

## SUMMARY

Cultural and settlement transformations within the Central Roztocze and Zamość Basin from the Middle Bronze Age to the Early Iron Age

Approximately around 1800-1750 BC the population of the Trzciniec culture with distinctive pottery vessels, i.e. the pots having an S-shaped profile, decorated with a smooth plastic ledge or with horizontal circumferential grooves and with diagonally cut rim edge, as well as undecorated hemispherical bowls, arrived to the areas of south-eastern Lublin region, which from the beginning of the Early Bronze Age had been inhabited by the Mierzanowice culture and later by the Strzyżów culture. The bearers of the Trzciniec culture were mainly involved in pastoralism. Representing a semi-nomadic lifestyle they gradually inhabited these areas. Most likely the majority of camps should be associated with the oldest phase of the settlement, as husbandry at that time was still of pastoral or transhumant nature and agriculture was of minor importance.

The population of the Trzciniec culture population buried their dead under barrows. Initially these were skeleton burials, and only later cremation or biritual burials appeared. The cemeteries were established within the bottoms of river valleys or on gentle slopes, and rarely outside valley landscape. Diversity of burials characteristic of this culture survived to the end of its functioning, although in the final period of the development erecting earth mounds over the burials was abandoned.

In the pottery style fast changes were recorded, which allow for distinguishing a few phases in the development of this culture: classic – the early period (1800/1750-1650/1600), classic – the middle and late periods (1650-1600-1450-1400 BC), late (1450/1400-1300/1250 BC), and final (1300/1250-1150/1100 BC). During the classic phase the pottery was richly decorated, then the ornamentation gradually became poorer, until it almost completely disappeared in the final phase. Throughout the entire period of the existence of this culture a pot with S-shaped profile was the dominating type of pottery. During the late and final phases it became more slender in shape, instead of a plastic ledge it often had a shoulder, and the thickened and diagonally cut rim was replaced by an unthickened and rounded one.

Permanent settlements appeared already at the end of the classic phase. They consisted of a few lasting homesteads (Bondyż, Guciów), where besides the residential features also utility pits and sometimes hearths were recorded. In the following phases the number of permanent settlements increased, although they were small, counting between one and a few occupied homesteads. With the stabilization of settlement in the late and final phases agriculture played a more important role and the areas with favourable conditions for farming, such as the Zamość Basin, were more intensely inhabited than the less fertile lands of the Central Roztocze. Wheat, barley and millet were cultivated at the time and occasionally also rye and peas. Perhaps fibre and oilseed plants (flax, turnip, poppy) were grown as well.

The Trzciniec culture population implemented three farming methods: fire-fallow, ploughing, and digging stick cultivation. Functioning of agriculture at that time as well as consumption of cereal products is indicated by the following tools: a horn hoe, flint and bronze sickles and sickle inserts, as well as stone querns and grinders. Traces of this subsistence (pollens of cereals, charcoals) were recorded in the soil profiles in Tarnawatka and Krasnobród.

The local population maintained contacts with neighbouring cultures, as evidenced by sparse finds of bronze products inflowing here both from the west as well as from the south and the east. Also some clay items, such as spindle whorls in Poland referred to as “horned” (Polish: *przędliki rogate*) are probably of eastern origin. These contacts were rather of a local exchange form, although occasionally they could be also of far-reaching exchange nature.

In the discussed area the settlement of the Trzciniec culture left traces in the form of 274 settlement points, including 22 cemeteries (confirmed or alleged). The settlements were established usually on valley slopes, usually facing south-east, more rarely facing north or south. This choice of slope exposition resulted mainly from the direction, in which rivers are flowing. The cemeteries were most often located at the transition between the slope and the bottom of a valley, less often at the bottom of a valley, and only sporadically on the valley edge or outside a valley.

The settlement points are grouped in clear clusters, which should probably be associated with family communities, whose functioning was based on genetic exchange in the immediate neighbourhood (exchange marriages). The estimated number of population indicates that these clusters were, on average, inhabited by 2-3 families during the earlier period and 3-4 families in the final stage of development of this culture. Within such clusters, besides residential and utilitarian features, there was probably at least 1 cemetery. In the initial phase (1700-1650 BC) the area of the Zamość Basin and Central Roztocze was inhabited by approximately 300 people, that is 50-60 families, while in the final period (1150-1100 BC) the population increased to around

510 people, which corresponds to approximately 85-102 families. This indicates a nearly twofold increase in the number of inhabitants, but the population density was still relatively small, as, on average, for 1 km<sup>2</sup> there was 0.22 people. However, the number of inhabitants was not uniformly distributed throughout the entire area, as about 2/3 of the population inhabited the Zamość Basin better suitable for agrarian population, while the remaining 1/3 lived in the Central Roztocze.

In area of the Zamość Basin and Central Roztocze the Lusatian culture developed around 1150/1100 BC as the result of migration of groups of the Lusatian Culture population from the areas spreading west of the middle Vistula river (the Central-Poland group). Already at the onset of functioning of this new cultural identity the local population was in contact with the representatives of the Noua culture, though most probably it was of ephemeral nature.

The newcomers initially occupied areas inhabited earlier by the previous culture, which confirms similar nature of the subsistence in both the cultural identities. Quick assimilation resulted in significant demographic growth, as evidenced by relatively large, considering these areas, cremation cemeteries.

Initially both permanent settlements, as well as seasonal sites and camps were used, and dry climate allowed for setting them up within the bottoms of river valleys and on sand dunes. In the food subsistence the model based on farming and husbandry prevailed. The existence of agriculture is confirmed by harvest tools: a bronze sickle and a few flint sickles, as well as by the tools for cereal processing: a dozen or so stone grinders and a few fragments of querns. More stable settlements, mainly within the Zamość Basin, could also evidence the development of agriculture. On the other hand, numerous camps within the Central Roztocze, as well as animal bones discovered in residential and utilitarian features may attest to the husbandry. The finds discovered prove the functioning of other sectors of the economy: metallurgy (crucibles, casting moulds, raw material), flint knapping (e.g. sickles, arrowheads), weaving (spindle whorls), pottery (pottery vessels), and wood processing (constructing houses, handles of tools).

Goods needed in households were obtained also by exchange. Items of southern origin from within the range of the Gáva culture (axes, projectile points, sickles), but also those of eastern provenance, from the Wysocko culture flowed in to the area of the Zamość Basin and Central Roztocze during this period. Single inhumation graves in the Huczwa river and the upper Bug river basin are probably the outcome of the contacts with the latter culture.

Different conditions of the development of the Lusatian culture in the south-eastern part of the Lublin region resulted in local traits in the pottery inventory, i.e. pots with pointed-bases and with bases with small diameter, beakers of the Ulwówek type, and flowerpot-shaped mugs, poor ornamentation of pottery vessels, figurative art and vessels miniatures, as well as clear links with

other groups of the eastern fraction of the Lusatian culture, in the burial rites, i.e. clustered nature of burials arranged in lines, bi-ritual burials, small number of graves with grave goods and covered with pottery vessels, as well as in the inventories of adornments and tools, i.e. significant share of flint knapping, relatively small number of bronze items among tools and weapons, and slightly bigger among the ornaments. This allowed to distinguish the so-called Lublin group of the Lusatian culture.

During the middle phase of the Lusatian culture (5th period of the Bronze age), which is relatively poorly distinguishable, the subsistence model changed only slightly. It probably became more stable, perhaps thanks to the development of agriculture. Continuation of the settlement is confirmed by continuation of using of the older cemeteries (Topornica, Wieprzec, Pniówek, Bodaczów). Certain types of pottery vessels, for example, profiled bowls, disappeared from the pottery inventory and they were replaced by hemispherical ones, while the others, such as bi-conical vessels developed into specimens with more rounded profile, also on some of the vessels decoration became richer. In this period an almost complete halt of the influx of bronze products from the neighbouring areas took place that should be linked with the settlement crisis in the Gáva culture.

During the Middle and Late Bronze age, the Zamość Basin area was by far the more favourable one for settlement due to the prevailing subsistence based on farming and husbandry. This is reflected in almost 4 times higher population there as compared with the Central Roztocze.

Significant deterioration of the climate at the turn of the Bronze age to the Early Iron age and the expansion from the east, first of Cimmerian people and then of Scythians, caused changes in the economic model and are also visible in ceramics. New forms of pottery vessels appeared, i.e. hemispherical bowls with inverted rims, mugs with conical neck, and so did the new pottery decoration.

At that time small settlements functioned within the discussed area as well as similar cremation cemeteries, which counted between a few and a dozen or so graves. More stable settlement could have existed in the south-eastern part of the Central Roztocze, where settlements grew to a larger size. At that time relatively intensive contacts with the Vekerzug culture were observed as well as less intensive traits of the Milograd culture, and in the nearest neighbourhood (in the Hrubieszów Basin) also of the Chernolesie culture.

Approximately around the middle of the Ha D period population of the Pomeranian culture arrived from the north to the discussed areas and seized part of the area in question. The sites of this culture indicate concentration of the settlement in the western part of the Zamość Basin and in its immediate vicinity - in the north-western fringe of the Central Roztocze. The latter land was

almost completely devoid of "Pomeranian" settlement. Also in the Zamość Basin the settlement was fairly sparse and not very stable. Probably seasonal settlements or such lasting for a couple of seasons were established and this is particularly well exemplified by the camp in Wieprzec, site 17, where within a relatively large area not a single residential feature was found. However, the presence of more permanent settlements, known from the neighbouring areas (Hrubieszów) cannot be excluded, and the settlement in Świdniki-Kolonia might be one of them.

Essentially, during the Early Iron age the subsistence model did not change as compared to the previous period. Although the importance of husbandry increased, but still agriculture, fishery, as well as hunting and gathering were of considerable importance. The analysis of the settlement distribution pattern within the studied area indicates the importance of wide river valleys that were a great source of fodder for animals, but probably also provided the ability to set up plots for cultivation. However, there are no traces of food subsistence of the people living then, but probably it did not differ significantly from that in other areas. Barley, rye and wheat were probably cultivated, even though the importance of the last mentioned decreased. At the same time there was an increase of the importance of legumes as well as fibre and oilseed plants.

Still, animal husbandry was the predominant sector of food subsistence, and it was supported to a lesser extent by hunting and gathering. At that time goats/sheep, cattle, pigs and horses were reared, and the significant role of horses can be attested by their depictions on pottery vessels.

In the upper Wieprz river basin the population of this culture set up small, probably family, cemeteries that were exclusively of cremation type, and the funeral rite was characterised by diversity of forms of burial and habits. Hence, multiple urn burials are known, as well as single urn burials, both under an upturned vessel and covered with a bowl. No stone structures were recorded within this area. Rather sparse settlement in the Zamość Basin was still more developed than the one in the Central Roztocze, where only a few settlement points were discovered.

The Pomeranian culture functioned within the discussed area for the period of 3-4 centuries, and its inhabitation disappeared during the middle La Tene period, when first the population of the "Jastorf culture" nature and later the bearers of the Przeworsk culture entered the area.