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## THE PERSPECTIVE OF PHYSICAL SPACE IN A STUDY OF HOARDS FROM THE LATE BRONZE AGE AND THE EARLY IRON AGE

### ABSTRACT

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Hoards make one of the most mysterious categories of archaeological finds known from the Bronze Age and the early Iron Age. Doubts about their function should encourage researchers to use as wide information range as possible to understand the phenomenon. However, there are still few studies concerning their relationships with the settlement network or cultural landscape. The paper focuses on regularities in the location of deposits of bronze or iron artefacts, drawing on the results of research into metal deposits from the late (Lusatian) Bronze Age and the early Iron Age in the South Baltic Coastland and Lake Districts.

Key words: Bronze Age, early Iron Age, hoards, landscape archaeology, settlement network

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The gradual and long-lasting mastering of skills in processing first copper and gold, then bronze and other metals induced many changes in culture of communities using those materials. Behaviours related to that sphere of activity included mass deposition of metal objects, resulting in their permanent or temporal exclusion from cultural circulation.

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The specific character of those behaviours seems to have been connected with the biography of artefacts, with a number of meanings given to them before. Thus, better understanding of the phenomenon may lead to a wider interpretation of the earlier stages in the functioning of metal objects in past cultures and, to a large extent, of the cultures themselves. To properly understand that phenomenon, a wide context of culture, meanings and functions must be considered (Stevens 2008, 246–247, fig. 2). Accordingly, one should refer to two basic coordinates to which the world of culture is subordinated: space and time (cf. Jędrzejczyk 2001, 94–95). The history of research into metal hoards deposited in earth or water shows that researchers have tended to focus more on their chronology, and thus on time, while categories related to space, particularly in the local perspective, have been marginalized (Maciejewski 2013a, 21–26).

Due to the above mentioned limitation on the data used in interpreting the phenomenon, the research has referred to a constant set of premises which have often constituted arguments for contradictory interpretations (Fontijn 2002, 13–21, table 2.1–2.3). Moreover, the premises have frequently been marked by the modern understanding of economy, the concept of possession and production processes (Harding 2000, 354; Bradley 1998, 17–21). An attempt at supplementing the set of data with those related to space and with reflections on cultural landscape and the subject's biography may help to better understand the examined issue.

However, analysis of the cultural meaning of space has been evolving for years, the range of data has increased and new tools helping to reconstruct old settlement structures have been developed. In this situation, the stalemate in research may be resolved by a new current in the study of metal finds. Recent interpretations of the hoards of bronze or iron artefacts have more often included data concerning their place in cultural and natural landscapes and their relationship with settlement networks (cf. Fontijn 2002; Hansen *et al.* 2012; Maraszek 1998, 67–74; Maraszek 2006, 265–288; Rundkvist 2015; Salaš 2005, 195–214). Similar research has focused on finds recovered from the South Baltic Coastland and Lake Districts (according to the physical and geographical regionalization of Poland in Kondracki 2009), deposited there by communities observing the cultural norms of the Urnfield circle and by the subsequent groups referring to that tradition. A distinctive feature of the project presented here is the use of data gathered within the Polish Archaeological Record (Archeologiczne Zdjęcie Polski – AZP), which has made it possible to carry out a detailed systematic study of the relationships between local settlement networks and the places where the metal objects were deposited, leading to conclusions about the intentional choice of those places and, consequently, their significance in the cultural landscape.

Because of the specific character of the discussed period and the wealth of reflections on space, full presentation and interpretation of the research into relationships between deposits of metal objects and local settlement networks would require numerous cuts and simplifications. The paper, therefore, focuses on the question whether a study of metal deposits as elements of the settlement network is at all possible and justified.

## METAL DEPOSITS WITH IDENTIFIED LOCATIONS: ARE THERE FINDS WHICH CAN BE STUDIED?

Deposits of metal objects make a specific category of archaeological finds. Most of them were discovered accidentally at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries (Maciejewski 2013a, 27–30; cf. also Blajer 2001, 311–374). Nowadays, such finds often fall prey to “treasure hunters”, who not always share information about them with archaeologists; moreover, the revealed data tend to be rather general (cf. Fudziński, Fudziński 2010; Żychlińska 2009). In both cases, knowledge of the precise location and context of discovery is only fragmentary; without it, however, no sound research into the relationships of metal deposits with the settlement network can be carried out. Due to the state of the source base, the initial stage of the project presented here has involved preliminary archive and library research combined with a study of various types of maps. This has helped to identify precise or approximate locations of 83 out of 432 collective finds qualified for the study, which makes 19.2% of the whole collection (Maciejewski 2013b, 2–66). The hoards were distributed unevenly; some areas contained more of them. This may have resulted from the varying thoroughness of local researchers, the state of archaeological exploration in a given area or from historical turbulences, but not from the realities of the examined period. Nevertheless, the findings indicate the existence of a set of data which may be analysed with methods used in settlement geography or space and landscape archaeology.

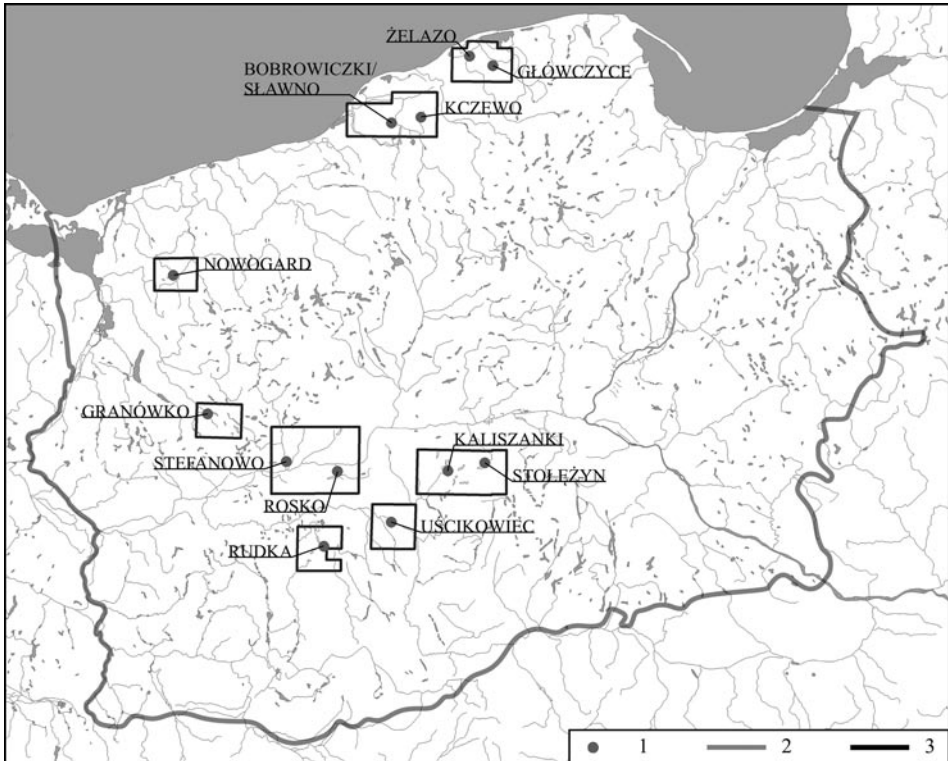
## DIFFERENT GROUPS, DIFFERENT LANDSCAPES — ONE PATTERN OF BEHAVIOUR?

All metal deposits from identified locations have been subjected to analysis juxtaposing their composition with topography of the places they were found in. The aim was to determine whether the examined communities had preferred some landform features as the locations at which to deposit particular categories of metal objects. For this reason, all metal deposits from identified locations were classified according to several types of topography (complex ones: (1) within water flows or reservoirs, marshes, peat bogs; (2) on the slopes of valleys; (3) in uplands, together with more detailed categories: (3a) on elevations located in uplands or at their edges, (3b) in headlands, above river valleys, which may be classified as upland zones, (3c) in uplands or at their edges situated by boggy areas or marshes; (4) on islands and peninsulas, also divided into several subcategories: (4a) on lake islands, located near the shore or more distant; (4b) on peninsulas which could have been islands; (4c) on elevations within valley floors which could have temporarily been islands; (4d) on small elevations surrounded with boggy areas which could have been islands or peninsulas). The next step in the analysis was to determine the number of metal

hoards categorised into particular topographic types. Division into twenty three categories, e.g. ornamental bands, clasps, pins, axes, swords and daggers, was adopted, which fully reflected the content of the collection. The analysis showed that there were neither clear preferences nor reluctance to deposit particular objects in particular contexts. This suggests that such a general perspective is not appropriate for this field of study (Maciejewski 2013a, 147–163).

## MICROREGIONAL ANALYSIS: METAL AND BOUNDARIES

Another analysis, centred on the settlement background of particular metal deposits, has covered a considerably higher number of data and variables. The amount of information and the range of the study ensured much larger research potential, but the research had to focus only on some of the finds.



**Fig. 1.** Deposits of metal objects selected for detailed study of the settlement background as well as the areas where the study was carried out: 1 — deposits of metal objects; 2 — the boundary of the studied area: South Baltic Coastland and Lake Districts; 3 — boundaries of the areas selected for detailed study of the settlement background

Table 1. Deposits chosen for the detailed settlement study

No.	Metal deposit	Chronology	Region	Area of the region (km <sup>2</sup> )	Number of settlement points in the regions
1	Bobrowiczki/Sławno, site 4, commune Sławno, district Sławno	HaD	1	773,9	733
2	Kczewo, site 4, commune Kobylnica, district Słupsk	HaB2-3			
3	Główczyce, commune Główczyce, district Słupsk	HaB2-3	2	484,3	438
4	Żelazo, site 50, commune Smóldzino, district Słupsk	HaC			
5	Granówko, commune Granowo, district Grodzisk Wielkopolski	HaB2-3	3	347,5	149
6	Kaliszanki, commune Wagrowiec, district Wagrowiec	HaB3/HaC	4	906,9	907
7	Stołężyn, commune Wapno, district Wagrowiec	HaB2-3			
8	Nowogard, commune Nowogard, district Goleniów	HaC-HaD	5	313,5	78
9	Rosko, site 47, commune Wielen, district Czarnków-Trzcianka	HaB2-3	6	1342,0	501
10	Stefanowo, commune Krzyż Wielkopolski, district Czarnków-Trzcianka	HaA1-2			
11	Rudka, site 1, commune Pniewy, district Szamotuły	HaD	7	414,1	339
12	Uścikowice, site 1, commune Oborniki Wielkopolski, district Oborniki Wielkopolski	HaB3/HaC	8	448,7	731

Deposits situated in dry environments were considered to have the highest research potential for discussion about cultural aspects of the location of metal finds in relation to the local settlement network, since the water network, always taking up a marginal part of the studied area, had had no effect on the choice of their location, unlike in the case of hoards deposited in aquatic environments. Artefacts deposited within contemporaneous elements of the settlement network: settlements and cemeteries, were also ruled out, which was due to insufficient knowledge of the inside structures of such places. While choosing the metal hoards to be examined, the state of the source base, mostly the range and quality of the AZP (cf. Ziółkowski 2005) and availability of the area for surface survey were also considered. Table 1 and Fig. 1 present twelve metal deposits selected according to these criteria and studied within eight areas (Maciejewski 2013a, 164–169).

The research has comprised analyses referring to the traditions of settlement geography, covering both the results of surface surveys, which point to settlement of little chronological diversity, and the diachronic variability identified through analysing the chronology

Table 2. Description of the relationships of the analyzed deposits with the settlement background

Deposit	Relationships with the settlement network
Bobrowiczki/ Sławno	two alternative interpretations: 1) deposit placed at the boundary of two settlement concentrations: one on the Wieprza river at the mouth of the Moszczeniczka river running further south, the other on the Grabowa river; or alternatively, in the vicinity of the villages of Karwice and Rzyszczewo 2) deposit located within a settlement concentration unregistered in surface survey due to historical and modern damage and the unavailability of the site in the Sławno housing area; the location of that collective find may have been related to a contemporaneous element of the settlement network (a cemetery; cf. the younger grave "from the same field")
Główczyce	metal hoard deposited between two settlement concentrations. One of them was situated on a latitudinal section of the Głównycki Strumyk and functioned from V OEB; the other was concentrated on the Skórzynka river, the lower sections of the Pustynka river, Kleciński river and the Głównycki Strumyk in the early Iron Age, perhaps also earlier
Granówko	collective find deposited at the boundary of a settlement concentration which covered settlement relicts located along the Mała Ina and the Koczynka rivers and numerous postglacial channel lakes
Kaliszanki	metal deposit at the boundary of a settlement related to the lake complex, with Kaliszańskie lake being the largest in the group. At a distance, there is a settlement concentration related to the Welna river and to the postglacial channel running from the vicinity of Wągrowiec to the Golańc area
Kczewo	deposit placed within a contemporaneous element of the settlement network (a settlement or a cemetery) or at its immediate base
Nowogard	two alternative interpretations: 1) metal hoard deposited within the boundaries of a settlement concentration whose traces were destroyed by later historical settlement, particularly the modern buildings in Nowogard; the artefacts may have been related to a contemporaneous element of the settlement network, most probably to a settlement 2) collective find in an uninhabited area where metal artefacts were deposited (perhaps in a lake)
Rosko	metal hoard deposited at the boundary of a settlement concentration around the Noteć river valley, where settlement was very intensive
Rudka	metal deposit located either at the boundary of a settlement agglomeration near Luboszek, Lubosz Wielki and Pniewy lakes, the upper Mogilnica Górna river and perhaps Białokosie lake, or between that agglomeration and another one, situated on the upper Osiecznica
Stefanowo	collective metal find located at the boundary of a settlement concentration related to the Noteć river valley, where settlement was very intensive
Stołężyn	metal hoard located at the boundary between a settlement concentration on Czeszewskie lake and settlement relicts surrounding a tributary of the Kczynka river
Uścikowiec	bronzes deposited at the boundary between two zones of intensive settlement: one on the Welna river stretching right to its mouth and at the southern side of the Warta river, the other along the Samica Kierska river
Żelazo	two alternative interpretations: 1) deposit located at the boundary of a settlement concentration on the lower Łupawa river, on a slope of a moraine formation near the Rowokół height, characterized by a considerable elevation in relation to the surrounding area 2) deposit located within a settlement concentration which is not confirmed in the sources, due to the unavailability of the place for surface survey; the location may have been related to a contemporaneous element of settlement (a settlement or a cemetery)

of cemeteries (which constituted the most stable element of the settlement network in the period in question, cf. Mierzwiński 1994, 16). Various natural data have also been taken into consideration: the current lie of the land, hydrography, soil cover, geomorphologic data, maps of potential vegetation; when possible, published results of palynological studies have been consulted as well. The collected information was analysed with mathematical and statistical methods: the Clark-Evans test and the Steinhaus habitation index. In each case, the specificity of the analysed hoards was considered: their composition, the context of discovery, the specificity of each find spot identified e.g. while visiting the locations (Maciejewski 2013a, 169–315; 2013b, 67–317; 2013c).

There is no room here for giving a review of the methods used and the available data nor a detailed report on the project. Hoping that the information will make a monograph in the future, the author quotes below only the essential results of the research.

Conclusions concerning the relationship between the selected metal deposits and the local settlement are presented in Table 2. These can be summed up by stating that the metal hoards were most often, i.e. in eight identified cases, deposited at the boundary between a settlement concentration and an uninhabited area or at the boundaries between settlement concentrations. In two cases, metal objects were deposited within a settlement concentration. The third category covers deposits for which both these interpretations are equally possible, but none of them can be confirmed due to the present state of knowledge and the specific nature of the region from which those collective finds originate.

In the case of the metal hoards deposited within settlement concentrations, both when the gathered sources indicate that location explicitly and when this is one of the possibilities, it is essential to determine whether those deposits were directly related to settlements or cemeteries or whether they were autonomous elements of the local settlement network. In Kczewo, depositing the objects within another element of the settlement network or in its vicinity is unquestionable, whereas in Nowogard this can only be surmised. Crucially, the present knowledge of settlement preferences of the examined communities indicates that the find spots of the metal hoards had constituted convenient places for establishing a settlement. The location of the finds in Żelazo may be determined in a similar way. In the case of Bobrowiczki/Slawno (the find dated to the end of HaD), it is essential that the younger box burial was uncovered „in the same field”.

## SUMMARY

The research presented here shows a number of significant aspects of the phenomenon of mass deposition of metal objects in earth. Frequent lack of information about the precise location of the metal finds has sometimes been used as an excuse for marginalizing the specificity of the places the finds originated from, while the scarce data on the local settlement in connection with opinions expressed in the older literature (Jankuhn 1983, 25) have provided an argument against studying the relationships between the hoards and the



local settlement. However, the collected information, the growing number of sources (mostly due to the AZP), as well as new methods of description, cataloguing and analysis (within the Geographic Information System) show clearly that there is both a rich store of sources to study and many methods to carry out research. The results of the presented project are a good example of this. In view of the constant development and increasing availability of methods and information, such as data obtained through aerial laser scanning LIDAR (Laser Illuminated Detection and Ranging) or through aerial photography with the help of drones, the proposed research measures can and should be expanded.

Man functioning in the surrounding world, i.e. in the natural, anthropogenic and cultural environment, must be able to gain information about it. Acquisition of the data, their comparison, classification, assessment and evaluation make a multi-stage process, complex and determined by numerous factors, which helps individuals to be themselves and act. That information, as I have mentioned, refers not only to the narrow range of physical beings, but also to the entire scale of social meanings (Bartnicka 1985, 25–28, 32–33; Brown 2006, 233–247; Jałowiecki, Szczepański 2006, 333; Ogryzko-Wiewórkowski 2003, 171; Wallis 1990, 19, 26; Woźny 1999, 48; Woźny 2000, 37). The project presented here draws attention to the way of perceiving the surrounding world by prehistoric communities, who focused on the relationships within the whole landscape rather than on the physical specificity of a given place. Locations for metal deposits were chosen so that they could be part of the cosmological order, according to which the arrangement of other elements of the settlement network was determined as well (cf. Neustupný 1998, 32–33).

Identification of the relationships between the metal finds and the settlement network points to intentional choice of the places where the metal was deposited. These observations are a significant contribution to the debate on the interpretation of the cultural phenomenon in question (cf. Blajer 2001, 21–28). They undermine the explanations according to which the places were chosen randomly by itinerant metallurgists, wandering traders or other members of late Bronze or early Iron communities who wanted to hide the metal deposits in a moment of danger.

I am convinced that the results presented here will encourage archaeologists who publish single deposits of metal objects or prepare monographs on collective finds to focus their attention on the relationships of such finds with microregional settlement networks. They may also inspire researchers analysing settlement to regard metal deposits as a significant element of the settlement system. On the one hand, this will help to better understand prehistoric communities; on the other, it may enrich the interpretation of mass deposition of metal artefacts in earth or water.

Analysing the relationships between collective metal finds and spatial boundaries requires a much broader context than I am able to sketch here. It is necessary to refer to a wide spectrum of views on the perception of space and its characteristic elements, the importance of metal and the specificity of the examined period. I hope to discuss these topics further in subsequent papers or in a book publication. The results of this research



have also been presented in a popular form, with numerous illustrations, on the Polish-language webpage <http://www.digitarcho.pl/METAL-GRANICA-RYTUAL/index.html>.

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