

Jacek Gackowski\*

## The Younger Bronze Age and the Beginning of the Iron Age in Chełmno Land in the Light of the Evaluation of Selected Finds of Metal Products

### ABSTRACT

Gackowski J. 2016. The Younger Bronze Age and the beginning of the Iron Age in Chełmno land in the light of the evaluation of selected finds of metal products. *Analecta Archaeologica Ressoiviensia* 11, 165–208

The article presents selected finds, both previously discovered and recent ones made of metal (bronze and iron), originating from Chełmno land and related with the settlement of the Lusatian population in the Younger Bronze Age and at the beginning of the Iron Age. Due to the discovery of several casting workshops and other traces of local bronze production, it is possible to assume that a certain selection of ornaments, weapons and tools was produced locally. However, the stylistic and utility models were always of supra-regional origin, for which many analogies can be found in the area of Kuyavia, Greater Poland and Silesia. Similar provenance has been noticed for iron objects discussed in the research.

**Key words:** bronze and iron products; Younger Bronze Age; Early Iron Age; Chełmno land; Lusatian culture

**Received:** 25.07.2016; **Revised:** 29.07.2016; **Accepted:** 09.11.2016

### Preliminary issues

In the last several years in the area of Chełmno land and in its immediate vicinity, interesting items made of bronze and iron have been found here which were connected with the activity of the local settlement group of the Lusatian culture. These new finds, as well as the metal objects already known in this area, but derived from earlier research and accidental discoveries, may be treated as a set of sources indicating the significance and level of metallurgical production, primarily bronze working. It is worth emphasizing that the previous knowledge in this field was very poor therefore it influenced the interpretations very much. Actually they were limited to the depreciation of local bronze working and thus the importance of metal objects in the life of the “Chełmno” communities (e.g. Chudziakowa 1972, 93, 95–96, 103; 120; 1974, 100). Revealing these products and traces of local metallurgical production

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\* Institute of Archaeology, Nicolaus Copernicus University in Toruń, Szosa Bydgoska 44/48 St., 87-100 Toruń, Poland; jacek.gackowski@umk.pl

in a specific context of the “Chełmno” settlement landscape, they should also contribute to a fuller exposure of the directions and dynamics of their connections to the culture-formative macro-regions of the Younger Bronze Age and Early Iron Age. In the area of historic Chełmno land, a taxonomic unit of the Chełmno group was established. The presence of its objects is indicated in the range from the middle or younger part of the Bronze Age to the Early Iron Age inclusively (Kostrzewski 1958, 221–232; Chudziakowa 1974; Dąbrowski 1997, 97–98).

The proposal (reported in the early 70s of the past century) to distinguish this group was based on the indication of several features that diagnose its presence. Among them, perhaps the most important place was taken by ceramic vessels, but their local specificity was presented in the source materials dated to the period not earlier than the turn of the Bronze and Iron Age, or rather the beginning of the second period, when the “Chełmno” defensive settlements appeared (Chudziakowa 1972, 98, 100–103, 110, 120; 1974, 98–104). It is true that larger or smaller open settlements were usually occupied, but indeed the appearance of the hillforts is indisputable. However, many years ago there was a discussion whether the proposed regional unit (*i.e.* the Chełmno group), being a small fragment of the extensive area occupied by the Lusatian cultural, should not be combined into a taxonomic group with the nearby Kuyavia and Dobrzyń land. It took place in very early studies of the mentioned culture, when it was so called the Kuyavia–Chełmno group (Kostrzewski *et al.* 1965, 152, 163–164, 183–184, 212–213). These ambiguities were due to the fact that, among other things, there was not a very large set of sources, providing relatively much freedom of interpretation to both supporters and opponents of the narrower or wider range of the regional group (Chudziakowa 1972, 120; 1974, 100–101; Grzeskowiak 1987, 50). However, it must be humbly accepted that, despite the fact that the state of research has changed considerably in comparison with the decades of the past century, among other things resulting in an increase in the number of diverse metal finds, at most we are able to propose new insights into civilization processes taking place in particular areas, *e.g.* to indicate the variables in time regarding ranges of regional groups. Still, these will be subjective attempts to get close the real picture of the cultural identity of particular communities which only left material traces. The following observations, made on the basis of newly discovered materials,

are therefore a modest contributor to an in-depth reflection on the cultural shape of the “Lusatian” community inhabiting the Vistula, the Drwęca and the Osa river basins in the Younger Bronze Age and at the beginning of the Iron Age.

Several categories of finds have been noticed in the study. The first type forms metal objects that are part of two hoards (Elgiszewo, Przesławice). Another group comes from graves (Grudziądz-Owczarki, Starogród) and settlements (Mirakowo-Grodno, Gzin, Czarnowo – d. Kamieniec). The third one is a category signaled in the literature as stray finds (Głogowo, Świecie nad Osą, Głowińsk). Some of the presented sets of metal artefacts are quite numerous, therefore due to the needs of raised issues, our attention was paid to selected items. What is more, the study also indicates where the traces of local metallurgical production are known, as revealed in recent archaeological research.

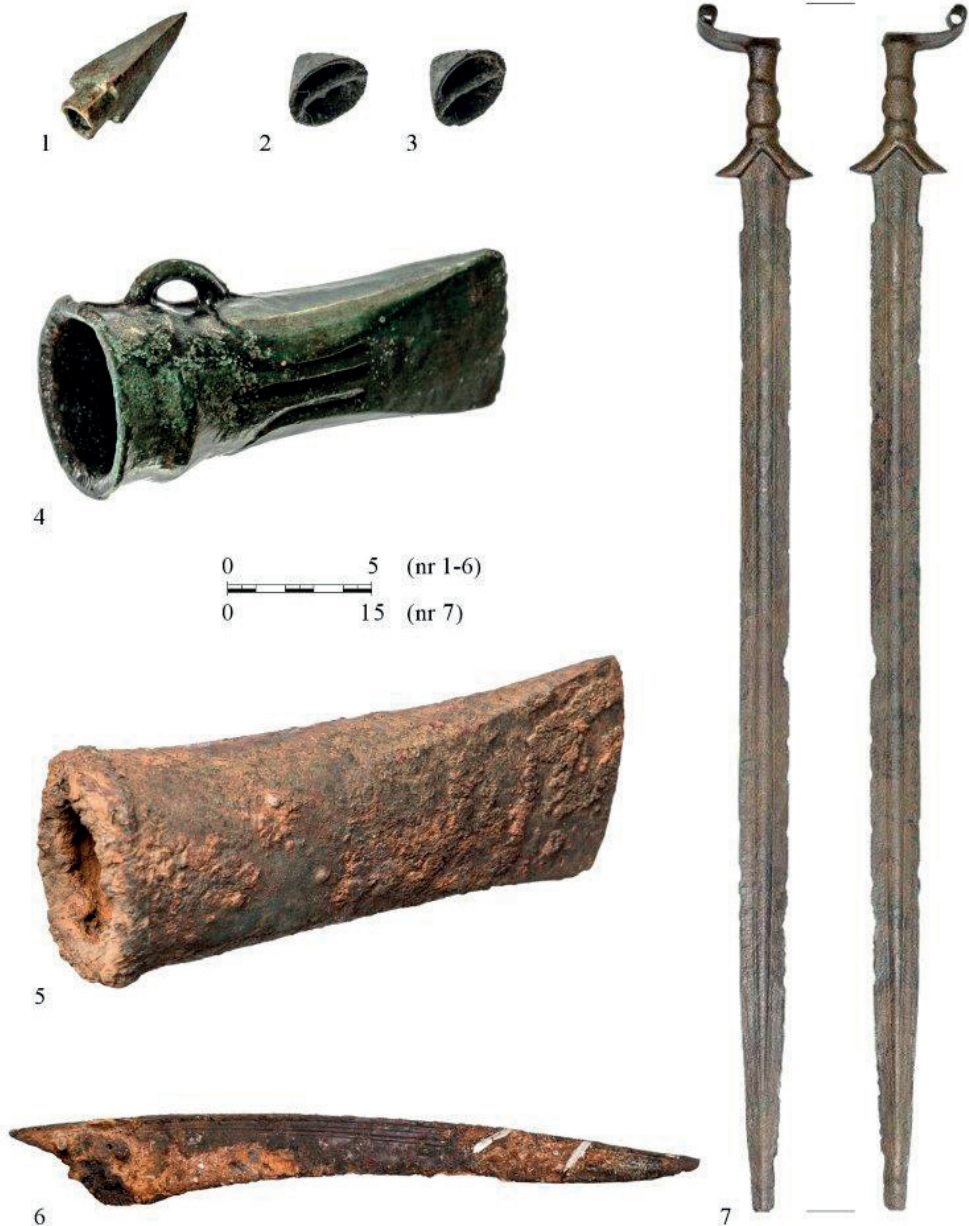
The writer of these words just tries to evaluate these previously discovered and present finds in the context of the current state of regional settlement research, though taking into account (as stated indirectly earlier) wider cultural processes which took place in the Younger Bronze Age and the beginning of the Iron Age. The following review of the material used in this study – preceding the synthesizing reflections – is presented in alphabetical order of the names of the places where they were discovered.

### A review of material remains

1. Czarnowo (former Kamieniec, site 46), Toruń district. With regard to the defensive settlement of the population of the Lusatian culture, studied in the 1930s by Jacek Delekta and in the course of explorations in 2007 and 2012, dozens of bronze and iron artefacts were uncovered. What is more, the remains of the foundry were also discovered. It is documented by traces of slag-pit furnace, bronze scrap and sherds of casting moulds (Gackowski 2015, 131–144). The Czarnowo feature is widely known in the literature, mainly thanks to the discovery of military accessories of steppe origin in the form of small triangular arrowheads (Fig. 1: 1). With the presence of such items belonging to an undetermined group of invaders – as it is commonly believed – it is possible to combine various bronze applications, among which there are quite numerous amount of button-shaped ornaments which played the

role of sewn elements on clothing fabrics or attached to the leather parts of a horse cheekpiece or reins (Fig. 1: 2–3). Among other categories of decorations, it is worth mentioning various forms of “Lusatian” hoops, such as a hoop necklace of western origin or solid bracelets, and larger or smaller pendants made of a thin bronze sheet (Zielonka 1955, 161–164). It is also possible to link some tools, for example, a socketed axe with a loop (Figure 1: 4) with the same cultural environment. There is no doubt that at least a part of bronze artefacts was produced on site in at least one or possibly a few metallurgical workshops that could function within the fortified settlement, currently preserved in a residual form. The radiocarbon dating of building material used in the construction of the gate and the aforementioned casting workshop (located on the east side) indicates the breakthroughs of the sixth and fifth centuries BC as the time of existence of a “hillfort” (Gackowski 2012a, 124). As for Czarnowo there are also known military accessories and iron harness. These are, among others, heads of pole weapon and a two-piece bit (Zielonka 1955, 162, 164, Table XXIV: 34, XXV: 10, 11).

2. Elgiszewo (site 14), Gołub-Dobrzyń district. A collective find consists of 34 bronze artefacts (Fig. 2: 1–20, 22–35) and a fluted stone (Figure 2: 21). These objects were discovered accidentally in 2013 (in the course a search made by the use of a metal detector) in peat, several dozen centimetres below the ground, on the south-western outskirts of Lake Okonin. It is therefore quite probable that the hoard was originally thrown (perhaps in some container) into the shallow watershed of the aforementioned reservoir. The most commonly represented were plates of oval shapes, with single or parallel double loops (Fig. 2: 1, 2, 6, 7, 12, 13, 16, 18, 24, 30). In addition, it included four multi-coil bracelets made of sheet metal (Figure 2: 25, 26, 31, 32) and six larger or smaller round items, formed from circular in cross-sections rods or u-shaped metal sheets (Fig. 2) 15, 22, 23, 27, 28, 33, 34, 35). It is also possible to combine a tin decorated appliqué, perhaps the middle part of the brooch (Fig. 2: 14) with a group of ornaments, as well as three coils of bronze wire, one spiral “head” of the pin, four bronze plates and two coils of bronze sheet (Fig. 2: 3, 4, 8–11). The hoard also included: a damaged knife with an antennae end of the handle (Fig 2: 17), two twisted curved handles with three cross-shaped handle mounts (Fig. 2: 5, 29) and two halves of casting moulds for the production of socketed axe with a loop (Fig. 2:19, 20). The aforementioned fluted



**Fig. 1.** Selected finds of metal objects described in the paper: Czarnowo (site 46), Toruń district (1–4; exploration in 2007 and 2012); Mirakowo-Grodno (site 6), Toruń district (5–6; exploration in 2010); Głogowo (site 10), Toruń district (7; discovery in 2004). *Photo W. Ochotny*

**Ryc. 1.** Niektóre znaleziska przedmiotów metalowych opisywanych w opracowaniu: Czarnowo (stan. 46), pow. Toruń (1–4; badania 2007 i 2012 r.); Mirakowo-Grodno (stan. 6), pow. Toruń (5–6; badania 2010 r.); Głogowo (stan. 10), pow. Toruń (7; odkrycie z 2004 r.). *Fot. W. Ochotny*

stone (7.5cm in diameter) is carefully crafted (Fig. 2: 21). It has two top hollows and one all-round flattened surface. On the surface of the latter, minor green discoloration can be observed in some places. Both in terms of weight (2.65kg) and the number of objects, the hoard from Elgiszewo is now the richest of such finds in the area of the so-called Chelmno group of the Lusatian culture.

3. Głogowo (site 10), Toruń district. With regard to the land of the mentioned village, located on the southern side of the Drwęca Valley, a bronze sword with an antenna handle comes from (Kucharski 2005, 168). The artefact is damaged, and it has one broken volute of the antennae and the end of the blade (Fig. 1: 7). According to information obtained from the accidental explorer of this artefact, the sword was to be uncovered in peat in 2004 in the course of deepening and adaptation of a small, closed tank for home pond.

4. Głowińsk (site without a number), Rypin district. A bronze dish discovered accidentally in 1940 in the course of peat digging in the so-called Kościelny Las (German: *Kirchwalde*; English: *the Church Forest*), located west from Rypin boundaries (Heym 1942, 19–22; Gedl 2001, 31–32; 2003, 43–47). A double-cone cauldron made of repoussé bronze sheet (with a top decorated part) with cross-shaped handle mounts, also decorated with dots and concentric circles. The dish was equipped with a double twisted curved handle finished with a hook. Marek Gedl supposes that these handles may have a modern period origin, but there is no doubt that (if that is so) they imitate the original faithfully.

5. Grudziądz-Owczarki (site 20), Grudziądz district. In the north-eastern part of the city, until recently a separate village, accidentally – during the investment works connected with the construction of the sanitary and sewage installation – more than 20 skeletal and cremation burials were uncovered and later explored in the vicinity of the settlement pits. Speaking of burial features, several skeletal graves with preserved traces of coffins / wooden logs pay special attention, in which the uncremated bodies of several dead persons were originally deposited. One of these graves (No. 2) contained fragments of three human skeletons, and one of them was furnished with two open bracelets made of bronze rods, decorated with dense incised lines. These decorations were applied to the metacarpal bones. Researchers also found a pin with a flattened spiral-shaped head and a twisted top part of the spindle. The human skeleton associated with the signaled



**Fig. 2.** Elgiszewo (site 14), Golub-Dobrzyń district. Hoard of bronze artefacts (1–20, 22–35) with fluted stone (21). The discovery made in 2013. *Photo. W. Ochotny*  
**Ryc. 2.** Elgiszewo (stan. 14), pow. Golub-Dobrzyń. Skarb wyrobów z brązu (1–20, 22–35) wraz z kami-  
 niem kanelurowanym (21). Odkrycie z 2013 r. *Fot. W. Ochotny*

ornaments was very poorly preserved, but the author of the research, having the results of anthropological expertise, is inclined to consider this grave as a burial of a woman's body at the age of *adultus-maturus* (Kurzyńska 2009, 62–64, 69). Another two open bracelets made of bronze rods were discovered in the skeletal grave No. 5. They were applied to the radial bones. Similarly to the bracelets mentioned above, they are also decorated with dense incised lines. Whereas, as for one of cremation burials (pit No. 6), a bronze pin with a profiled head was discovered. Outside the grave context, a triangular arrowhead was discovered. These discussed metal ornaments were accompanied by a few series of pottery sherds that were generally described as remains of “amphorae-Trzciniec” features or “possible transitional materials between the Trzciniec and Lusatian cultures”. This unique find has been presented twice recently in the literature (Kurzyńska 2005, 147–149; 2009, 70).

6. Gzin (site 1), Bydgoszcz district. The fortified settlement of the Lusatian culture population known in the literature primarily because of the repeated discovery of uncremated human bones in fills of generally deep pits, interpreted as a sign of ritual behaviour during which human sacrifices were made (Chudziakowa 1992, 18–20). Long-term studies were conducted in years 1968–1976. At that time, apart from the mentioned sacrificial pits and other archaeological features, numerous so-called movable artefacts were uncovered. In respect of the metal items, it is worth mentioning bronze products, such as two-piece bronze bit or decorated Stanomino type shin guards, and iron products such as the head of the pole weapon and the sickle with rivets to fix the handle. Although the site was to be inhabited twofold, both phases are linked to the early Iron Age (rather with the younger and youngest part (Ha D-La periods) on the basis of the stratigraphic evaluation and analysis of artefacts (Chudziak 1992, 11–15).

7. Mirakowo-Grodno (site 6), Toruń district. The fortified settlement of the Lusatian community, formerly located on an island on the western shore of Grodno Lake. It was discovered in 1977, but long-term excavation research was conducted here only in the years 1997–2010 (Gackowski 2012a, 42). During the mentioned works numerous traces of the interior of the object and the remains of fortifications and bridges were discovered. As for various artefacts (made of bronze, iron, antlers and bones and mineral resources), iron items pay attention such as a socketed



axe (Fig. 1: 5), a head of pole weapon and a decorated knife with a spike and rivets for fixing the handle ( Fig. 1: 6). Dendrochronological analysis of oak wood allowed the researchers to determine the time of obtaining the building block in the years 776 to 684 B.C. (Gackowski 2012a, 211).

8. Przesławice (site without number), Grudziądz district. Although the metal vessels discovered in 1896 on the land of the mentioned village come from the right bank of the Osa river, but in the postwar literature they are combined with the settlement of the population of the Chełmno group of the Lusatian culture (Dąbrowski 1997, 131; Bukowski 1998, 359, 25; 2012a, 194–195). The hoard from Przesławice consisted of two amphorae made of bronze sheet and three (also of the same metal) drinking horns (Blajer 2001, 349; Kurzyńska 2001, 43). The amphorae are richly decorated (using the technique of repoussé) with bird motifs (actually bird-boats) placed between several ovals of the solar disc. The way of visualizing it is different in terms of a plastic view and arrangement, marked in the lower and upper part of both vessels. In turn, sheet metal horns were decorated with all-round ribs, which were accompanied by zig-zag lines made by means of multiple dots. In the lower parts of the vessels several links of chains were attached. The rims were all-around thickened, while the bottom parts were finished with flat tongue-shape projections, decorated on both sides with concentric dots. The find from Przesławice has repeatedly appeared in the literature of the subject and it is impossible to cite all the previous positions in which it is analyzed in more or less detail; hence, attention has been paid to the most crucial works (according to the author) (Sprockhoff 1956, 52, 244, 251; Jöckenhovel 1974, 46–47; Dąbrowski 1997, 62–63; Blajer 2001, 222–223, 349; Gedl 2001, 35–37, 57–60; Bugaj 2007, 304–305).

9. Starogród (site 1), Chełmno district. A cremation burial of the Lusatian culture was discovered during archaeological research conducted by January Janikowski in 1963. Apart from some typical ceramic forms for the local environments, which were accompanied by a sickle with a nodule and a part of pin, remains of an urn were found in the form of a fragment of a vessel made of bronze sheet, decorated in the upper part with all-around and multiple grooves. The item has only one preserved handle, originally fastened with four rivets. The necropolitan destiny of this vessel is confirmed by the fact of discovering in its interior burned human bones. Moreover, an

exceptional burial equipment was also a bronze knife (nearly 29cm long) with an openwork handle, ended with a circle on which there were two other threaded circles. Both the upper part of the blade as well as the upper and lower part of the handle were decorated with multiple hatching (Janikowski 1966, 430).

10. Świecie nad Osą (site 1), Grudziądz district. Considering the cultural stratification of the early medieval settlement, investigated in 1979, there were a few, but interesting, prehistoric items discovered there. One of them is worth mentioning here, *i.e.* a bronze pin with a flask-shaped head. Previously, this artefact was misinterpreted and described in the collections of the Grudziądz museum as an iron arrowhead, which was noticed several years ago by M. Kurzyńska (2011, 227).

### Chełmno bronze and iron products in the context of local and supralocal cultural conditions.

The presented review of selected categories of metal objects documents the interest of local communities with products of clearly supraregional styling, which does not mean that they all need to be treated as imported. There is no doubt that at least some of the ornaments, weapons and tools made of bronze were produced on site in casting workshops that worked within the open and defensive settlements of the Lusatian culture. The earliest chronology (from the Younger Bronze Age to the Early Iron Age periods inclusively) has a workshop in Rudy near Grudziądz, where both the moulds intended for the production of heads of pole weapon and the socketed axes have been discovered (Gackowski 2012a, 82). In turn, it is possible to link a workshop from Czarnowo (former Kamieniec) only with the early period of the Iron Age, where the fragments of casting moulds for the production of hoop ornaments were discovered. Very similar fragments of moulds are known from other defensive settlements, *e.g.* Miraków-Grodno and Gzin (Gackowski 2005), where probably similar workshops were functioning, but their traces – so far – have not been discovered. In addition, the assortment of various finds confirming casting skills of the “Chełmno” population is already quite rich and is not only limited to proving that the technique of lost wax was practiced, but also cold forging skills by the use of fluted stones were used. It can be assumed that the present image of local bronze working appears to be generally

comparable, especially in the Early Iron Age, with the situation in the area of nearby Kuyavia or eastern Greater Poland. There is, however, one significant difference that was signaled in the older literature of the subject and which has already been indirectly mentioned above. The “Chełmno” community did not develop its own local style patterns, and in fact they produced imitations (sometimes quite ineffective) of products from other regions.

The presence of certain categories of metal objects, whose modest representation was mentioned above together with the most recent finds, must be evaluated in the light of general cultural and settlement processes in which local communities participated, gradually becoming more and more integrated into the “urn world” of the Bronze Age and, over time, also in the context of cultural-civilization processes of the Early Iron Age in Central Europe. Chełmno land appears to us as a quite late (compared to the south and west regions from the Vistula bent) integrated region into the rest of the Lusatian cultural circle. Although metal products dating back to the Middle Bronze Age (*e.g.* with the late Tumulus or early Urnfield styling) are noted on the northern side of the Toruń-Fordon bent of the Vistula Basin, but their presence is unreliable to link nowadays with the “early Lusatian” settlement. Thus, on the one hand, it is necessary to consider the long-lasting phase of functioning of the “late Trzciniec” communities (especially in the southern part of the Chełmno Land) but, on the other hand, (*i.e.* in the northern part of the area), it is important to bear in mind the existence of social communities which left *inter alia* the aforementioned skeletal burials with equipment in the form of sets of bronze ornaments similar to Dretyń type sets, recently discovered in Grudziądz-Owczarki. These finds are in the context of the southern range of the Eastern Baltic axes and the Nortycken-type axes, (Gackowski 2012a, 60–64). Whereas, the traces of the “Lusatian” settlement indicate that the occupation of the north-Chełmno area took place only in the Younger Bronze Age (Gackowski 2012a, 185–186). Moreover, the northern part of Chełmno land provided the above-mentioned damaged pin with a flask-shaped Trzebnik type head, discovered in Świecie nad Osą (Kurzyńska 2011, 229–230, fig. 4: 1). Such sort of artefacts (usually found in graves, less often in hoards) are most often associated with the Middle Bronze Age, less often with a younger part. (Essen 1985, 45–46; Blajer 1999, 104). Since this ornament does not come from the primary context,

and despite the fact that it has analogies in the well-known hoard of Radoszki near Brodnica, it is not possible to link it convincingly with the phase of the local “early Lusatian” settlement of the Middle Bronze Age (Kurzyńska 2011, 233). The data collected so far indicates that the region of Świecie nad Osą was formed (in the “Lusatian” variant) only in the Younger Bronze Age and it functioned to the Early Iron Age (Gackowski 2012a, 195–196).

Briefly summarizing the above observations, it is rather necessary to assume that the Chełmno community – with the presumed conservatism of its cultural face – somehow “opened” itself to new cultural phenomena while the Urnfield communities were already formed in the south of the Toruń-Fordon bent of the Vistula Basin, *e.g.* in the eastern area of Kuyavia (Ignaczak 2002, 186–188). This view is underpinned by the thesis on the temporary stability of older settlement structures (probably to the third period of the Bronze Age inclusively), staying within the range of Karbowizna-type hoards (Blajer 1999, 123–124, 128, map 6). Therefore, it can be assumed that the local “Urnfield world” in Chełmno Land was formed at a similar time as in western Kuyavia. It is a view already quite long existing in the literature of the subject (Gackowski 2012a, 59–66).

Much of the products presented above and those already discussed by other authors belong to the production of the Younger Bronze Age (IV–V period). Hence, our attention should be paid to the above-mentioned recent and lesser known finds from the area of the Drwęca River. This is especially true as for the aforementioned hoard from Elgiszewo<sup>1</sup>, as well as isolated finds from Głogów and slightly more remote Głowińsk. The first one is most likely a collection of items belonging to a travelling bronze worker. It can be proved, among other things, by means of discovered casting moulds (Fig. 2: 19, 20) and fluted stone (Fig. 2: 21). Considering the bronze scrap, it is worth mentioning a fragment of Spindlersfeld-type fibula, probably the Oder-West Pomeranian variant of Chłopowo (Fig. 2: 14), dated back to the end of the Bronze Age (Gedl 2004b, 29–30). The inventory of this collection also contained two twisted curved handles, most likely coming from

<sup>1</sup> Although regarding the so-called Chełmno group of the Lusatian culture we know several bronze hoards, but the Elgiszewo assemblage is by far the richest (quantitatively and qualitatively) in this group of local finds. Previously discovered hoards were discussed several times in the literature (see Szymańska 1975; Chudziak 1972; 1974, 80–81).

a bronze cauldron, finished with hooked terminals, and implemented by cross-shaped handle mounts, decorated with dots and concentric circles (Fig. 2: 5, 29). The dish itself is missing in this collection, but probably the same type of a complete item comes from nearby Głowińsk, for which Marek Gedl indicates analogues from the territories of the Gava-Holihrad culture (Gedl 2003, 45–47). Although the latter was discovered west of Rypin, so quite far away from the Drwęca River, but there are still many traces of local settlement of the Lusatian population located along the valley of the Rypienica River, which passes to the Drwęca near Mszano and Kominy. This is where the well-documented micro-region (Mszano-Gorczeniczka-Brodnica), formed at the end of the Bronze Age and extending into the Early Iron Age, is located. It is clearly spatially associated with the area of settlement of the Rypienica valley mentioned above (Gackowski 2012a, 180–182). The Elgiszewo hoard also included a knife with an antenna-shaped handle that could be classified as Szymoncin type (Gedl 1984, 58–59, Table 14: 139–141; 25: A). It is worth pointing out that the discussed item has a handle with four holes (two of which are equipped with the rivet pins) for fixing the grip of the handle. Objects of this type, known in several examples, are concentrated in Lower Silesia and are dated by M. Gedl to the fifth period of the Bronze Age (Gedl 1984, 58–60). The casting moulds, coming from the Elgiszewo hoard, made of bronze, are the first of its kind from Chełmno land. Well-preserved in their interiors, the negative representation of the shape and decorations of cast axes, allow us to assume that they were tools for the production of socketed copies with a loop “Przedmieście” type (G variant), according to J. Kuśnierz (1998, 8–9). Apart from the “Czarków” type, they are considered to be characteristic of bronze production, speaking of the southern and western parts of the Lusatian culture (Silesia, Lesser Poland, Greater Poland, scattered in Pomerania). As for the Chełmno area, casting moulds for the production of socketed axes belong to extremely rare finds. In addition to the presented metal pieces from Elgiszewo, only severely damaged single clay items, coming from the Lusatian culture settlement in Ruda near Grudziądz are known so far. There is no doubt, however, that such metal tools were relatively common in the settlement environment of the Lusatian culture as of the Chełmno group. This is confirmed by the finds of socketed axes with loops with the most common (4 pieces) of the mentioned “Przedmieście” type

(Wałdowo Królewskie – 1 item: variant G; Kałdus – 2 items: variants B or G; Czarnowo – 1 item: variant B). Whereas, similar axes, identified as the “Czarków” type, are represented by two finds: Papów Toruński (1 item: variant A) and Rogów (1 item: variant F). In addition, an axe type “Kopaniewo” (variant B) comes from Rudnik. In the remaining two cases there is no data on the type of axes, it can only be repeated in the words of the other authors that these copies are the Lusatian culture artefacts (Toruń: 1 item; Radzyń Chełmiński: 1 item). The already known spread of the “Przedmieście” and “Czarków” axes as well as casting moulds for their production in the Lusatian culture indicates a clear integration of the Chełmno group with the remaining south-western part of the settling areas of the aforementioned taxon at the end of the Bronze Age and at the beginning of the Iron Age. The results of the latest settlement analysis allow us to assume that the objects belonging to the Elgiszewo hoard appeared most likely in the social environment of the formed micro-region at the end of the Bronze Age (which lasted until the early Iron Age) in the vicinity of Elgiszewo and Ciechocin (Gackowski 2012a, 170–171).

The discussed settlement region can be linked with the aforementioned sword from Głogów (Fig. 1: 7). Although various specimens of swords with antennae handles could be produced – as demonstrated by M. Bugaj (2005) – in local bronze workshops, however, a copy from Głogów must be combined with a rather rare Flörsheim type, dated to the Ha B2 period (Müller-Karpe 1961, 55–56, Table 52: 1–5)<sup>2</sup>. The results of the analysis carried out on the traces of local settlement allow us to assume that this object was most likely to reach the local Lusatian group, which was functioning rather uninterruptedly in the Lower Drwęca region (near Lubicz, Jedwabno and Młyniec) from the Younger Bronze Age to the Early Iron Age (Gackowski 2012a, 170–171).

With reference to the vessels from Przesławice, published many times, there is no doubt that they come from remote areas and they reach the territory on the Osa river in the course of a long-distance exchange which took place along the route (so-called the Amber Road) connecting Greater Poland with the lower Vistula land. This

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<sup>2</sup> I would like to thank Mr. Michał Bugaj very much for consulting advice on the typological-chronological assessment of the discussed sword. Currently it is kept in the collections of the District Museum in Toruń. I also would like to thank the Director of this facility, Dr. Marek Rubnikowicz, for allowing photographic documentation of this unique artefact.

route is especially noticeable at the beginning of the Iron Age (Ha C-D periods), which was probably correlated with the process of the civilization changes of the Bronze Age and Iron Age and their various intensified repercussions appearing in Central and Northern Europe (Bukowski 1993, 72–93; 2005, 45–58; Blajer 2001, 293–294; Bugaj 2007, 293–314). However, there are some discrepancies in the chronology and regions from which the vessels from Przesławice were to appear in the northern Chełmno outskirts. For a long time, these products were dated to the 5th period of the Bronze Age (suggesting the North European origin of all forms), but due to the presence of an iron hoop just below the flaring edge of one of the amphorae, it was assumed that the latter would have come from the 2nd half of this period or the beginning of the Ha C period. (Sprockhoff 1956, 52, 244, 251; Łuka 1985, 40–43; Jöckenhovel 1974, 46–47; Dąbrowski 1997, 62–63; Bukowski 1998, 310; Blajer 2001, 222–223, 349). In turn, the mentioned bronze horns, which are part of this collective find (with local analogies in the artefact from Pruska Karczma near Gdańsk), connect them with the Mecklenburg and Brandenburg environment (Bukowski 1998, 311–312). However, returning to the amphorae it can be inferred, in the light of available analogies (*i.e.*, Gevelinghausen-Veii-Seddin vessels), their southern (East Alpine and Italian) origins (Kytlicová 1991, 87 & next; Bugaj E. 2007, 304). However, the number and distribution of these artefacts in Europe indicate not so much this fact, but rather noticed frequency of the bird-boat motif in the context of the solar discs (*Vogel-Sonnen-Barken*) present on bronze vessels and other objects such as metal helmets or ceramic kraters prove it (Jöckenhovel 1974, 42–46, fig. 7 and 8; Kossack 1999, 24, 55, 72–73, 154, 181; Novotná 2001, 369). The author of the detailed analysis of the above-mentioned type of vessels adds that the amphora from Gevelinghausen played the role of an urn. The burnt human bones inserted into it were wrapped in a textile. The quoted scholar assumes that the local cultural context (in which the funeral rite with the use of the discussed amphora was made) could be structurally similar in terms of ritual behaviours to those practiced in the South European circle, having literary references in the Homeric texts (Jöckenhovel 1974, 38, 48–54; also Aigner-Foresti 2010, 135–142). It is clear from the description considering the circumstances in which the vessels from Przesławice were discovered that they did not play funerary functions

similar to those described above. Therefore, as far as their foreign origin is not discussed, but it seems reasonable to question about the scope of understanding by the local “Chełmno” communities the encoded meanings in the decorations of amphorae and thus their socially acceptable functioning. The fact that they were not used as ceremonial burial vessels has already suggested that the presented narrative, derived from a distant but primarily foreign cultural context, could be perceived as meaningfully difficult to access, perhaps even hidden permanently<sup>3</sup>. However, undoubtedly the fact of careful concealment of these items, somewhat luxury (“exotic”) products, can indicate their appreciated value (accumulation of bronze raw material, prestige?). Nevertheless, it is impossible to assess whether the vessels were in hands of a small (against a settlement group) team of people (or a person) in decision-making positions.

It is difficult to really know what were the reasons for depositing these bronze products. It is worth remembering, however, that in the Chełmno area the use of metal vessels as urns was proved in the aforementioned Starogród<sup>4</sup>. A bronze knife was deposited in the grave, which was linked by M. Gedl with the Wrocław-Grabiszyn type (Gedl 1984, 22–23, tabl. 3: 25; 21: A). The finds of this type of knives clearly concentrate on the area of Lower Silesia, on both sides of the Oder River and are dated to the fifth period of the Bronze Age. Against this background, the copy from Starogród is a completely secluded artefact. Moreover, apart from the knife of this type from Stare Bojanowo near Leszno (variant Bojanowo Stare), there are no such examples in Greater Poland. In turn, the discussed bronze vessel, used as an urn has analogies in the Egyek type, in eastern Hungary, and it should be associated with the production of Gava culture (Gedl 2001, 34, table 14: 39). As noticed by the cited researcher, with reference to the items discovered there, it should be dated to Ha B1, so even the end of the fourth period of the Bronze Age.

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<sup>3</sup> The treatment of bronze vessels of southern provenance by the Chełmno community as a mere raw material for melting can be seen in the fragmented parts of ribbed bodies of bowls found within the settlement of Kamieniec (now Czarnowo), Toruń district (see Zielonka 1955, 162, table XXIII: 29, 33).

<sup>4</sup> Nowadays it is possible to associate necropolitan finds from Starogród with the settlement micro-region formed in the vicinity of this town and Chełmno in the Younger Bronze Age and functioning to the Early Iron Age (Gackowski 2012a, 131–134).



Despite the above doubts as for the reception of meanings of motifs presented on the amphorae from Przesławice, it is not excluded that in their information layer they may have been translocated to some part of the “world of values” locally understood and socially acceptable. Since it is important this imagined universal verse of human fate, a kind of journey from the reality of the living to the dead<sup>5</sup>. In communities more or less distant from southern civilizations, the evidence of similar patterns of behaviour and their material manifestations are the motifs in the form of incisions or models of birds, mainly water fowl. Sometimes they are incorporated into larger, multi-element frieze narratives of vessels, and they remain visible in the so-called plastic ornaments of chariots or metal ornaments. After all, this tradition was firmly rooted in the culture of the Bronze Age among communities practicing common cremation (Novotná 2001, 365–374).

The aforementioned route of long-distance exchange, which coincided the territory of the Lower Vistula with the southern areas at the beginning of the Iron Age, was important for the influx of ready-made products and the development of local bronze working and, at the same time, the appearance of various iron products. Selected categories of the latter are listed above. As for the military accessories of the new metal, spearheads /javelin heads from the defended settlements in Czarnowo, Mirakowo-Grodno and Gzin draw our attention. In the collection of metal artefacts prepared by B. Zielonka for the object in Czarnowo, apart from elements of pole weapon, other iron items are mentioned, such as two-piece bit. Similar products, whose corpuses are decorated by means of twisting, and dated to the beginning of the Iron Age, are quite distinctly concentrated in the middle of the Proсна River (Szczurek, Pudełko 2015, 130–134). What is more, non-twisted copies are relatively frequently recorded in the south-western “Lusatian” groups of the Early Iron Age. It may be assumed that, in the course of the aforementioned route, similar objects (by means of the Kuyavia clusters) were found in the area of the lower Vistula, including the settlement

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<sup>5</sup> It may be assumed that the original pattern for such ritual behaviors would be the inspirations rooted in the traditions of the Bronze Age of southern Europe. In the local cultural-settlement environments located on the northern side of the Danube, especially at the beginning of the Iron Age, funeral rites could resemble the Greek ekfóra of the geometric period. However, the search and justification of visually documented similarities between the content of the illustrative narratives of the Mediterranean and Hallstatt area meet with criticism (see Bugaj 2010, 112–118).

in Czarnowo (Niemiec 2007, 49–54, fig. 1). The discussed spearheads from Gzin and Mirakowo-Grodno – although somewhat different in size – are generally similar to the above mentioned items from Czarnowo (Chudziakowa 1992, Table 29: g; Gackowski 2012b, 79, fig. 1: f). They find analogies among inventors from settlements and graves discovered in the southern “Lusatian” areas, dating back to the period of the Hallstatt C-D (Różycka 1960, 53; Durczewski 1961, 81–82; Fogel 1979, 105–107, 152, map IV; Blajer 2001, 141–143). However, it is worth reminding that as for Czarnowo, a fragment of the axe-hammer (Zielonka 1955, 162; Fogel 1979, 87, 147) is evidence in the presence of iron military accessories of Eastern (Scythian) provenance. It is therefore reasonable to consider the possibility of the south-east origin of the spearhead from the latter locality (Andrzejowska 2016, 301). They could be imported from the signaled direction or local (“Lusatian”) manufacturers were inspired by steppe design in the course of their production. The quoted author also has drawn attention to the south-east origin of the above-mentioned the “Chełmno” bits, together with the bronze item from Gzin, as well as the ironwork from Czarnowo. Mirosława Andrzejowska adds that it is necessary to evaluate this kind of finds in the context of the “Tarnobrzeg” interactions which are seen in Kuyavia and the Bydgoszcz-Toruń Vistula bent. The fact was justified until now only by the presence of bronze objects of “Scythian” origin, *i.e.* trilateral arrowheads, clothing applications, parts of the horse harness and nail-type earrings (Andrzejowska 2016, 289, 292, 295, 298, 300, 301, 306).

Mirakowo-Grodno also provided an iron socketed axe and a decorated knife with rivets and a short spike for fixing the handle (Fig. 1: 5, 6). Similar axes (with hole in oval cross section) with their shape clearly refer to bronze specimens. Both in Greater Poland and Silesia, they are most often dated to the Ha C period, although there are also opinions about their slightly younger metric (Różycka 1960, 51; Durczewski 1961, 80–81; Bukowski 1981, 367–368; Gedl 2004a, 59–70). It seems, however, that in the case of the last suggestion, it is more about the specimens with a quadrangle socket in the cross section at its mouth. The knife from Mirakowo-Grodno is very similar in shape and size to the items defined by T. Różycka as so-called little single-edged sword, and by J. Fogel as the so-called langsaxs or combat knives, known from the Early Iron Age from the Lusatian and Pomeranian cultures (Różycka 1960, 53, fig. 2c; Wołagiewicz 1979, 44, fig. 6; Fogel 1980,

92–97, fig. 1: 3, 2: 8: 4). The explicit styling of the Mirakowo-Grodno specimen (especially the blade) to the Young Bronze Age specimens allows us to link them with the production of the Ha C period, which is consistent with the view of the Hallstatt origin of such products (Fogel 1980, 96; Gedl 1984, 58).

Current state of knowledge on the Lusatian culture on the Chełmno land let us determine the extent of the settlement regions with which the above-mentioned iron products can be related. Actually, apart from the settlement in Mirakowo-Grodno, all other objects from which these specimens come from are located near the Vistula River Valley. In addition to the above discussed examples, individual iron items also come from the cemeteries in Bolumin, Bydgoszcz district, Łążyn, Toruń district and apparently unknown necropolis near Grudziądz. They have not been reported – so far – in the eastern part of this area. Previous studies allow us to assume that they also appeared there, but only in the phase of the “Pomeranian” settlement. It seems that the ironworks, completely new at that time (in the period of increasing influence of the Hallstatt civilization) in terms of raw materials, reached the communities of the western regions of the “Lusatian” settlement, actively involved in the long-distance exchange. The Chełmno section of this contact route was a part of the long-distance route (so-called amber) connecting the Vistula estuary (along with the distributary towards Sambia) with the southern and south-western regions. There is little doubt that the crucial area facilitating the maintenance of these communication links was the lowering of the Fordon-Kamieniec bent of the river regarding the Chełmno area.

Based on the settlement analysis of the Lusatian culture, it can be assumed that iron objects appeared in “Chełmno” communities of different degrees of settlement persistence. The settlement in Czarnowo (Kamieniec), currently located in the micro-region (Kamieniec-Rafa), is also represented by the remains chronologically close to the necropolis in Mała Kępa and other settlement traces. They are chronologically limited to the Early Iron Age. The strength of the settlement creativity in this area came from traditionally permanent interchangeable links with nearby Kuyavia (Szamałek 2009, 152–166, fig. 74; Gackowski 2012a, 124, 125, 203–215).

A slightly different model of settlement behaviour can be indicated for aforementioned defended settlements in Gzin and Mirakowo-

Grodno. The first one is located in the outskirts of the Unisław Basin and the upland, at the edges of its deep cuts. The archaeologically recognized settlement context allows for placing this extremely interesting object in the micro-region that is located in the land of Raciniew and Gzin. In contrast with the discussed examples mentioned above, it is noteworthy that the formation of this settlement area took place already in the Younger Bronze Age. The sources proving such assessment come from the cremation necropolis (Gzin) or from a number of relatively small settlements, whose remains were identified in the mentioned Raciniew. Probable enlargement of the settlement zone – by occupying the periphery of the upland cuts – is visible due to the source materials from the Early Iron Age uncovered in Głazewo, Chełmno district, Otowice and Dąbrowa Chełmińska, Bydgoszcz district. It is worth remembering, however, that already in the Younger Bronze Age there were necropoles in the upland zone in nearby Czemlewo, Gzin Górny and Janów, Bydgoszcz district and probable open settlements in the last-mentioned place (Gackowski 2012a, 129–130).

Moreover, in the case of a settlement in Mirakowo-Grodno, it can be assumed that it was an object erected and functioning in the environment (the micro-region of the perimeter of the Chełmża and Grodno Lakes) already formed in the Bronze Age. The tendency to fortify some places of residence also in this part of the Chełmno Lake District was coincident with the process of thickening settlement network. There are numerous discoveries in the area around Kuczwały, Grzywna, Miraków and Chełmża, Toruń district (Gackowski 2012a, 162–163). New impulses, including the relatively early presence of the above-mentioned iron products, could reach these areas not so much from the Vistula valley (*i.e.* from the west), but rather along the lower uplands combined with the Drwęca valley (Gackowski 2012a, 167).

We should agree that the beginning of the influx of iron products took place in the context of the crisis of relations with the Nordic cultures (never quite established in the interfluvial zone in comparison with the rest of Pomerania), in favour of the intensification of south-western influences (Dąbrowski 2005, 83). This resulted, among other things, in the tendency for the above-mentioned concentration of settlement networks, including fortified places of residence and the new stylistics of ceramic vessels (*e.g.*, converse pear-shaped forms with “herringbone” or geometric decorations) (Chudziakowa 1974, 67–71;

Gackowski 2012a, 210–215). As for bronze products, it is impossible to deny the view that the “Young Bronze Age” style was undergoing crisis at that time, which hinders chronological qualification of these products. Therefore, it can be observed that regarding the available source materials they indicate that the processes leading to epochal change took place in stable cultural and settlement contexts, still strongly rooted in the tradition of the Bronze Age that time. It can be said that the archaeologically perceptible symptoms of the so-called Early Iron Age fell into the final part of the first one. In this situation it is difficult today to point out (on the basis of material sources) some threshold events that could initiate a new epoch. The strength of the discussed tradition of the Bronze Age is apparently attested by means of common cremation, maintained in the interfluvial zone until the end of the Lusatian culture and the post-Lusatian groups (Pomeranian and Cloche Grave), *i.e.*, in fact, to the third century BC inclusively, or even a bit longer. Moreover, it is also difficult to assess mentioned above defended structures around some settlements as a breakthrough for the whole “Chełmno” population. After all, decisively in terms of quantities (*i.e.* until the end of the “Lusatian” and “Pomeranian-Cloche Grave” settlement) still dominated the open settlements. The function of defended structures is still an important research problem, but it seems to be true for some local regions where they have been identified, that the conditions for their construction were determined by favourable social circumstances. Therefore the most important symptoms and premises of epochal civilization variability were not directly recorded in excavation sources, because they were located in the nonmaterial structures of interpersonal relationships and belief values. So maybe some traces of these processes (particularly the last one mentioned above) are the noticeable lack of major metal objects in the source layer as well as the disappearance of hoard depositions at the turn of the Bronze and Iron Ages (Blajer 2001, 289–293, map 7). As recently noted by Luboš Jiráň, even in areas so important for the diffusion of iron in Central Europe as the Czech region, civilizational changes were not so much related to the beginning of the use of new metal, but rather as a consequence of social changes, the strength of which depended on the intensity of links with the ancient world, thus, regardless of the metallurgical skills or the distribution and use of iron objects (Jiráň 2014, 72).

It seems that the new metal products were in the “Chełmno” area of the lower Vistula River in a social environment with the conservative face of the regional world of the Bronze Age. On the other hand, it must be admitted that these first iron objects (made in an unknown technology) appeared not accidentally in the initial period of creating socially acceptable conditions for the emerging new cultural reality, by the researchers called the Early Iron Age or the beginning of it. However, it is worth repeating here that they were often qualified as events attributed to the Youngest Bronze phase, *i.e.* its sixth phase with regard to regions of northern Poland (Dąbrowski 2005, 83, 87–88). It can be said that at that time, traditional forms of structural organization of the settlement space did not follow instability, for which the ancestors’ graves were the multigenerational legitimacy. It is rather likely that within these rooted structures, selectively and in a fairly long period of time, the conditions began crystallizing, not so much for radical changes, but for cultural modification, which the presently evident traces might be fortified settlements. Thus, it can be seen that while the quantity and quality of iron objects remains important for the evaluation of this process, highlighting the context of virtual, somewhat the non-material reality of a certain part of history with features of noticeable variability seems to be more important. This difficult and constantly debatable issue is taken up in the literature, both in terms of the entire cultural space of Northern Poland and the interfluvial region (see Bukowski 1998, 353–362; Dąbrowski 2005, 87–88; Gackowski 2012a, 221–246; ).

In spite of the above ambiguities in the interpretation, it is undoubtedly that regarding the Lower Vistula region culture-forming processes leading to the crystallization of many hallmarks of the Iron Age, they always remained in the shade of wider transformations, mostly inspired by the south-western areas. Therefore, it is easy to notice, considering the current state of research on the turn of the Bronze and Iron Ages, that speaking of Vistulian Pomerania (including the Vistula, Drwęca and Osa interfluvial areas) interchangeable links with Greater Poland and Kuyavia were important. Our attention has been paid to this issue many times, using the assessment of many categories of sources, not only made of iron (see *e.g.* Bukowski 1981, 349–382; 1993, 86–91, fig. 1). What is more, as for the traces found in the source materials revealing the links of “Chełmno” settlement with the south-eastern areas (*i.e.* Mazowsze region) they indicate a crucial role of Kuyavia in the Early Iron Age.

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