by the assemblages containing
an iron pin (fig. 8: 11–14), fit to be determined as the leading one for phase IV of Komarów Culture. For its dating an important thing is determining the hoard of Niedzielska\textsuperscript{87} to the same time, since this allows to state an earliest possible date of the occurrence of iron artefacts in this territory.

Determining the end of Sosnica Culture is a most difficult thing. Attempts at linking its materials with Milohrady Culture, by presenting such finds as Gostomel,\textsuperscript{88} do not seem well grounded. That thesis is, moreover, contradicted by recently published data,\textsuperscript{89} placing the earliest materials of Milohrady Culture in the basin of the River Horyň and lacking proofs of its reference to earlier cultures. Therefore the final date for Sosnica Culture should be conventionally assigned to the years following Hallstatt A, and certainly earlier than Hallstatt D. It is just now not possible to determine that time more exactly.

The periodization of materials of the cultures under discussion is a matter still waiting to be cleared. It can only be done in the case of Komarów Culture (figs. 7 and 8), distinguishing phases I–IV. Phase I is synchronized with horizon Hajdu-Samson, phase II with horizon Koszider, III with horizon Rimavska Sobota and a late phase of Noua Culture, and IV with the earliest iron objects. The mentioned phases are, however, still represented by too scarce a number of assemblages,\textsuperscript{90} to discern a sufficient number of features in the materials, which would allow to establish a classification of all known artefacts in this culture. The materials of Żerniki Górne have not yet been published, and other sources do not allow to accomplish a more exact repartition of the Trzciniec Culture assemblages. The recently proposed periodization of the pottery of East-Trzciniec Culture makes use of a typological and technical analysis comprising the finds of whole sites,\textsuperscript{91} not condensed assemblages, therefore it is not satisfactory. We have only very scanty data for the materials of Sosnica Culture, it can, however, be assumed that the pottery from Kuzina Gora, displaying many characteristics of the Srednyedneprovskaya Culture (fig. 15: 3, 4) represents an early stage of the former.\textsuperscript{42} Therefore it may be concluded that a further repartition of the cultures under discussion will depend on finding more basic sources.

We shall start a characteristic of the cultures of this cycle from the one that is known best, i.e. Trzciniec Culture.\textsuperscript{43} Its background were no doubt Comb and Cored Ware Cultures with a share of cultures: Iwno, Unietyce and also Bell Beakers. A. Gardawski managed to clearly differentiate longlasting settlements from camps that were used only for short periods of dwelling by small human groups. Among investigated settlements the largest would be Kleszewo, Pułtusk distr., and Złota Piniczowska in the district of Pinczów, neither of them have till now been published. The settlements contained, besides pits and hearths only one-
cell pit-dwellings and traces of post and plaited buildings. In two cases workshops processing flint could probably be stated. A single object in Trzcinec, Opole Lubelskie distr., lying about 2.5 km from a large settlement in Dratów, can be considered a typical camp.

Funeral customs of Trzcinec Culture were much differentiated. Among cremation graves there are ash-urn, pit and layer graves. There occur also half-burned skeletons (Kosin, Kraśnik distr.). Only cinerary layer graves occur in tumuli, sometimes erected in the very place of cremation and displaying traces of wooden constructions; those are so-called barrow-graves of Guciów type. Their inventory is poor, beside pottery we only find small bronze objects, flint and stone. Skeleton graves occur in the tumuli, also flat, single and mass graves. The grave pits were frequently strengthened by stone and wooden constructions, the skeletons used to be laid crouching or straight with no uniform care for the cardinal points of the world. In the earth heaped over tumuli there were often traces of fire (fig. 2), considered to be remains of customs telling respect for the dead. Food was often laid in graves, bones of domestic and wild animals have sometimes persisted. The equipment of graves is much differentiated; besides pottery we only seldom find bronze (sometimes gold) ornaments, sporadically arms and tools — the latter mostly made of flint. There are no grounds to the connecting of that type of graves with any of the Trzcinec Culture groups: only in the Mazovia-Podlasie group no tumuli have till now been found. Anthropological investigations are still very scarce, we shall therefore not mention them here, neither in the description of other cultures.

Metal artefacts were chiefly known in the south and western parts of Trzcinec Culture. Metallurgical analyses of 43 artefacts indicate the appropriate choice of raw material, a high skill of forgery and also the knowledge of casting. Trzcinec Culture no doubt possessed an individual metal processing production, although the objects produced were mostly imitations of strange forms, rather than local ones. The discovery in Volhynia of poor beds of copper with traces of exploitation, unfortunately not dated, should be mentioned. They may have been exploited by the population of one of the cultures we are discussing.

At least six hoards are certainly connected with Trzcinec Culture (fig. 3), their majority are relics of Koszider type. Among arms and tools, several daggers, a spear-head and perhaps some flanged axes of a so-called north-Germanic type should be mentioned. As for ornaments we find an imposing diadem made of bronze sheet, ornamented armlets with spiral disc of square wire, open massive bracelets, spiral many-coil bracelets (fig. 3), similar armlets made of tape with spiral discs or tapering ends, all sorts of pendants and small earrings, finally six types of pins (the
commonest type are specimens with flattened head rolled up into an earlet). Glass beads, ornaments of amber and sometimes small golden ones happen to be found in the assemblages of this culture.

Flint working of Trzciniec Culture has not yet been investigated, notwithstanding a general agreement about the meaning of that production in its inventory. Among so far recognized objects rasps, gravers, arrowheads, knives, scrapers, sickles and axes should be mentioned. Next to careless forms hewn in flakes, we not objects the finishing of which required highest skill in flint working (e.g. sickles). Among stone products we notice a few grinders, saddle-querns, battle-axes and plates for polishing.

Among objects made of horn there are hoes and among bronze products pins, awls and small ornaments, some tools of unidentified use made out of crenated animal shoulder blades.

In the sites of Trzciniec Culture most numerous are, naturally, pottery products, characteristic of their colour and smooth surface with traces of cracking near grains of admixture. Vessels are often ornamented in their upper parts, their brims are mostly thickened with a slanting cut, roughed surfaces appear only seldom. Most common are vessels of a tulip-shaped form, differentiated in particular groups of the mentioned culture (fig. 4: 2, 6, 8–10 and 5: 1, 7) ornamented only with one or two raised bands or incised horizontal lines. Another popular form are bowls, semispheric and coniform (fig. 4: 12 and 5: 4), and several other variations (fig. 4: 4, 11), one of which (fig. 5: 3) is most typical of the Łubna group. The remaining forms are less frequent. Among them are pouch-shaped pots, sometimes with roughed surface (fig. 4: 1), globe-shaped vessels with cylindrical necks (fig. 5: 8) and double-conical ones with short necks. We know a number of variations of beakers (fig. 4: 3); one of them is typical of the Mazovia-Podlasie group (fig. 5: 9), cups and jugs are sometimes ornamented with applied knobs (fig. 4: 5, and 5: 5 and 12) also small bowls (fig. 5: 2), so-called sieves (fig. 5: 11) and flat plates (fig. 5: 10). In forms appearing only sporadically we note double, superposed vases and among other earthenware products spoons (fig. 4: 7) and spinning whorls. The ornamenting motifs in all the groups of Trzciniec Culture are often plastic bands, horizontal furrows and level rows of punctures and incised festoons. Motifs confirmed only in one group are semispheric plastic bands (Łubna group), plastic festoons (Opatów group), impressions of a cord twined round, and ornamented bottoms (Mazovia-Podlasie group) finally a rosette motif (Lublin group).

Animal bones evidence cows, horses, swine, sheep or goats, and dogs being bred. Agriculture is attested by objects such as hoes, sickles, querns and also discoveries effected under barrowgrave 2 in Okalewo, Wieluń
Fig. 4. Materials from Opatów (1–7) and Lublin (8–12) groups, Trzcinec Culture. (After L. Gajewski, A. Gardawski, J. Głosik and A. Kempisty)

Fig. 5. Materials from group Łubna (1-6) and Mazovia-Podlasie (7-12), Trzcinec Culture. (After A. Blomberg, A. Godziewski and A. Kempisty)

Fig. 6. Ivane, Dubno distr.; Plan and cross-sections of barrow-grave, II from phase III of Komarów Culture. (After I. K. Svešnikov)
where traces of ploughing, i.e. streaks crossing each other at right angles, about 8 cm deep were noticed (fig. 2). In the sites of Trzciniec Culture there were frequent carapaces of shellfish, stating their collecting probably as food for swine. Data speaking about the economy of this culture are at present too haphazard to present a more credible kind of picture.

The Culture of Komarów will be characterized here without discerning the Biały Potok group that was already mentioned. It occurred on the background of Corded Ware Culture fed by southern influences that acted here stronger than on other cultures of the cycle discussed. Its settlements are far less known than those of Trzciniec Culture. Longlasting settlements seem indeed to have existed only on terraces or eminences over rivers. Some overground dwellings of pillar construction and plaited walls have been confirmed, they rested on a kind of stone foundation and could have even had earthenware stoves. Round or oval pit-dwellings were sometimes bipartite and used to have stone hearths. The settlement of Komarów was situated near its cemetery.

This cemetery was composed of a number of tumuli and may be considered typical for the rather well known sepulchral objects of Komarów Culture. Funeral customs were here also much differentiated. Cremation graves (ash-urn, pit or layer graves) occur exclusively in barrow-graves of phases II–IV. Several cases evidence cremation of the dead effected on the spot of building the tumulus and sometimes traces of wooden constructions are seen close round (fig. 6). Mass burials and both cremation and skeleton graves are found in the same tumuli (fig. 6). Graves are variously equipped: we find ornaments (even gold ones), rarely arms and tools of bronze or flint, (fig. 8: 1, 2). A few skeletons are slightly burned. Skeleton graves were a more popular form of funeral customs, known in phase I–III. Single and mass burials, flat graves and those hidden under tumuli have been stated. They sometimes have wooden or stone casings, seldom were the skeletons laid in chests made out of stone plates (the so-called Biały Potok group). Skeletons rested crouching or straight. These graves have also differentiated inventories. Next to graves richly equipped in pottery, arms, tools and ornaments, sometimes of gold (fig. 7: 10–19) we also meet graves with very poor inventory. Here also were animal bones found. In one of the barrow-graves of Kolosovka the grave inventory disclosed, among other things, a bowl made out of a human skull. The occurrence of animal graves has so far not been testified.

The few analyses of metal products from Komarów Culture evidence bronze with a relatively low content of tin. Besides a golden pendant with returning coil (fig. 7: 4) a bronze dagger and a pin with rhomboidal head (fig. 7: 1, 3) can be listed to phase I and moreover a socketed battlehammer
and several flanged axes. More numerous material comes from phase II. Armlets with spiral discs made out of round wire (fig. 7: 18) occurring then, are probably signs of a starting local metallurgical production. Golden products are represented by bipartite pendants (fig. 7: 14). Among
bronze objects the following deserve mentioning: a dagger, spiral armlets in tape with tapering ends or spiral small discs (fig. 7: 7), massive open bracelets (fig. 7: 17), pins with flat-convex pierced heads (fig. 7: 6, 19), many sorts of pendants and small ornaments (fig. 7: 13). They are mostly forms of southern origin.

Fig. 8. Assemblages of phase III (1–10) and phase IV (11–14) of Komarów Culture. (After I. K. Švešnikov)

1–10: Ivane, Dubno r-n, barrow-grave II; 11–14: Gorodiščë, Sambor r-n. (Scale a for metal and silex artefacts only)
Phase III of Komarów Culture is represented by the hoard of Balicze. Small golden objects occurred rarely in this phase (fig. 8: 3) while armlets appearing earlier were here popular (fig. 8: 9). In this collection of arms and tools the following can be noted: a flange-hilted sword, a dagger (fig. 8: 1), several types of spear-heads, a celt with beak-shaped socket, sickles of a Lusatian type or with hooked end and chisels. Ornaments are represented by spiral many-coil bracelets (fig. 8: 7, 8), bracelets made of wire and open ones made out of a round billet, knobs, a torched necklace, all sorts of pins, among them specimens typical for Nouna Culture (fig. 8: 4) and various pendants. Only one iron pin and two bracelets can be dated to phase IV (fig. 8, 11–13). Several small bronze objects are not possible to be connected with any of the phases distinguished here.

Flint artefacts still occur in assemblages of phase II (fig. 8: 2) and their important role in Komarów Culture is not to be disputed. Maybe bronze forms used to be imitated in flint. A number of small flint arrow-heads can probably be connected with this culture (fig. 8, 2) as well as sickles, knives, rasps, pestles and axes (fig. 10). Axes, battle-axes, querns and grinders are among stone products.

Animal bone was used here to make objects analogous to those known from Trzciniec Culture, therefore tools out of crenated shoulder blades, awls and a knob covered with bronze sheet. Some remains of wooden utensils have persisted, small chests and dagger sheaths.

What we know best in this culture is also pottery. A small number of specialist investigations has shown the tempering of clay by an admixture of scorched flint and firing vessels over an open fire. Their surface is only seldom roughed while thickened brims with a slanting cut are frequent. The assembly of forms for both Trzciniec and Komarów Cultures is very close. Most frequent are tulip-shaped vessels (fig. 7: 2, 11 and 8: 14), often ornamented with motifs like those we know from Trzciniec Culture, also with a very common pattern of shaded triangles, sometimes provided with lugs or handles. Pouch-shaped and globe-shaped vessels with cylindrical neck, as well as lids, are rare. In phase III often occur double-handled vessels (fig. 9), borrowed from Nouna Culture. Among other forms we shall mention many variations of bowls (fig. 7: 5, 9, 16) and beakers (fig. 7: 8, 12 and 8: 10), cups (fig. 7: 15 and 8: 5, 6) and jugs. Small bowls are rare (fig. 7: 10) and a quite unique specimen is a vessel with square-shaped brim. Earthenware spoons and whorls are to be noted. The majority of the forms mentioned above cannot still be dated to particular phases.

Ceramics ornamentation of Komarów Culture is very close to the one known from Trzciniec Culture. In both of them appears an amount of up to 26 identical motifs. Only the following patterns not noticed in other cultures of the cycle under discussion can here be distinguished: shaded
rhombes (fig. 9), wide vertical furrows and volutes. However, they occur seldom in this culture.

Animal bones evidence the breeding of cow, sheep, swine and horse by the population of this culture — the settlement of Nezvisko displays only about half of the whole osteological material belonging to domestic animals, the rest are bones of wild animals. Agriculture is proved by farming utensils: sickles, querns, grinders, further impressions of grains of barley and wheat (emmer and einkorn) found in the daub covering walls. Neither does this material authorize attempts at any general conclusions concerning the economy of the culture under discussion.

East-Trzcinec Culture is far less known that those already described. When speaking of its origin the following components should be considered as its basis: Srednyedneprovskaya, Comb cultures and Tripolye Culture. Several settlements of East-Trzcinec Culture, situated on terraces and eminences over rivers have been investigated. The best known is a site in Pustynka, where 35 buildings have been stated (fig. 11). S. S. Berezanskaia distinguished here pit-dwellings, farm and cult buildings. The pit-dwellings (fig. 12) are rather big, mostly bipartite, with earthen benches and two hearths (perhaps even clay ovens) under which tiny vessels are sometimes found. Traces left by posts indicate a double-ridge roof construction, the walls were built of poles or beams daubed with clay. In the pit-dwellings we sometimes discovered parts of floors com-
posed of egg-shaped clay “bricks” (fig. 14). The interpretation of a second

group of buildings is hardly certain. The group consists of a number of

small one-cell surface buildings (fig. 11) lying near the pit-dwellings,

mostly provided with hearths. One round surface construction with a
diameter of about 10 m was a place for cult; it contained a ditch full of
charcoal, burnt bones and fragments of over a hundred charred grinders.
The second, also understood to have been a cult building, is a bipartite
pit-dwelling where six pit-graves were found by the walls of the main
space — it was therefore probably a “house for the dead”. Among the
remaining types were buildings half dug into the earth (Zdviževka). There
were many pits in the settlements.

Fig. 10. Bukovna, Tlumač r-n. Flint axe. About half natural

size. (After R. Rogozińska)

Funeral customs of this culture are known from a few objects; they
are of various kinds. Cremation graves, ash-urn and pit-graves are poorly
equipped. An exception are cremation graves under tumuli, they contain
rather more pottery and flint products (Narodići). Skeleton graves occur-
ring under tumuli contain skeletons always in crouching position, laid in
the bottom of the pit and only seldom on the level of that time’s humus.
The equipment is also differentiated, mostly poor; a larger amount of
bronze ornaments occur only in the southern part of the mentioned cul-
ture’s range. Traces of fire, animal bones and pottery fragments are often
stated in the earth heaped over tumuli.

Only a small number of metal artefacts have been subjected to ana-
lysis, they were mostly bronze objects with a small content of tin and a
great quantity of impurities with a large share of arsenic. Three poor
hoards may be just now connected with this culture. We know very few
metal artefacts. We find also formerly mentioned flanged axes (fig. 13: 1)
and may be palstaves of Bohemian type, a fragment of knife, awls and
probably sickles with knob of a Lusatian type (connected with a late
period of this culture's lasting). Ornaments that deserve mentioning are: armlets with spiral discs made of round wire, spiral wire bracelets, several types of pins (with rhomboidal small head, with coniform head or with flattened head rolled into an ear), two spiral pendants, and small beads as well as pendants. We can conclude that this culture has also shown a low level of metallurgical production.

Fig. 11. Pustynka, Černigov r-n. Plan of settlement of East-Trzciniec Culture situated over an old Dnieper channel. (After S. S. Berezn'ska)  
1: dwellings quite dug through; 2: dwellings partly investigated; 3: farm buildings quite dug through; 4: farm buildings partly investigated; 5: cult buildings

The meagerness of bronze materials is lavishly compensated by an abundance of flint and stone forms, frequent mainly in settlements. We have not yet managed to identify workshops processing flint that would be connected with this culture. Tools made out of local raw material are not carefully finished. There are rasps, arrow-heads, spear-heads, sickles (fig. 13: 2) axes (mostly with smoothed blades) and flakes. Stone materials

Fig. 12. Pustynka, Černigov r-n. Plan and cross-section of a pit dwelling. (After S. S. Berezn'ska)  
1: outline of the building; 2: hearth; 3: pit; 4: traces of posts
are: querns, grinders, battle-axes, axes, may be weights attached to nets, also products made out of quartzite.

Artefacts made of bone are pins and awls, a horn product is a hilt belonging to some tool and some half finished ones from the Mošny settlement.

Fig. 13. Materials belonging to East-Trzciniec Culture. (After S. S. Bezanska)
1: Sandraki, Chmielnik r-n; 2: Wišenki, Borispol r-n; 3–5: Zdiševka, Makarov r-n; 6, 9, 10: Pustynka, Cernigov r-n; 7: Bortniči, Borispol r-n; 8: Novo-Ukrainka, Kagarlyk r-n. (Scale a for metal and silex artefacts only)
Pottery is naturally the most abundant source, much differentiated in respect to types and to techniques of accomplishment. Next to forms typical for the Trzciniec Culture technology there appear vessels with very rough surface and harder potsherds. Clay used to be tempered by broken stone or sand. Some forms are so weakly smoothed that they seem to have been purposely roughed. The ornamentation of vessels is rich, brims are often thickened and have a slanting cut. Most frequent are also in this culture tulip-shaped, much differentiated vessels (fig. 13: 5, 6, 10) often ornamented by raised bands, incised patterns and other motifs, brims also happen to be ornamented. Bowls are often semispheric, and conform, differentiated S-shaped forms, sometimes richly ornamented (fig. 13: 3, 4). Pouch-shaped forms are rare (fig. 13: 9), globe-shaped vessels with cylindrical neck and so-called sieves appear only seldom. Other forms are sporadically occurring: globe-shaped vessels with specific decoration (fig. 13: 7), lids (fig. 13: 8), beakers and miniature forms (fig. 13: 9), imitating the shapes of useful pottery. Other clay products are spoons, whorls, rings and the afore-mentioned "bricks" (fig. 14).

The ornamentation of this pottery is much like that of vessels characteristic of the two earlier discussed cultures (19 motifs converge with those from Trzciniec and Komarów Cultures). A motif distinguished only in East-Trzciniec Culture are rows of perforations below the brim, stopped by little knobs.

Animal bones evidence the breeding of cow, swine, sheep or goat and horse. Agriculture is proved by the finding of sickles (fig. 13: 2) querns and grinders and one of the cult buildings in Pustynka is proof of the existence of beliefs and rites, clearly connected with agriculture. Moreover, the East-Trzciniec Culture has been distinguished in the cycle under discussion by the frequent occurrence of events bearing a cult character. No more general conclusions can yet be drawn.

Sosnica Culture is the one most slightly known in this cycle. Its background are probably Corded Ware (mainly Srednyedneprovskaya) Cultures with a share of Comb Cultures and other elements. It may later be possible to distinguish particular local groups in the materials of this culture.

Settlements used to be situated on high river banks or on eminences amid marshy territories. Traces of pit-dwellings and buildings half dug into the earth have been stated. They were rectangular, sometimes with earthen benches along the walls. Only in one case (Mochov, Lojev r-n) a surface building could probably be stated. In the emplacement of a settlement in Apečki, Stolbcy r-n, a cremation grave has been discovered.

Funeral customs in Sosnica Culture are known from hardly a few sites. Flat cremation, ash-urn and pit graves are to be noted, tumuli contained
cremation and cinerary graves. Their equipment is poor, it consists of pottery and flint, only a tumulus in Čersk (Maneviči r-n) contained a bronze bracelet. M. M. Gerasimov effected the reconstruction of faces of two skulls from a barrow-grave in Charivka, r-n Putivl.57

Fig. 14. Pustynka, Černigov r-n. Clay “Bricklet.” (After S. S. Berezenskaia)

The collection of bronze artefacts connected with this culture is exceptionally poor. Besides the mentioned bracelet with little spiral discs, only small wire ornaments (Sosnica) and one flanged axe (Pinsk) can be noted. We should perhaps mention here the fragment of a casting form, may be for the production of a battle-axe, Fatyanovo type, this is, however, not quite certain.

We know far more about flint and stone products of this culture, found mostly in settlements. Various kinds of flint arrow-heads (fig. 15: 5), rasps and gravers (fig. 15: 2, 4), spear-heads and axes can be noted. There also occur here quartzite, wedge-like axes and well smoothed battle axes in stone (fig. 15: 3). We can connect for the moment none of the flint processing workshops known in this territory with Sosnica Culture. No data either speak of bone and horn artefacts.

The pottery of Sosnica Culture is relatively best known, although its full picture is still a distant thing. In respect to technology it is almost identical with the East-Trzciniec pottery, however, in the description of
Fig. 15. Materials belonging to Sosnica Culture. (After I. I. Artemenko and S. S. Berezanskaja)

1: Lučin, Rogachev r-n; 2–5: Volyncevo, Putivl r-n; 6–8: Kuzina Gora, Ivanskoe r-n; 9: Chodosoviči, Rogachev r-n; 10: Goroškov, Rečica r-n
its thinning admixture there appear certain regional differences. Badly smoothed vessels are here frequent. Their ornamentation is inclined to cover all the surface of many specimens, including brims and even bottoms. In the mentioned collection we know chiefly tulip-shaped vessels, much differentiated, with weak profile, but richly ornamented with all sorts of motifs. (fig. 15: 6, 7, 9, 10). Pouch-shaped vessels (fig. 15, 1), semispheric bowls and so-called sieves complete de facto the list of recognized forms. Among the remaining objects made of clay a flat ornamented weight (fig. 15: 8), spoons and whorls can be mentioned. Further data are missing, mainly on account of the lack of excavation works in the sites of the culture under discussion.

The compilation of many various ornamental motifs covering the whole surface of vessels, often also along the brim and in the bottom, draws here our attention, while plastic ornaments are relatively rare. The collection of ornamenting motifs indicates a strong likeness to the pottery of East-Trzcinec Culture (26 common motifs), although the frequency of their use is often different. Osteological material indicates the breeding of cow, sheep, swine, goat and horse — wild animals are elk, hare and otter. Literature suggests the predominance of livestock breeding over farming among the population of Sosnica Culture, and also the general spreading of agriculture in this area only in the time discussed in these pages.30 We lack more exact data for the solution of economic problems of this culture.

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Fig. 16. Garbina, Braniewo distr. Pottery from the settlement. (After B. Miaciukiewicz-Czarnecka and W. Ziemlińska-Odonowa)
A more detailed characteristic of materials from sites scattered over the northern area is now impossible (fig. 1). They may be the result of influences or penetration of cultures listed to the discussed cycle in these territories (this would seem probable in respect to areas of North-Eastern Poland and Lithuania), or of a convergence law acting here. For instance, in the Estonian area elements grown out of Corded Ware and Comb Cultures crossing each other have produced forms close to the pottery of the Trziniec — Komarów — Sosnica cycle, whose origins are also derived from both mentioned cultures. Several forms found in the lately investigated settlement, situated in North-Eastern Poland, can be an example of this pottery (fig. 16).

Even this superficial review of the sets of materials in the particular cultures of the cycle Trziniec — Komarów — Sosnica, and the much compressed illustration material presented in this article, certainly allow to state the unmistakable unity of all four cultures we have discussed. The great likeness of their origins and also evolution is evident even while having only haphazard data to dispose of. The occurrence of open settlements in all those cultures, noticeable similarity of funeral customs, the great likeness of metal inventory with an important (sometimes dominating) role of flint tools, and the similarity of many other phenomena, ought to be reminded. Particular attention was long ago drawn to the striking likeness of pottery among them, expressed by the similarity of forms appearing in those cultures (particularly the dominating of tulip-shaped vessels) and their ornamentation. The above remarks will sufficiently confirm the great uniformity of the whole cycle of these cultures.

An essential contribution to our knowledge about these cultures is the observation that the lines of division in the range of the cycle discussed here are running across particular cultures, rather than along their frontiers. Owing to this the northern part of the cycle we are discussing is clearly opposed to its southern part. Barrow-graves are much more frequent in the south and nearly all the metal artefacts discovered in these cultures occur also there. It is moreover worth reminding that connections of pottery with Komarów Culture are better legible in the materials of the southern groups of Trziniec Culture. The northern part of the cycle under discussion had occurred later, its development was therefore directed in a certain measure by the earlier distinguished units of the cycle. The pottery of Sosnica Culture is clearly convergent with the vessels of the Mazovia-Podlasie group of Trziniec Culture. Flat cremation graves dominate in both these culture units and flint tools play a more eminent role here than they do in the south.

The fact is not to be explained only by the greater distance separating
the mentioned territories from centres lying beyond the Carpathians, from which various culture impulses, essentially bronze artefacts were coming. For instance in the area of Sosnica Culture many tumuli," only rarely met over there, had occurred here earlier. Some unknown reasons must have acted in this case. On the contrary the situation concerning bronze may be rather well cleared by the stronger bonds linking the southern parts of the cycle Trzciniec — Komarów — Sosnica with trans-Carpathian metallurgical centres and the inadequacy of local bronze production. Moreover, all the information so far acquired on the mechanisms of culture elements, occurring or being intercepted by other populations is still so scarce, that every possibility of clearing the events observed seems to be very distant.

As was many times emphasized above, also the present state of knowledge concerning the discussed cultures is not sufficient to the forming of far reaching generalizations. At present, an indisputable thing is the existence of a large culture complex spreading over the wide space, between the Odra basin and the eastern Dnieper basin. The character of this culture cycle is still very close to the great Neolithic Culture complexes, from which it derived. The lasting period of the cycle is diverse in different areas, its fastest rise can be observed in the south, and earliest disappearance in its western part, owing to the transformation of Trzciniec Culture into an eastern group of Lusatian culture. It was also the beginning of a very distinct culture differentiation occurring in all the described area. The other cultures of this cycle lasted far longer and gave rise to following events, related to Lusatian features, though represented by different cultures (Belogradovka, Vysocko and smaller ones). The distinct likeness of the mentioned cultures to the Lusatian one can be no doubt explained to a large degree by their individual stepping out of the once uniform substratum. Therefore the total of events occurring in the Late Bronze and Early Iron Age should be considered in relation to strong genetic bonds, crystallized in the Early Bronze Age, and culture processes of those times should be understood to have been the result of development and differentiation of the cycle of Trzciniec — Komarów — Sosnica Cultures.

Two important questions are still waiting to be cleared. One of them are the sites scattered over the north (fig. 1) and the other the acting of the discussed cycle in the east; however, very scarce material data do not authorize drawing conclusions. The historical role of the described events can be evaluated only after having elucidated these matters.

Attention should now only be drawn to the fact that the culture range of the discussed cycle covers the expanse of Slav archaic onomastics, indicating also bonds with the territories of Balts. This may therefore prove
to be one more argument to the discussion on the origins of Slavs. For the time being it can be stated that the cultures of this cycle correspond to basic conditions for judging them to have been linked with the proto-Slav ethnos. This matter requires still, however, further detailed investigation.

NOTES

* In the present article Russian names have been spelled according to the phonetic transcription principle while in the bibliography the principle of transliteration has been adopted.

1 The name has been proposed by J. Gurban in his paper: Z zagadnień kontaktów między kulturami w początkach epoki brązu na obszarze Europy środkowej [The Problem of Contacts between Cultures of the Early Bronze Age in Central Europe], in: I Międzynarodowy Kongres Archeologii Słowiańskiej, vol. I, Wrocław 1968, p. 292.

2 To the published list comprising 765 points — Cf. J. Dąbrowski, Powsiżania ziem polskich z terenami wschodnimi w epoce brązu [Connections of Polish Lands with Eastern Territories in the Bronze Age], Wrocław 1973, p. 220 ff., map 1. In January 1973, a considerable number of sites could be added. They were primarily mentioned in Polish and Soviet archaeological journals.

3 Distinguished first by W. Antoniewicz (Archeologia Polski, Warszawa 1928, p. 80 ff.) it bears a name proposed by J. Koszrewski, Ceramicz typu trzcineckiego (pasmowy) [Trzcinec-Type (Streaked) Pottery], "Z otchni wieków," Vol. V, 1930, p. 26 ff.


7 A. Gardawski, Plemiona kultury trzcineckiej w Polsce [Tribes of the Trzcinec Culture in Poland], "Materiały Starożytne," Vol. V, 1959, p. 16 ff. Tab. II, the paper is a fullest compendium concerning materials on Trzcinec Culture.

8 L. Kozłowski, Wczesna, starsza i środkowa epoka bronzu w Polsce w świetle subborealnego optimum klimatycznego i jego wpływ na ruchy etniczne i zaludnienie Polski [Early, Old and Middle Bronze Age in Poland, in the Light of a Subboreal Climatic Optimum and its Acting on Ethnic Movements and the Population of Poland], Lwów 1927, p. 53 ff.; I. K. Swieszynikow, Kultura Komarowska

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12 Gardarski, op. cit., p. 104 and Tab. LXI.


15 Bereznaskaja, Sredniij period..., p. 148.


21 Bereznaskaja, Sredniij period..., p. 83 ff., fig. 30.

22 Artemenko, Plemena..., p. 36 and Sulimirski, Corded Ware..., p. 60 ff.


24 Cf. Dąbrowski, Powiązania..., register 1, fig. 2.

25 I. Bona (Chronologie der Hortfunde vom Koszider-Typus, “Acta Archaeologica Academiae Scientiarum Hungaricae,” Vol. IX, 1958, p. 236) proposes here the name “Grodnicas-Arnimshain Type,” however, the hoard from Grodnica belongs to a Koszider type, therefore assemblages containing a majority of artefacts coming from the north (as do those of Arnimshain) should bear another name.

26 For the inventory of assemblages cf. W. Bohm, Die ältere Bronzezeit in der Mark Brandenburg, Berlin 1935, p. 116 and Tab. 16; further K. Kersten, Die Funde der älteren Bronzezeit in Pommern, “9 Beiheft zum Atlas der Urgeschichte,” Hamburg 1958, Nos 352; 412; 490; 511; 593; 619; 646; 695; 733; 769 and 801. Cf. also E. Lomborg, Donauländische Kulturbeziehungen und die relative Chronologie der frühen nordischen Bronzezeit, “Acta Archaeologica,” Vol. XXX, 1959, p. 113 ff., and


28 K. Melnik, Katalog kollekcii A. N. Pol v Jekaterinoslavie, Kiev 1893, p. 35 — cf. also Sulimirski, Corded Ware..., p. 95.


30 Swiezynikow, Kultura..., p. 59 ff.


40 Cf. Dąbrowski, Powiązania..., fig. 4 and register 4. This repartition is close to T. Sulimirski’s classification, Corded Ware..., p. 97 ff.

41 Berezanska, Sredniq period..., p. 168 ff., Tab. 2.

42 Artemenko, Poseleńce..., p. 235.

43 We characterize this culture first of all after Gardawski, op. cit., passim and Dąbrowski, Powiązania..., p. 85 ff.


We characterize this culture first of all according to S. Siewniaków, Kultura..., passim; S. Siewniaków, Corded Ware..., p. 97 ff.; idem, Prehistoric Russia — An Outline, London 1970, p. 158 ff., and Dąbrowski, Powiślańskie..., p. 86, ff.


Its characteristic is outlined in: Bereznjakowa, Średniog gene period..., passim and idem, Kultura trzciniecka na Ukrainie [The Trzciniec Culture in the Ukraine], “Archeologia Polska,” Vol. XVII, 1972, passim (she includes here part of the sites that were considered in this article to belong to Sonsnica Culture), also Dąbrowski, Powiślańskie..., p. 86 ff.

We lack, unfortunately, complete certainty as to whether these are assemblages — of. Tallengren, La Pontide..., p. 178, fig. 101 and 103, further A. I. Terehnozkin, Średnią Podneprówie na kacle śreznego węgla, “Sovetskaya Archeologia,” 1957, No. 2, fig. 6.

Bereznjakowa, Średniog gene period..., p. 76 ff., mentions a number of further types and also several casting forms — there are, however, no proofs telling these objects to have been connected with the pottery of East-Trzciniec Culture.

For its short characteristic compare items in the papers of Bereznjakowa.


59 Cf. note 10.


61 Cf. Note 52, and Berezanskaja, *Srednij period..., p. 142, ff, fig. 46.

62 Those differences have already been partly noticed by M. Gimbutas, *Bronze Age Cultures in Central and Eastern Europe*, Paris — the Hague-London 1965, p. 409 ff., fig. 244 and 298; making use of them, however, according to her proposition for separating distinct cultures is not to be accepted, as such a division would be in clear contradiction to the relic material.
