

REVIEWS AND SHORT REVIEW NOTES

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(review) Marek Gedl, *Die Pfeilspitzen in Polen* (= *Prähistorische Bronzefunde*; Abteilung V, Vol. 6), 155 pp. with 34 tables. Stuttgart: Franz Steiner Verlag 2014.

In 2014, archaeological literature was supplemented with yet another volume of the monumental “Prähistorische Bronzefunde” series, a monograph by late Prof. Marek Gedl on arrowheads from the territory of present-day Poland in the Bronze and the early Iron Ages. It is worth noting that Prof. Gedl had discussed other categories of artefacts: points, some kinds of pins, razors and sickles, within the series (Gedl 1980, 1983, 1984, 1993). The monograph has a lucid structure familiar to every reader of the PBF publication. The author’s foreword (*Vorwort*, numbered separately with Roman numerals) is followed by the introduction proper (*Einleitung*), then description of the artefacts (*Der Fundstoff*), lists and indices (*Verzeichnisse und Register*), and finally plates presenting the finds and maps showing the geographical range of some types of the artefacts (*Tafeln*). The discussed category, as the reader learns already from the foreword, is of little significance in determining the periodization and chronology of the Bronze and the early Iron Ages, with the exception of quite many arrowheads, mainly bronze ones, which have traits typical of the East European steppe environment (Gedl 2014, V).

The introduction contains several subchapters on topics related to arrowheads: their production, ways of fastening, other accessories, morphology, terminology and typology, find spots, history of research, chronology, temporal and cultural affiliation, functions, and traces of use. The analysis involves nearly 1800 arrowheads from the Bronze and the early Iron Ages (Gedl 2014, 8), made of bronze (637 items), iron (31), bone or antler (593 finished or semi-finished products) or flint (531). Those artefacts, unlike spear points, have rarely been recorded within hoards. Generally speaking, bronze or iron arrowheads have more often been found at cemeteries in western Poland, whereas flint arrowheads are frequent in eastern Poland. The author points out that items made of bone or antler (or other organic material) may not have survived in cremation graves. Many arrowheads made of those materials have been recovered from sites where conditions favoured preservation of organic substances, e.g. from fortified settlements of the Biskupin type.

Flint arrowheads are small, usually 1.5–3 cm long, the largest being up to 6 cm long. Bronze ones are similar in size, usually 2–3.5 long. Iron items, which form a small group, are the largest, up to 10 cm long. Bronze arrowheads with sockets were cast in two-piece stone or clay moulds (p. 2) known from several sites (Taf. 8: 629–632; 9636–9638), while iron ones were forged from pieces of solid iron. Arrowheads made of bone or antler are difficult to distinguish from one another without additional analysis; the latter were most often made of deer antler. Flint arrowheads were produced from local varieties of flint: Cretaceous Baltic flint in western Poland and Jurassic, chocolate or Świeciechów flint in eastern Poland. The author writes that irrespective of the material, the artefacts were produced by specialised workers.

The next part of the introduction concerns methods of fastening the arrowhead to the shaft. In the case of arrowheads with a socket, the method is obvious. Bone or antler items often have a tang which was set into the shaft. Triangular and hear-shaped flint arrowheads were fastened to their shafts with tarry substances, sometimes fragmentarily preserved. In a few cases, the sockets have retained remnants of wood. On the basis of a find from Kleinosteim in Bavaria, it may be assumed that arrows were 50–60 cm long.

Other archery accessories have sporadically been preserved in archaeological materials. Remnants of a quiver may have been recovered from Łubnice. An early Lusatian grave in Nowa Sól has contained approx. 30 arrowheads which could have been kept in a quiver, but the information has been difficult to confirm, because the excavation was carried out quite long ago. Arrows with flint heads seem to have usually been kept in quivers in the early Bronze Age, as sets of approx. 30 arrowheads have been recorded in graves in many other areas. The suggestion that openings in the blade or in the socket may have contained poison is difficult to verify.

As regards typology, the author draws on several publications concerning that category of artefacts, including one publication for the PBF series (Říčovský 1996), another monograph on bronze, iron or antler/ bone arrowheads (Eckhard 1996) and a publication on “Scythian” arrowheads (Hellmuth 2006). From among Polish texts, the systematics proposed by J. Fogel (Fogel 1988) has proved particularly helpful.

Approx. one third of all arrowheads are made of bronze. The vast majority of triangular items with a socket and with barbs or without them (72%) have been found in graves. Those items are typical particularly of the Lusatian culture in Lower Silesia and Wielkopolska, though they are virtually unrepresented at the large cemeteries in Kietrz and Zbrojewsko. Only 6% of bronze items with a socket have been recovered from settlements, and only 4% from hoards. In many cases, the context of their discovery is unknown. Another interesting category includes tricorned “Scythian” arrowheads from destroyed late Lusatian fortified settlements (e.g. Wicina, Strzegom, Kamieniec, Rzędkowice) and cemeteries of the Tarnobrzeg Lusatian culture. Flint items are known from the Mierzanowice and the Strzyżów cultures of the early Bronze Age or the Trzciniec and the Pre-Lusatian cultures of the older period of the Bronze Age. One flint arrowhead has been found inside an early Lusatian

cinerary urn at the cemetery in Krakow-Pleszów; another item, similarly dated, comes from the necropolis in Targowisko, Sites 10–11, discussed in a recent publication (Konieczny 2014, 138, Plate 189: d). Many antler arrowheads and less frequent bone arrowheads were made in the early Iron Age. The material includes both finished and semi-finished products. A long series of bone arrowheads has been recovered from the fortified settlement in Biskupin.

In the subchapter on chronology, the author discusses the chronological systems applied to the territory of present-day Poland (by J. Kostrzewski, O. Montelius and P. Reinecke). According to the chronology determined with calibrated radiocarbon dates, he sets the beginning of the Bronze Age at the 23rd century BC and its end at the turn of the 9th and the 8th centuries BC; the early Iron Age (Ha D₃) ended, in his opinion, no later than the first half of the 5th century BC. Prof. Gedl also compares the latest publications on the periodisation of individual cultural units and describes more extensively the cultural situation in present-day Poland throughout the examined period, from the Mierzanowice, the Únětice and the Iwno cultures to late Lusatian groups and the emerging Pomeranian culture.

In that cultural and chronological context, the author presents the category of arrowheads from the territory of present-day Poland (Gedl 2014, 18–22). The earliest items, flint arrowheads related to the tradition of the final Neolithic Corded Ware, Złota and Bell Beaker cultures, are mainly known from eastern Poland, from areas taken up by the Mierzanowice and the Strzyżów cultures. They have been recorded at the most important cemeteries of both cultures: in Iwanowice, Mierzanowice, Szarbia, Świniary Stare, Żerniki Górne and Strzyżów. Isolated items are known from the Iwno culture, from a culturally undetermined area in Pomerania and from the late Únětice culture (Radłowice). The author explains the absence of flint arrowheads in the Únětice culture with cultural considerations and with the practice of depositing specific assemblages of artefacts, without flint arrowheads, in graves. Flint items from the older Bronze Age have been found in certain Pre-Lusatian burials (Masłów, Trzebnica district; Pudliszki, Gostyń district) and in one bronze hoard (Niewierz, Szamotuły district). They are infrequent in the Trzciniec culture.

Several early Bronze bone or antler arrowheads, including a unique item with harpoon-like barbs along one edge, have been recovered from the area taken up by a local Nowa Cerekwia group.

The research suggests that bronze arrowheads with a triangular point and a socket should be dated from the older Bronze Age onwards, as evidenced by a classic Pre-Lusatian item found in a grave at the cemetery in Marcinkowice, Oława district. Cultural affiliation of another early dated arrowhead, an item from Szczepidło, Konin district, found in the context of Pre-Lusatian and Trzciniec ceramics, can now be identified, as excavation carried out recently by Przemysław Makarowicz (the Institute of Prehistory, Adam Mickiewicz University in Poznań) has shown that a Pre-Lusatian casting workshop operated at the site; several other finished products or failures seem to have come from there. A bronze arrowhead recovered from the floor of the Trzciniec cultural layer in Jakuszowice indicates that those artefacts were used in that culture as well. Bronze items with a distinct tang

should be attributed to the same cultural unit. Their analogies can possibly be found in the steppe environment (Taras 1995, 88), although the artefacts are known not only from the eastern Lublin and the Podlasie regions (3 items), but also from the area west of the Warta river (2 items).

Analysis of various types of bronze arrowheads attributed to the Lusatian culture is obviously the most extensive. The arrowheads are frequent in open or fortified settlements, particularly in western Poland (Silesia and Wielkopolska) and western Małopolska. Some types differ depending on the region. Items from western Pomerania are reminiscent of arrowheads known from the Nordic circle (Taf. 28–34). Interestingly, flint arrowheads seem to have still been used in eastern Poland in the younger Bronze Age. Burial goods in southern Poland also include bone or antler arrowheads. Those bone or antler items have often been recovered, apart from typologically differentiated bronze arrowheads, from inhumation burials in the borderland between Silesia and Małopolska.

The early Iron Age brought a change, especially as regards arrowheads of foreign origin. This mostly refers to bronze items, less frequently to iron and bone or antler products, with analogies in the steppe zone, especially in the Scythian environment. The arrowheads are mainly known from western Poland, particularly from Lusatian fortified settlements, but also from graves in south-eastern Poland. Charts in the monograph show that certain types of arrowheads were diversified territorially (Taf. 30–31).

Bone or antler arrowheads were particularly frequent in the Hallstatt period. They have mainly been recorded in the humid environment at fortified settlements of the Biskupin type (Biskupin, Bnin, Jankowo, Kruszwica, etc.), but also in fortified villages in southern Poland.

Arrowheads, irrespective of their material, evidence the use of bows in hunting or in struggle, by warriors fighting on foot, horseback or in chariots. No bows dated to the Bronze Age or the early Iron Age have been found in Poland so far, though many wooden artefacts have survived, e.g. in Biskupin and other fortified settlements of the Biskupin type, while deer-hunting with a bow is represented on a vessel from Łazy, Wołów district. Spindle- or needle-shaped bone or antler arrowheads with two sharp ends may also have served as awls. Prof. Gedl points out that items like those might have been used in wild-fowling and hunting of fur-covered animals, as the resulting narrow wound could not stain fur or feathers with much blood. Arrowheads have mostly been recovered from adult male burials, very seldom from adult female burials (Abb. 2), and they have also accompanied children's burials. Human bones from the examined areas show no clear traces of injury caused by a bow shot. Several fortified settlements (Rzędowice, Strzegom, Wicina) have provided "Scythian" arrowheads which are bent out of shape, which is probably due to their use.

The subsequent part of the monograph presents the finds in keeping with the principles accepted in the "Prähistorische Bronzefunde" series. The author discusses the arrowheads methodically and thoroughly, according to the criterion of their raw material

(bronze, iron, bone or antler, and flint), dividing the items into types and variants. The presentation is followed by catalogues and registers (list of abbreviations, references, register of institutions with arrowhead collections, list of abbreviated site names used in the maps, and a list of sites), by plates showing the finds and by maps, numbered consecutively.

Prof. Gedl's last monograph on artefacts dated to the Bronze and the early Iron Ages is definitely a valuable publication, not only because of the information and findings it provides, but also because it gathers data about very numerous artefacts, dispersed so far throughout archaeological literature.

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