

BELL BEAKERS AND THEIR ROLE IN A SETTLEMENT EVOLUTION DURING THE NEOLITHIC-BRONZE INTERSTAGE ON THE POLISH LOWLAND

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ABSTRACT – The beginning of the 3rd millennium BC on the Polish Lowland marks the first appearance of peoples whose way of life was more mobile (mainly the Corded Ware culture). Abandoning the stable lifestyle of agrarian communities in favour of greater mobility and animal husbandry caused a decrease in settlement traces in archaeological records. The first to reverse this trend was Bell Beakers – Iwno culture settlement. The Authors present here some new information from three areas subjected to the excavations thanks to the rescue program for the construction of gas pipelines and motorway.

Introduction: the Neolithic-Bronze Interstage on the Polish Lowland and its peculiarity

The concept of Neolithic-Bronze Interstage was introduced to the periodization of prehistory on the Polish Lowland to stress the volatility and long duration of changes taking place there from the Late Neolithic to the Early Bronze Age (CZEBRESZUK 1996, pp. 1-2). The concept covers three stages distinguished in the “classic” periodization, namely, later part of the Late Neolithic, the Decline Neolithic and the Early Bronze Age. In the absolute chronology they span the period of 3000-1500 BC.¹

For archaeologists dealing with the Neolithic-Bronze Interstage on the Polish Lowland between the Vistula and the Oder river (fig. 1), one of its most distinctive characteristics is the wide variety of cultural groups encountered during this period. These societies often coexisted within a relatively small area. Thus, in the region of Kuiavia (Kujawy; fig. 2), for example, the number of contemporary (at least in part) Late Neolithic archaeological cultures included the Funnel Beaker culture, Globular Amphora culture, Corded Ware culture, and then different Early Bronze units, such as a Kuiavian version of Bell Beakers (the Iwno culture) and the Trzciniec cultural circle (CZEBRESZUK, SZMYT 1998a, 1998b). The latest large excavations have fully confirmed this socio-historical complexity at the end of the Neolithic and the onset of the Bronze Age (CZEBRESZUK *et alii* 2000).

The populations of all these units differed not only in their material culture but also in the social, economic and ritual activities. At the beginning of the 3rd millennium BC on the Polish Lowland there still existed societies for whom crop cultivation was fundamental to the way of life (mainly late groups of the Funnel Beaker culture; see KOŚKO 1996). However, other contemporary communities also emerged who relied on a different strategy for procuring food. The majority of groups inhabiting the Lowland began to place greater emphasis at this time on the rearing of domesticated animals as the basis of their livelihoods (e.g. populations of the Globular Amphora culture; SZMYT 1996, pp. 161-191). Moreover, the beginning of the 3rd millennium BC marks the first appearance of peoples whose way of life was more mobile (mainly the Corded Ware culture; CZEBRESZUK 1996, pp. 214-226).

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¹ We use the calibrated chronology only.

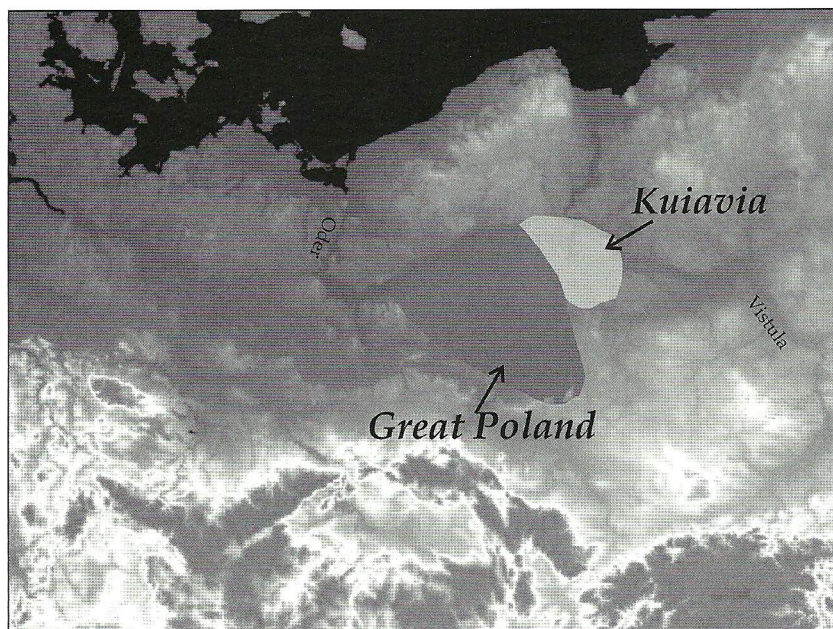


Figure 1 — Location of the two important regions (Kuiavia = Kujawy and Great Poland = Wielkopolska) on the Polish Lowland

Settlement trends

Late Neolithic settlement trends

Abandoning the stable lifestyle of agrarian communities in favour of greater mobility and animal husbandry caused a decrease in settlement traces in archaeological records. Settlements raised by such societies were usually smaller and of temporary nature (as camps), consisting of lightweight constructions, often in the form of shelters. In contrast, the proportion of burials is considerably greater. This is very well visible especially in the case of the Corded Ware culture (CZEBRESZUK 2003a). Particularly noteworthy are the earliest forms of burials: barrows surrounded by a ring-ditch, in which a palisade would have stood, marking the height of mounds.

In the falling number of settlements one can notice three main aspects: a reduction of settlement surface, a drop in the number of artifacts left within a settlement area and a reduction in the number of ground features (like pits or remains of houses). The changes were not fast but they followed one another gradually from the end of the 4th and during the 3rd millennium BC. They began in the late Funnel Beaker culture and embraced also other units such as the Globular Amphora and the Corded Ware cultures. All the three units were partially synchronous (fig. 2) but differed in many aspects of material, social and religious life. As a rule they differed in settlement aspects, too: the settlements and camps of the Globular Amphora culture were usually smaller than the corresponding forms of the Funnel Beaker culture, but the remains of the Corded Ware culture were extremely small and poor.

Early Bronze Age settlement trends

The Early Bronze Age settlement system (connected with Bell Beakers) was initially similar to the Corded Ware one. With time, one can see the process of settlement stabilization. Settlements start to be bigger and have more and more ground features of different functions. The same process is also visible on the settlement structure level. One can reconstruct small regions (micro-regions), which were occupied by one group of people. In the first stage, the people often changed their settlement inside the micro-region. The settlement structure consisted of many similar small camps. With time, one of such small camps would grow in importance and become a hub of the micro-region. Usually, the hub would be a single rather stable settlement and would have a number of small camps around it. At the end of the process some of such hubs were fortified (see CZEBRESZUK, MÜLLER 2004).

Cultural unit	Number of pottery fragments (Np)	Number of sites (Ns)	Np:Ns	Literature
FBC	9667	28	345	KOŚKO 2000, Tab.1
GAC	20722	75	276	SZMYT 2000, Tab.1
CWC	250	18	14	CZEBRESZUK 2000a, Tab.1
BB + TCC	4006	30	134	MAKAROWICZ 2000, Tab.1
LC	104085	38	2739	IGNACZAK 2004, Tab. 1; GŁOGOWSKI <i>et alii</i> 2004, Tab. 1; IGNACZAK <i>et alii</i> 2004, p.335

Table 1 — The Kujawy section of the Jamal gas-pipeline. Quantitative characteristics of Late Neolithic and Bronze Age settlements. Abbreviations: FBC = Funnel Beaker culture, GAC = Globular Amphora culture, CWC = Corded Ware culture, BB-IC = Bell Beakers – Iwno culture, TCC = Trzciniec cultural circle, LC = Lusatian culture.

Cultural unit	Number of pottery fragments (Np)	Number of sites (Ns)	Np:Ns	Number of ground features
CWC	9	3	3	0
BB-IC	167	2	83,5	14

Table 2 — Koło Basin. Quantitative characteristics of selected settlement from the Neolithic–Bronze Interstage. Based on the authors research. Abbreviations: CWC = Corded Ware culture, BB-IC = Bell Beakers – Iwno culture.

Cultural unit	Number of pottery fragments (Np)	Number of sites (Ns)	Np:Ns	Number of ground features
CWC	13	2	6,5	2 (only graves)
BB-IC	592	3	197	20

Table 3 — Great Poland – vicinity of Poznań. Quantitative characteristics of selected settlement from the Neolithic–Bronze Interstage. Based on the authors research. Abbreviations: CWC = Corded Ware culture, BB-IC = Bell Beakers – Iwno culture.

In the further discussion we shall focus on the settlement questions of the Corded Ware culture and the Bell Beakers.

Form of the Corded Ware settlement

Besides the overall data quoted above, the excavations along the linear investment projects (the pipeline and motorways) have yielded a certain amount of spectacular Corded Ware culture materials of both grave and settlement character. We shall now review briefly the most interesting finds.

Burials

Kuczkowo 5 (Kujavia; fig. 4). The remains of a round barrow with a palisade ditch running around it located on the edge the Bachorza River valley. In a rectangular grave pit whose walls were strengthened with a pisé (clay) structure, a single skeleton was found (CZEBRESZUK 2000a). The grave goods

consisted of one vessel and a flint flake. From the bones a single ^{14}C date has been obtained: Kiev-6243 3860±40 BP.

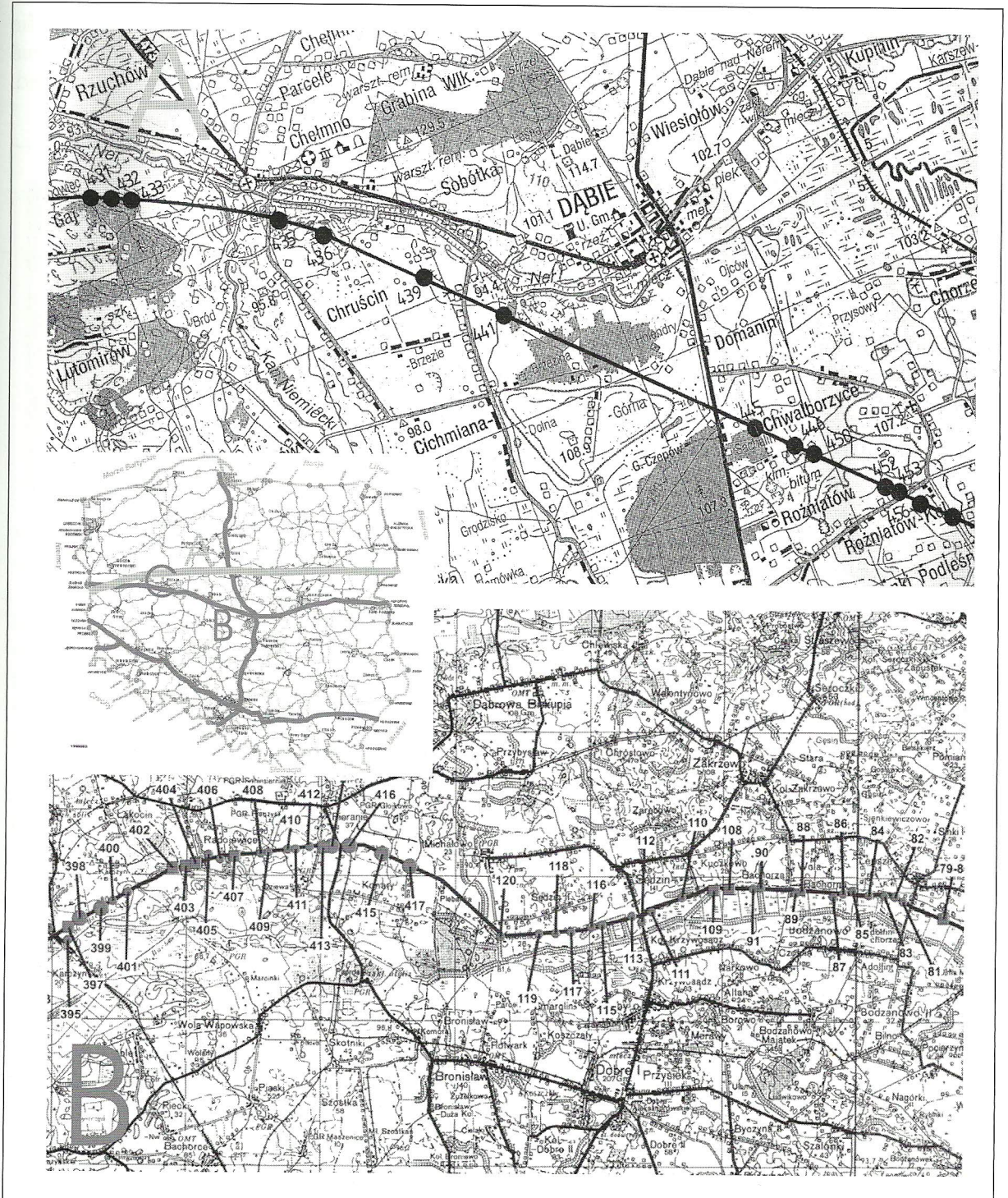


Figure 3 — Location of three research areas (A = Kuiavia, B = Koło Basin, C = central part of Great Poland) and topographical maps of areas A and B (excavated sites marked).

Ciechrz 25 (Kuiavia; fig. 5). The grave displays a complex sequence of funerary activities (CZEBRESZUK 2000a). First, a grave pit was dug and its walls were most probably lined with rubble. Next, an arrangement was prepared of which four great pits remain. This must have been a structure covering the pit, which is indicated also by an “entrance” to the grave pit in the form of two “steps” descending into the pit from the northeast. In the space so prepared a single body was deposited, that of a man aged 18-22 years (KRENZ-NIEDBAŁA 2000). The grave goods included two vessels and a single flint artefact. The building of the barrow with an encircling ditch must have taken place some time later after the original arrangement had been partially damaged for the grave is not located exactly in the centre of the mound. From the human bones a single ^{14}C date has been obtained: Kiev-6228: 3900±35 BP.

Bożejewice 28 (Kuiavia). In a small pit, the walls of which were lined with clay, the bones of several, most likely four, individuals were deposited without maintaining an anatomical order (CZEBRESZUK 2000a). There were two men aged 50-70 and 18-22 years, and two children aged 12-16 and 4-5 years (KRENZ-NIEDBAŁA 2000). The only grave good must have been pork as pig bones have been found in the grave. The bones have yielded a ^{14}C date: Kiev-6219: 3790±30 BP.

Siniarzewo 1 (Kuiavia; fig. 6). In an oval pit, no trace of bones has been found (they must have been completely mineralised). A discovery has been made of a single straight-walled beaker and a leaf-shaped arrowhead (CZEBRESZUK 2000a).

Kowalewko 12 (Great Poland). A rectangular grave pit sized 130 × 90 cm was oriented along the N-S axis. Its walls and bottom were lined with boulders. Of the skeleton, only four teeth of a child have survived in the southern part of the pit. In the N-W corner, a beaker was found (CZEBRESZUK 2000b).

Głuchowo 1 (Great Poland). Two graves were explored, of which one certainly belongs to the Corded Ware culture while the other may be classified as such only tentatively (CZEBRESZUK 2006 unpubl.). In feature D 129 fragments of the skeleton of a male aged 40-45 years were unearthed. In the south-eastern half of the pit, on the deposition level of human remains, a discovery was made of cow bones lying in an anatomical order. In the grave, a beaker bearing cord ornaments was found. From the human and animal bones, two ^{14}C dates were obtained. Next, in grave B184, the remains of two persons were discovered:

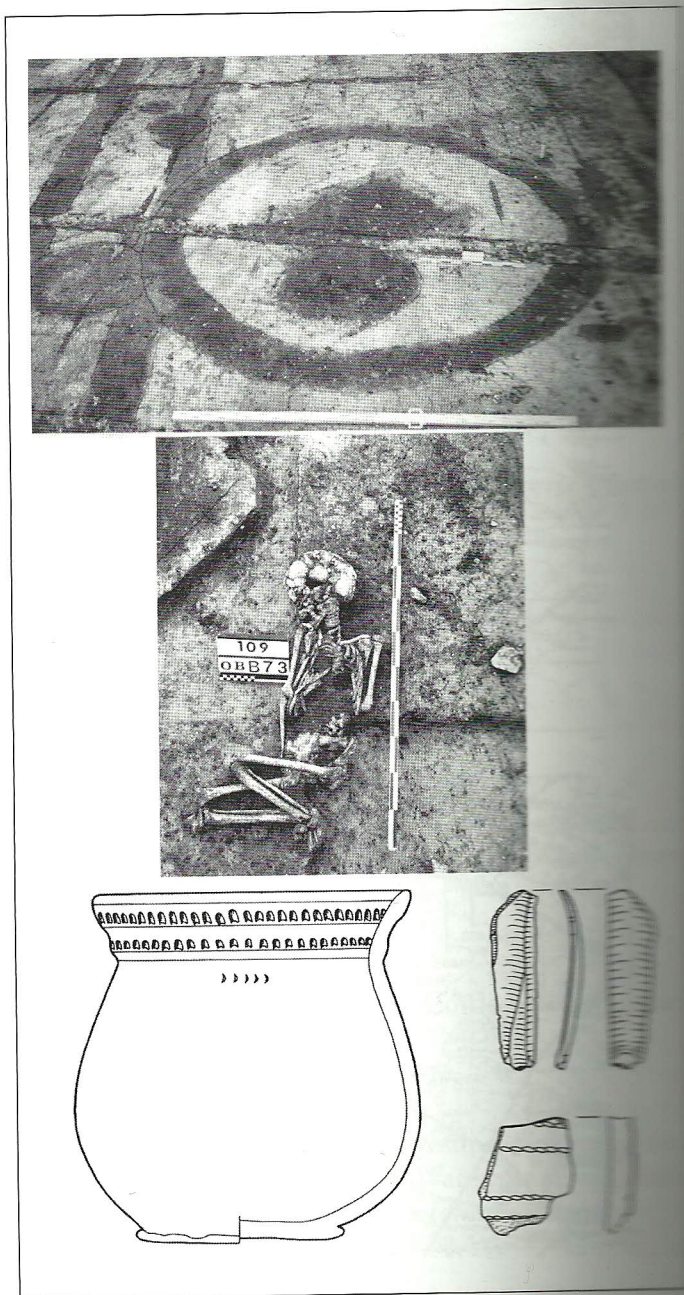


Figure 4 — Kuczkowo site 5. A barrow of the Corded Ware culture. After CZEBRESZUK 2000a

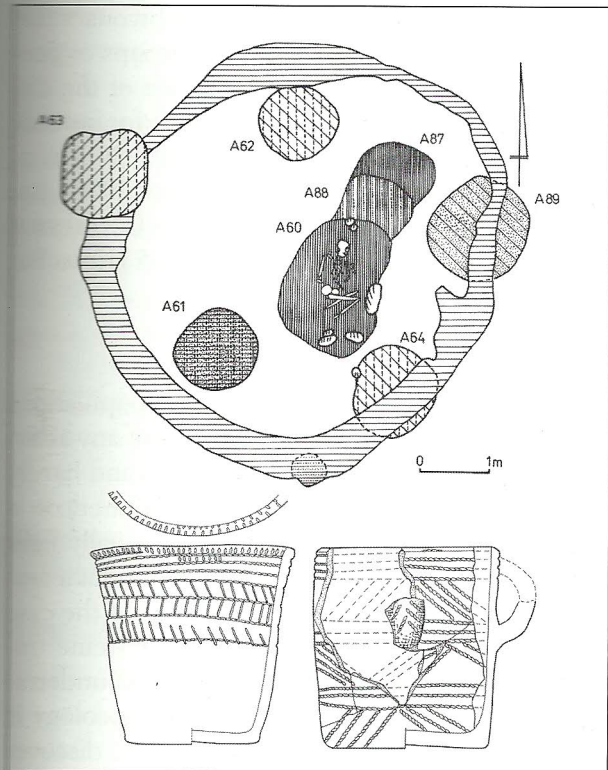


Figure 5 — Cieczrz site 25. A barrow of the Corded Ware culture. After CZEBRESZUK 2000a.

tute relics of a dwelling structure (a hut with a slightly sunk floor?). The other two features are postholes. The dwelling feature has yielded an assemblage of pottery and a ^{14}C date (from animal bones) of the value of Kiev-5915: 4180 ± 40 BP.

Głuchowo 1 (Great Poland). Within the explored area (ca. 4 ha), traces of a camp were discovered dating back to the early phases of the Corded Ware culture, including a single pit (CZEBRESZUK 2006 unpubl.). The spread of pottery (ca. 30 potsherds) covered an area within a radius of 15-20 m (i.e. ca. 1000 sq. m). The style of the pottery shows that the camp was used before the cemetery, the remains of which are the two graves discussed earlier (see part 3.1).

Żegotki 2 (Kuiavia). Along a distance of about 20 m only a small cluster of pottery were discovered, without any ground features (CZEBRESZUK 2000a).

It must be added that many settlement points have been discovered in the recent

those of a woman aged 40-50 years (*maturus*) and a child aged 7-8 years (*infans I*). The only grave good was a decorated bone disc, recorded next to the woman's chest.

The presented examples show the variety of funerary rituals. For each of them represents a different type of ritual behaviour that, however, has analogies in the finds from this area known earlier. We know of barrows with an encircling ditch (Modliborzyce, cf. WIŚLAŃSKI 1978), graves with stone structures (Radziejów), as well as multiple inhumations (Pikutkowo) in the area in question. Only the case of Cieczrz is peculiar and not only in the scale of the region situated between the Oder and Vistula rivers. One thing is worth stressing in this connection: none of the cited finds showed in any way on the surface. In all the cases, their aboveground, even sizeable barrows have been completely levelled off.

Settlement remains

Siniarzewo 1 (Kuiavia; fig. 7). To the settlement, remains of three features are related (CZEBRESZUK 2000a), of which one may consti-

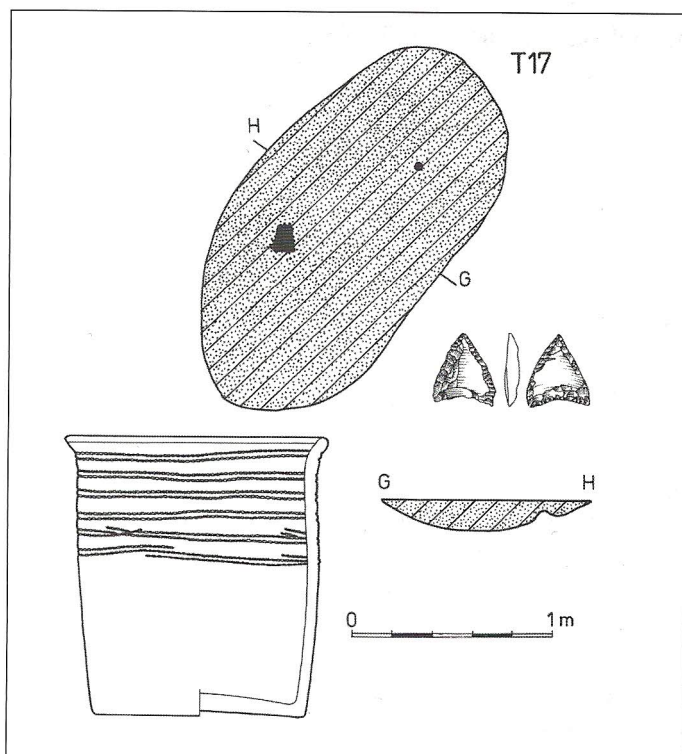


Figure 6 — Siniarzewo site 1. A flat grave of the Corded Ware culture. After CZEBRESZUK 2000a.

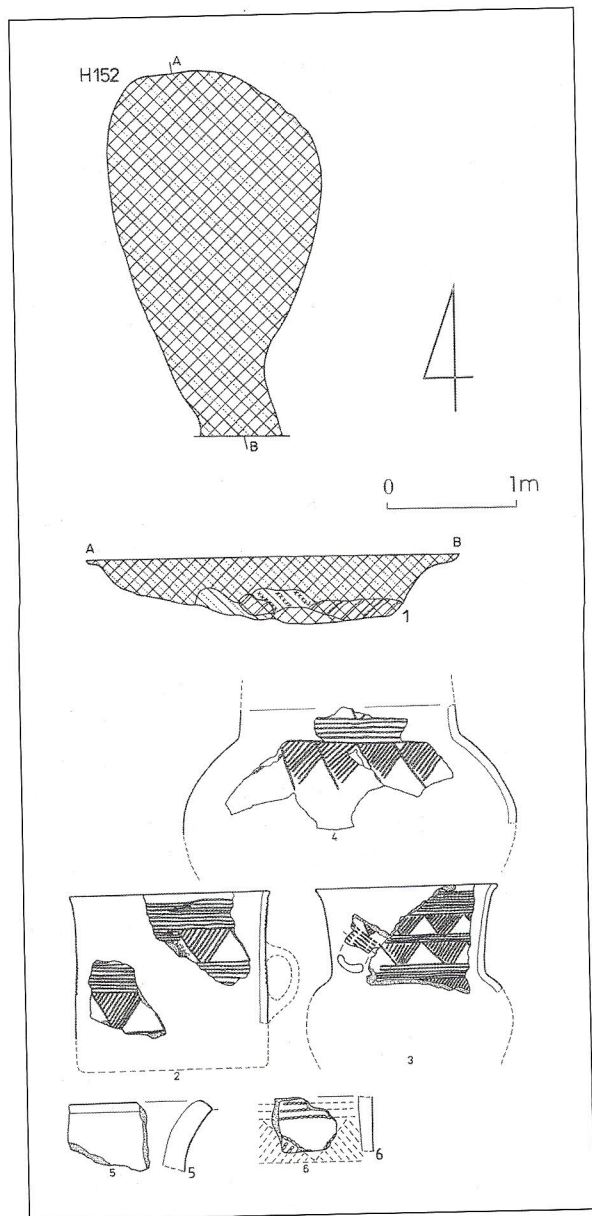


Figure 7 — Siniarzewo site 1. A supposed dwelling feature of the Corded Ware culture. After CZEBRESZUK 2000a.

and graves were located. Fifth, one can hardly speak of cemeteries in the classic sense of this word. Apart from few exceptions (e.g. Pikutkowo or Podgaj in Kuiavia; NIESIOŁOWSKA 1967; KLUNDER 1988), individual graves “interwove” with campsite relics in the edge zones of valleys.

In sum, we deal here with an extreme dispersion of any traces of Corded Ware culture settlement. This outline of a settlement model calls for specific methods of field investigations and its analyses.

Forms of the Bell Beakers – Iwno culture settlement

In the recent 20 years a lot of new information has been collected on the settlement of Bell Beakers – Iwno culture in Kuiavia and adjacent areas (CZEBRESZUK 1996, pp. 113-147; CZEBRESZUK 2001, pp. 116-141; CZEBRESZUK 2003b; MAKAROWICZ 2003).

years having the nature of camps or bivouacs (i.e. remains of short sojourns of small groups of people in a given area) similar to the last of the discussed cases (Żegotki 2). These include for instance Bożejewice 28 (Kuiavia: CZEBRESZUK 2000a, p. 451), Chabsko 41 (Kuiavia: CZEBRESZUK 2000a, pp. 451-452), Cichmiana 2 (Koło Basin: CZEBRESZUK *et alii* 2007) and Rożniatów Kolonia 5 (Koło Basin; CZEBRESZUK *et alii* 2007) sites.

Character of the settlement

Areas where Corded Ware culture populations lived or sojourned contain few traces of any activity. They consist at best of few objects and hardly visible subsoil deformations concentrated on a small exposed space. The subsoil is usually light and sandy. Such preferences brought about a tangle of post-deposition factors that led in the case of the Corded Ware culture to the extreme (incomparable to other prehistoric groups) underestimation of the number of finds. Archaeology is — to put it frankly — poorly prepared to discover and collect such data.

Yet, taking only these few, very general pieces of information one may attempt to outline the general framework of a Corded Ware culture settlement model in the Polish Lowland. First, the decreasing tendency of the number of movable finds coming from a single settlement point reached its lowest point (nadir) in the Corded Ware culture. Second, in northern Poland, we deal with a much greater number of settlements (campsites) that in each case were light and short-lived. Many of them have been already destroyed. The Lowlands could have been literally “covered” with campsites connected to the “Corded Ware” people. Third, the settlements were placed on dunes or light sandy soils in the exposed areas of river and lake valleys. Fourth, in these areas both settlements (campsites)

and graves were located. Fifth, one can hardly speak of cemeteries in the classic sense of this word.

In sum, we deal here with an extreme dispersion of any traces of Corded Ware culture settlement. This outline of a settlement model calls for specific methods of field investigations and its analyses.

Burials

Bell Beakers traits are poorly marked in grave contexts in the whole northern province, i.e. from Jutland to the lower Vistula (CZEBRESZUK 2001, pp. 116-142; CZEBRESZUK 2003). In this province Bell Beaker elements are found above all in settlement materials. This is a peculiar characteristic of this province setting it apart from other Beakers' zones, where we deal primarily with grave finds (CZEBRESZUK 2003c). This peculiarity calls for further research. Here, we would like to present examples of recent grave discoveries related to Bell Beakers – Iwno culture populations.

Sniarzewo 1 (Kuiavia). A discovery was made here of a grave of a girl (aged 12-15), placed along the N-S axis in the contracted position, on her left side, with the head pointing north. The grave goods included two vessels (MAKAROWICZ 2000).

Żegotki 3 (Kuiavia). An old man's (55-65 years) grave was investigated. He had been placed along the N-S axis in the contracted position, on the right side, with the head pointing south. The deceased had been given a bone awl and one vessel (MAKAROWICZ 2000).

In addition, in recent years single vessels, coming from museum storage facilities, have been published. Found at Mycielewo, Tarkowo and in the vicinity of Żnin (ŁOŚ, MAKAROWICZ 2003), they must have been grave goods, with the last of them, what is worth stressing, owing to its ornamentation technique (comb impressions), showing the closest affinity to Bell Beaker patterns.

Settlement remains

Dęby 29 (Kuiavia; fig. 8). The settlement was located on a sandy elevation on the shore of a lake, which has completely overgrown with vegetation since then. It was one of a series of camps that dotted the shore in the late 3rd millennium BC. Traces of repeated returns to the same place were recorded. With certainty, to these settlements can be related only ceramic materials (above 300 fragments). No permanent feature was related to them (CZEBRESZUK, SZMYT 1992, pp. 130-158).

Osiek nad Wisłą 8 (Chełmno Land). In the Vistula River valley, on a terrace covered with sandy soils, an arrangement of many camps of different cultures was recorded, of which at least two were related to the period of prehistory of interest to us here. Similar in size and shape, they were ovals 10-15 m in diameter. The camps left behind little ceramic material with ornaments reduced to relief motifs (BOKINIEC 1995).

Smarglin 53 (Kuiavia). The settlement was situated among a landscape of little morphological variety, in a vast area of eolian cover sands (wind-modified sandy soils). The settlement occupied 4 ares. Its remains included 3 features (household pits?) and above 1,100 pottery fragments bearing comb-impression ornaments (MAKAROWICZ 1993).

Macikowo 3 and 9 (Chełmno Land). Both settlements were situated on the summits of two adjacent hills among a diversified moraine landscape. On site 9 only some probing was carried out while the other site was surveyed only. On both sites, small camps were discovered, which left behind few pottery fragments and single features (BOKINIEC 1995).

Narkowo 16 (Kuiavia; fig. 9). Originally, the settlement occupied an area about 40 m in diameter covering a whole low elevation on a sand bank. There were 9 features recorded (3 pits and 6 postholes), being evidence that once aboveground post-structure buildings stood on the site. In addition, to the settlement were connected numerous, as for Bell Beakers settlement, movable sources including especially about 2,500 pottery fragments decorated with characteristic zone patterns made with comb impressions (PRZYBYTEK 1996; CZEBRESZUK 1996, pp. 117-119).

Smarglin 22 (Kuiavia; fig. 10). The settlement occupied the edge of a sand bank. The terrain descended southwards to a small watercourse. Investigations covered an area of 3 ares. The settlement covered 2-3 ares and consisted of a single structure with a partially sunk floor, one storage pit and a posthole that must be a relic of the shelter structure (CZEBRESZUK, PRZYBYŁ 2002, pp. 45-73). The structure shows structural affinities to models known from Jutland, for instance, at the well-known Myrhøj site.

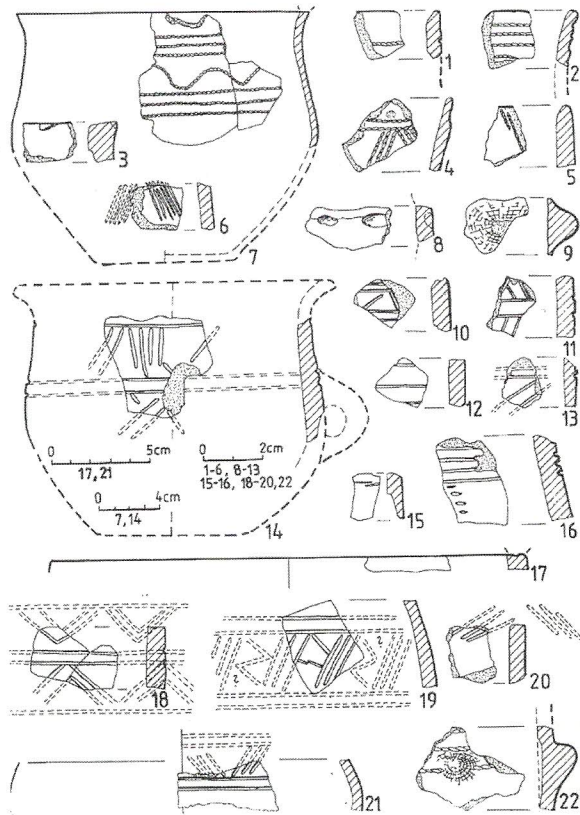
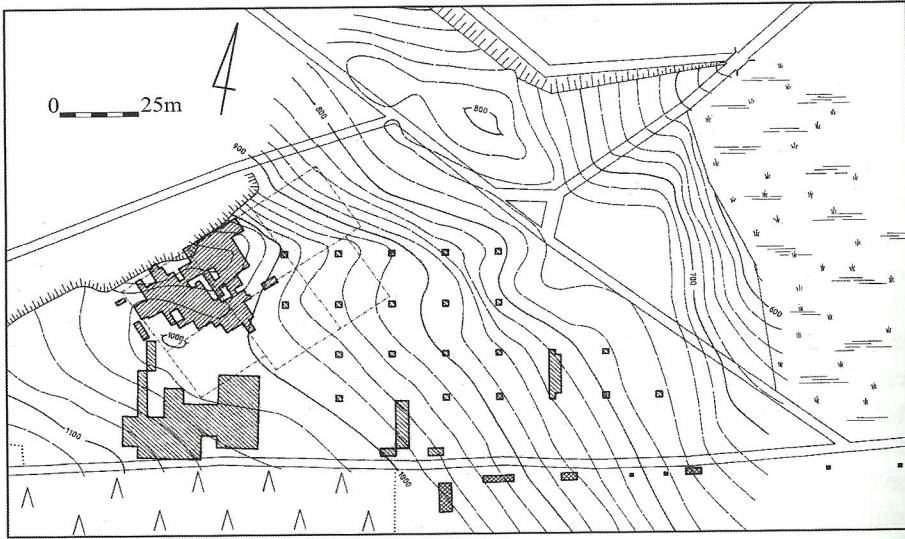


Figure 8 — Dęby site 29. A settlement of the Bell Beakers – Iwno culture. Excavated areas and selected ceramics. CZEBRESZUK 1996.

Character of the settlement

The Polish Lowland is the part of the north European Bell Beakers province, which stands out from other “beaker” agglomerations due to the number of settlement remains, in many cases including house remains. These are settlements founded mostly on light, sandy, dune-like elevations. Their surroundings, however, were characterized by a mosaic of soils and the proximity of bodies of water. The area of the settlements was from 800 to 2,000 sq. m. (MAKAROWICZ 2003, p. 43).

Among them are remains consisting solely of concentrations of movable finds for instance at Dęby 29 and Osiek n/Wisła 8, and others: Bożejewice 22 or Dziewa 14 (both in Kuiavia; Makarowicz 2000). More frequently, however, one encounters traces of settlements where, apart from a concentration(s) of movable finds, single features can be found. Such features, however, do not let themselves to be interpreted as structures. Among the examples of such settlements are: Narkowo 16, Smarglin 53, Macikowo 9 and 3; and others: Strzelce-Krzyżanna 40 and Łąkocin 1 (both in Kuiavia; MAKAROWICZ 2000). The most spectacular settlements are those with the remains of structures, as for instance a house with a partially sunk floor at Smarglin 22.

Conclusion: Bell Beakers and the turning point in the settlement trends

The Neolithic-Bronze Interstage and its settlements trends on the Polish Lowland was unquestionably one of the most significant turning points in the history of settling this part of our continent. The models of stable, almost village-like settlement, which appeared with the earliest agrarians (the Linear Pottery culture) gradually eroded throughout the Neolithic. An opposite way of life was followed by Corded Ware culture populations, namely, they used settlements with poor structures that did not leave many traces. The first to reverse this trend was Bell Beakers – Iwno culture settlement. There is a very slow comeback of more stable settlements with post-structures, household pits and microregions used on a permanent basis. The next stages of pre-history witnessed continuous strengthening of this tendency which as early as the

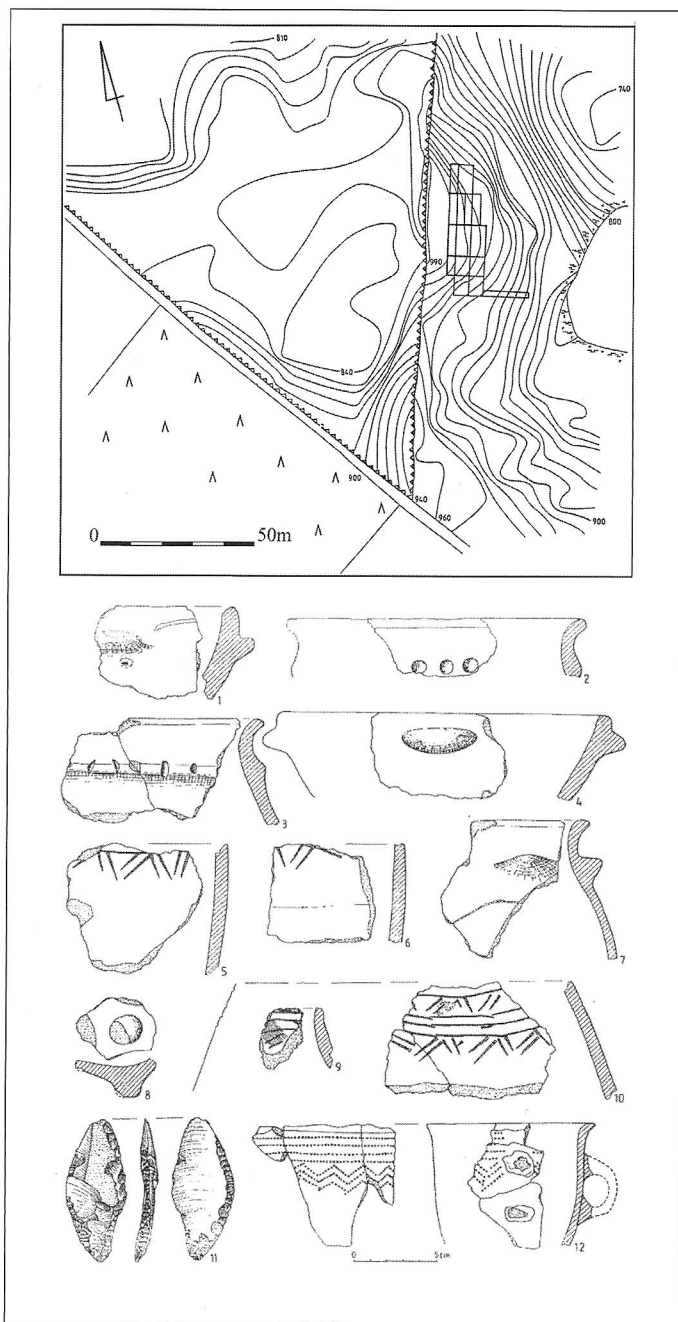


Figure 9 — Narkowo site 16. A settlement of the Bell Beakers – Iwno culture. An excavated area (black dots mark features) and selected ceramics. After CZEBRESZUK 1996, with supplements.

end of the Early Bronze Age (beginning of the 2nd millennium BC) brought about stable structures as at Bruszczewo 5 (with a fortified hub settlement) and in the first half of the 1st millennium BC, within the Lusatian culture, produced settlements of the Biskupin type.

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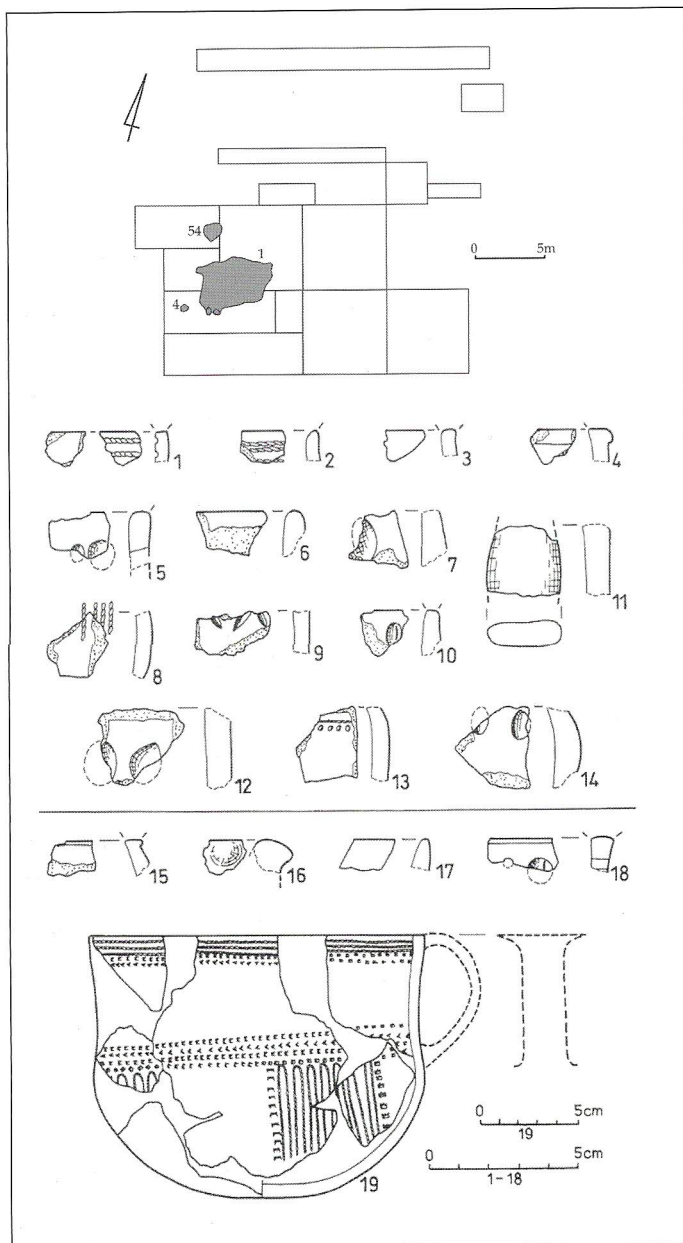


Figure 10 — Smarglin site 22. A settlement of the Bell Beakers – Iwino culture. An excavated area (settlement features marked) and selected ceramics. After CZEBRESZUK, PRZYBYŁ 2002

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