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## REMARKS ON THE DIVERSITY AND RELATIVE CHRONOLOGY OF THE POMERANIAN CULTURE IN ITS ALLOCHTHONOUS ZONES

### ABSTRACT

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The article presents a new perspective on the differentiation and chronology of Pomeranian culture in allochthonous zones, *i.e.* outside Pomerania. The first part focuses on the variation in the spread of the Pomeranian cultural model, resulting from different rhythms of acculturation in territories formerly belonging to various Lusatian Urnfield zones and exposed to influences from diverse European directions. The second part proposes a new, and at the same time first for allochthonous areas, system of relative chronology of the Pomeranian culture, consistent with the latest schemes for the Hallstatt–La Tène zone. For regions outside Pomerania, two phases are distinguished: the Karczemki phase and the Pierzwin/Ulesie phase, further divided into six sub-phases, corresponding to Hallstatt and La Tène sub-periods. In the discussion of artefact sets assigned to specific intervals, attention is given to migration-related population movements, as well as to external relations that shaped the development and character of the Pomeranian culture in the Polish Lowland.

Keywords: Pomeranian culture; Early Iron Age; chronology; pins; migration; brooches

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## INTRODUCTION

The development of the Pomeranian culture from the very beginning of defining its basic aspects in the first half of 20th century aroused research interest (Kostrzewski 1914; Petersen 1929). A special place in the issues concerning this unit was given to analysis of the presence of unique and characteristic features of the funeral rite of the Pomeranian culture, *i.e.*, box burials or cinerary face urns, the presence of which outside the home zone, *i.e.*, Eastern Pomerania, was undoubtedly considered to be effect of expansion or population migration (*e.g.*, Malinowski 1969; Kruk 1969; van den Boom 1980). However, doubts arose among researchers when assessing the nature and course of this process, especially setting it in time along with the distinguishing of individual stages. The first of the issues, especially in the mainstream of the traditional conceptualisation of archaeological cultures, was initially interpreted as an armed invasion of the Pomeranian culture population into the areas previously occupied by the Lusatian culture communities, then as peaceful acculturation or solely as a flow of ideas – especially in the sphere of beliefs (Dziegielewski 2010, 174–176; 2015, 98–99). Many more doubts, mainly due to the insufficient state of research, were raised by the second of the above-mentioned issues, *i.e.*, the setting in time the spread of the Pomeranian culture population. These issues on the so-called allochthonous areas, *i.e.*, those where their population and material culture are intrusive elements, were and remain quite complex. Analytical difficulties did not result from the number of available and published sources, as these should be assessed as representative, but from the lack of problem-based works based on the analysis of the interactions of the Lusatian Urnfields communities with the immigrant population of the Pomeranian culture, and especially an attempt to stratify them chronologically, allowing for understanding and tracing the mechanism of the Lusatian-Pomeranian transformation in individual regions. In this respect, studies carried out for the areas of southern and south-eastern Poland – Lesser Poland and Outer Subcarpathia, developed on the basis of newly discovered materials interdisciplinary analysis, based on regional chronologies, compatible with newer approaches for the Hallstatt and Scythian zones look the best (*e.g.*, Dziegielewski 2015; Dziegielewski, Gawlik 2021, 149–151). For the remaining areas of Polish lands, crucial for the issues of Pomeranian culture, *i.e.*, Pomerania, Greater Poland, Lower Silesia, central Poland and Masovia, there are outdated chronological systems based on the post-War findings of Józef Kostrzewski (Chomentowska 1970; Krzyżaniak 1971; Pazda 1970; Jadczykowa 1975). There is still lacking a tool that would represent an attempt to explain the issues addressed that would be an internal, coherent, comprehensive chronological system of the archaeological remains of the Pomeranian culture, synchronised with the latest approaches developed for the neighbouring areas – mainly the Hallstatt and Elbe zones.

The first of the main goals of this article is to indicate differences of Pomeranian culture in its allochthonous zones, especially through the prism of transformation of the

Lusatian Urnfields local substrate. The second is to present a description of a new chronology of the Pomeranian culture, based on studies of garment-fastening items.

## ALLOCHTHONOUS POMERANIAN CULTURE

Already since the times of pre-War studies conducted by Polish and German researchers, Eastern Pomerania has been referred to as the indigenous zone in which, under the influence of external cultural-and-exchange contacts, the basic attributes of the Pomeranian culture were developed (Petersen 1929, 116-118; Kostrzewski 1933; La Baume 1939). The intensification of post-War desk-based research on its genesis, and especially the gradual arrangement of material sources, undertaken successively by Leon Jan Łuka, Tadeusz Malinowski and Janusz Podgórski allowed the separation of a group of sites of the so-called Wielka Wieś phase (germ. Großendorf, actually Władysławowo) – separated before the War by E. Petersen (1929; Podgórski 1990) – along with the characteristics of the material immediately preceding the emergence of the classical Pomeranian culture (Łuka 1966; 1968; 1971; 1979; Malinowski 1969; 1979; 1981a; 1981b). The stage of research on explaining the genesis of the phenomenon of Pomeranian culture ends with the latest processual research approach of Karol Dziegielewski, describing the transformation between the Late Bronze communities of Pomerania and the separation of the ‘Pomeranian’ cultural model (Dziegielewski 2015, 98; 2017b, 24-26). The occurrence of structural conditions for increasing population mobility and its migration southward, which took place around the mid-7th century BC, resulted in crossing the Noteć River border and the gradual spread of the Pomeranian population and their material culture in the areas previously inhabited by the communities of the Lusatian Urnfield culture.

The process of spreading elements of Pomeranian culture outside Pomerania has been considered in two ways. The first direction of interpretation was to see the spread of ideas (elements of ‘northern’ origin, *i.e.*, cist burials, economic model, settlement pattern), which were intended to be a better form of adaptation to new political circumstances (threat from steppe peoples) and climatic conditions – a cooling connected with the Sub-atlantic fluctuations (Hensel 1971; Ostoj-Zagórski 1980; Malinowski 1989). The second, and at the same time the oldest, interpretative model was the adoption of diffusionism, initially closely associated with the ethnic identification of Pomeranian culture (identifying them with the Germanic peoples of the Skirae, Bastarnae, or Proto-Slavs, and even the Balts or Celts). Among the most important mechanisms invoked was climate change and its consequences, and the use of evidence from cemeteries as an almost exclusive source for research were mentioned (van den Boom 1980). In recent years, the dispersion of elements of Pomeranian culture in the Polish Lowland, with the simultaneous disappearance of sites in Eastern Pomerania, has been clearly interpreted as a migration movement triggering acculturation processes (Czopek 2022, 162). It was emphasised that it is unlikely

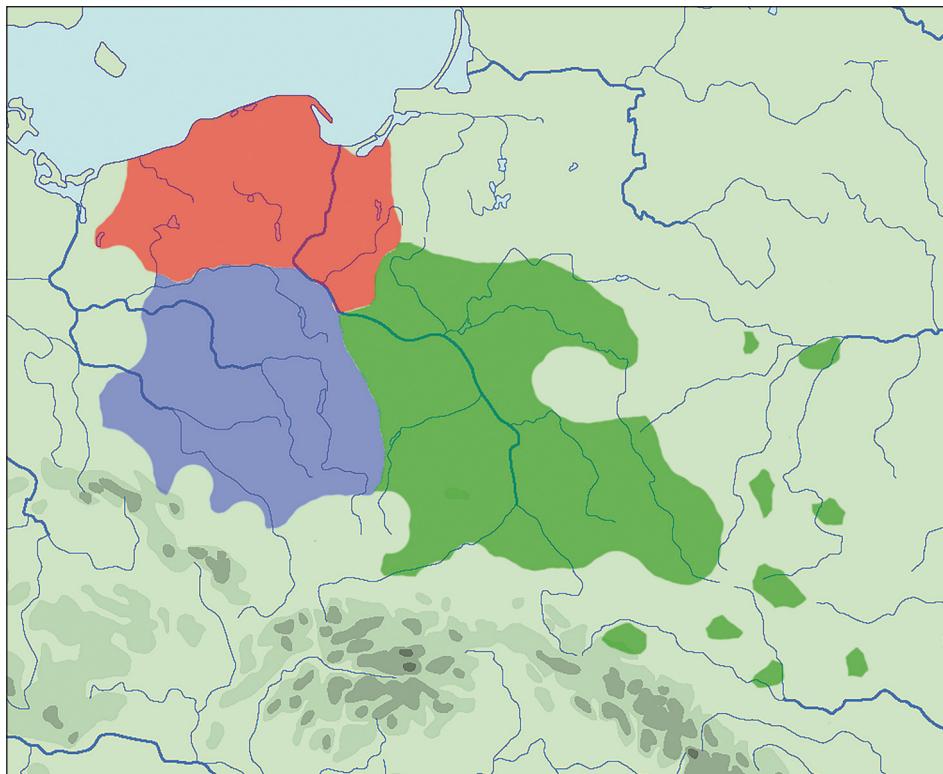
that an entire, coherent package of characteristic cultural behaviours would be transferred to large territories by diffusion without physical presence of their carriers (Dziegielewski 2010, 178, 179). Among the set of features of the Pomeranian cultural model, defined as the 'northern component', indicated were major attributes of Pomeranian culture, always present in the set, *i.e.*, multi-urn cist graves, cinerary face urns, pear-shaped vessels, vessels with recessed and overlapped cover as well as multi-piece bronze breastplates (Dziegielewski 2015, tab. 1; 2017b, 24). Allochthonous areas of the Pomeranian culture, due to their 'saturation' with elements of the so-called 'northern component' and varying degrees of their adaptation by Lusatian structures, different cultural contacts as well as a different inventory of material sources can be divided into two zones: the south-western and the south-eastern one.

The south-western zone (also as Silesian-Greater Poland zone) appeared in post-War literature, mainly due to the studies of Leon Jan Łuka, who included in this area elements not found in Pomerania (Łuka 1979, 161-164). It covers Greater Poland (south of the Noteć River, excluding the Krajna Lake District), the lowland and plain part of Lower Silesia (the basin of the upper and middle Oder) and the Silesian Lowland. The eastern border of the zone is the areas of central Poland to the right-bank areas of the Bzura and Pilica rivers. The south-western zone as a Silesian-Greater Poland zone was often used in literature by researchers of the Roman period, usually in studies devoted to influences coming from the La Tène world (*e.g.*, Grygiel and Orzechowski 2015, 174).

The second zone, the so-called south-eastern one was distinguished by Sylwester Czopek and included Pomeranian culture materials found in the areas south of the Narew River, as well as east of the Vistula and Wisłoka rivers (Czopek 1992). In the light of current knowledge, its eastern border is the central part of the Podolia Upland, and is confirmed by sites in the localities of Uvisla and Cherneliv-Ruskyi in Ternopil Oblast (Bukowski 1977, 351-353; Gereta 2013, 23-25, 112, 113, fig. 5, 6). Due to certain characteristic cultural elements occurring only in this zone, it was proposed to expand it also west of the Vistula, to the areas of western Masovia and western Lesser Poland (Kopyt-Cieślak and Miras 2013, 53).

The division of the Pomeranian culture into three zones, the indigenous zone and two allochthonous ones, has two main goals (Fig. 1). The first is an attempt to pigeonhole and organise evidence that will prove helpful when analysing newly discovered materials. The second is an attempt to indicate the regularity and rhythm of the occurring Lusatian-Pomeranian transformation and its chronology.

The south-western allochthonous zone of the Pomeranian culture mostly coincides with the areas previously occupied by the communities of the Oder River Lusatian Urn-fields – a region covered by intense Hallstatt influence since the end of the Bronze Age, both in constructing of chambered burials and equipping them with imported objects (ornaments, tools, weapons), as well as using painted ceramics with a different style. The picture of the allochthonous Pomeranian culture is revealed to be different in the south-



**Fig. 1. Pomeranian culture – division into zones:**  
red colour – the indigenous zone; blue colour – the Silesian-Greater Poland allochthonous zone; green colour – the south-eastern allochthonous zone. Graphic design by B. Kaczyński

eastern zone, which was previously occupied by communities of the Masovian, Lusatian Urnfields, a unit much poorer in equipment, based on Trzciniec traditions, and throughout its entire operation period remaining under influences of eastern and 'south-eastern' origin. Cultural differences observed in these areas were reflected in the degree of adaptation of the immigrant 'Pomeranian' cultural model (see also Chochorowski *et al.* 2024, 47-48).

In the Oder River areas of the Urnfield culture subjected to intensive 'Hallstattisation', in the era of the appearance of Pomeranian groups, we see a dominance of multi-urn graves (cist or stone-lined burials), unlike the situation in Pomerania, equipped with numerous accompanying small vessels, especially the so-called libation sets (a mug or jug standing in a bowl). Much more commonly than in the indigenous zone, the deceased were provided with everyday items (in Pomerania, these items often had only a substitute in the form of a pictogram on a cinerary urn). In the south-western allochthonic zone, in the same way as in Pomerania, there are both sepulchral and settlement ceramics, the activity of

craftsmen producing original ornaments and the occurrence of late Hallstatt, La Tène and Jastorf imports are observed (Fig. 2). The Pomeranian culture in the areas previously occupied by the Masovian Urnfields communities exhibits a completely different character, distinguished primarily by the homogeneity of phenomena, among others a clear impoverishment of inventories and an uniformisation of ceramics. In the zone that had been settled in later phases of development, where the 'Lusatian-Pomeranian' cultural transformation took on a slightly different dimension, unlike the situation in the south-western zone, we see the dominance of single burials (cloche and cinerary urn burials) which were equipped with accompanying vessels in the earliest stages only. Elements with 'eastern' features (such as the presence of animal and children's and animal pit graves or secondary-burnt pottery fragments, numerous bone objects and products of the 'Scythian' world) are also recorded. What is also noteworthy is the lack of typical forms of artefacts that could be clearly defined as products from these areas. The analysis of ceramic material from settlements and cemeteries (with the exception of the 'northern component' sites in this area) shows that 95% of them did not use any specially prepared forms for funeral purposes, and everyday vessels were used for eating, storing or carrying meals. Of course, more differences could be identified between the two zones discussed, but this general comparison clearly proves how internally inconsistent the Pomeranian culture was in its allochthonous dimension, which resulted largely from a different cultural background (Fig. 2).

Silesian-Greater Poland allochthonous zone	South-eastern allochthonous zone
<ul style="list-style-type: none"> <li>• dominance of multi-urn graves</li> <li>• graves equipped with numerous accompanying small vessels, especially the libation sets (a mug or jug standing in a bowl)</li> <li>• deceased provided with everyday items</li> <li>• sepulchral and settlement pottery</li> <li>• the activity of craftsmen producing original "Pomeranian" ornaments</li> <li>• Hallstatt, La Tène and Jastorf imports</li> </ul>	<ul style="list-style-type: none"> <li>• dominance of single burials (cloche and cinerary urn burials)</li> <li>• animal and children's-animal pit graves</li> <li>• secondary-burnt pottery fragments in graves</li> <li>• the same forms of pottery in graves and settlements</li> <li>• numerous bone artifacts in graves</li> <li>• products of the "Scythian" world</li> <li>• lack of typical forms of artefacts that could be clearly defined as products from these areas</li> </ul>

Fig. 2. An attempt to define features typical of the Silesian-Greater Poland allochthonous zone and south-eastern allochthonous zone

## CHRONOLOGY OF THE ALLOCHTHONOUS POMERANIAN CULTURE

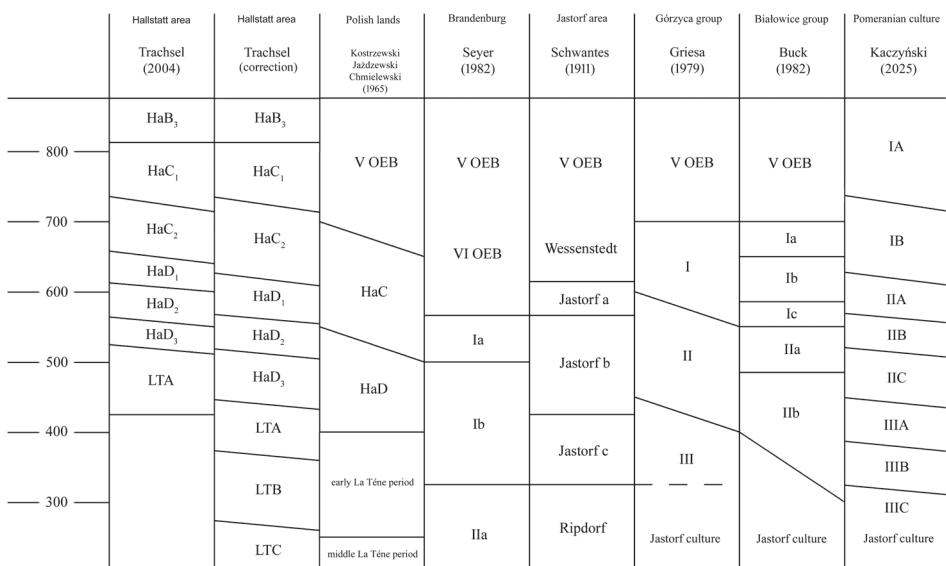
For the Pomeranian culture outside Pomerania, chronological systems were operated that were created just before or after World War II, as well as those developed in the 1970s, based mainly on the classic chronology of Paul Reinecke and corrections made for Polish lands by Józef Kostrzewski. Dating of the phase of presence usually fell within the range HaD – middle La Tène period. First half of the 1990s, proposals for relative internal systems of Pomeranian culture appeared. The first one was presented by Sylwester Czopek for the purposes of research on the south-eastern zone of the Pomeranian culture, dividing its functioning into four phases (I-IV) between the HAC and LTC1 periods (Czopek 1985; 1992, 86-88). The second one was presented by Janusz Podgórski for Eastern Pomerania and included four phases of cemeteries: Warzenko, Siemirowice, Władyśląwowo and Karczemki, starting from Montelius Period III until the older pre-Roman period (Podgórski 1992).

The system proposed by Janusz Podgórski was used by Karol Dziegielewski in studies on cultural changes in Pomerania during the Bronze Age and the Early Iron Age based on new chronological approaches for the Hallstatt zone (Dziegielewski 2017a, 300, fig. 2). It should be assessed as a basic tool that chronologically organises cultural phenomena in Pomerania. Unfortunately, a major difficulty in undertaking studies of Pomeranian culture, especially in allochthonous zones, is the constant lack of an internal relative chronological system, which, however, given the diversity of the culture in question and the amount of new materials, is an extremely difficult task. The system developed by Sylwester Czopek has not been widely used due to the high level of generality in the description of individual phases. It was used only in the study of materials from the south-eastern zone.

A helpful tool in undertaking the study of Pomeranian culture, both in Pomerania and beyond (thus, in all provinces of Pomeranian culture), may be a relative chronological system made for clothing-fastening items. The purpose of this scheme, created for the purpose of the analysis of such items, was not so much to 'rigidly' adhere to the Hallstatt-La Tène scheme, but first of all to try to distinguish relative horizons, which could turn out to be compatible with external approaches. To make such an internal chronological system consistent with the one currently in force for Pomerania, the same source was used as Janusz Podgórski, namely Wolfgang La Baume's chronological division, prepared for the purposes of developing face urns (La Baume 1963, 7-9). La Baume had divided the Pomeranian culture into three phases for phenomena that took place in the south-western zone in the older pre-Roman period. These took their names from the cemeteries with a characteristic inventory for each of them: the Władyśląwowo, Karczemki (ger. *Friedenau*) phase and the Pierzwin/Ulesie (ger. *Pürben/Waldau*) phases.

The basis for research on the relative chronology of clothes-fastening items was based on the analysis of the co-occurrence of this type of items at the level of cinerary urns, multiple burials and cemeteries; stylistic analysis of fibulae, pins and belt buckles as well as examination of the influx of imports, their scale and provenance (Kaczyński in print). During the research, it was noticed that items fastening clothes show greater variability over time than indicated in literature, which additionally turned out to be helpful in chronological studies (Fig. 3).

Research concerned clothing ornaments showed that it was possible to distinguish narrower, relative ranges for individual intervals. In the allochthonous zones of the Pomeranian culture, only two phases are represented: Karczemki (II) and Pierzwin/Ulesie (III). Each of them was additionally divided into three subphases (from A to C). For each phase, it was possible to identify artefacts with a specific, characteristic style and provenance. They correspond to the following intervals of the Hallstatt-La Tène chronology developed by Martin Trachsel (2004) with corrections (e.g., Krause *et al* 2017: 120, 121), and late La Tène one by Ruppert Gebhard (1989): Karczemki IIA – HaD<sub>1</sub> (~630/620-560/550 BC), IIB – HaD<sub>2</sub> (~560/550-510/500), IIC – HaD<sub>3</sub> (~510/500-450), Pierzwin/Ulesie IIIA – early LTA (~450-375), IIIB – late LTA (~450-390), IIIC – LTB (~375-275).



## KARCZEMKI PHASE

At the beginning of the Karczemki phase (IIA), falling around the middle of the 7th century BC, at a time when the main attributes of Pomeranian culture were already functioning in Pomerania (box burials, face cinerary urns, multi-piece bronze breast plates), representatives of this community were crossing the Noteć river line and the acculturation processes in northern and eastern Greater Poland began (Fig. 4: Phase IIA). In this barely perceptible phase, due to the small number of sufficiently diverse objects co-occurring, references to the Oder River area Lusatian Urnfields environment are observed. Mention should be made of a few bronze or iron pins in the late Hallstatt style with bowl-shaped

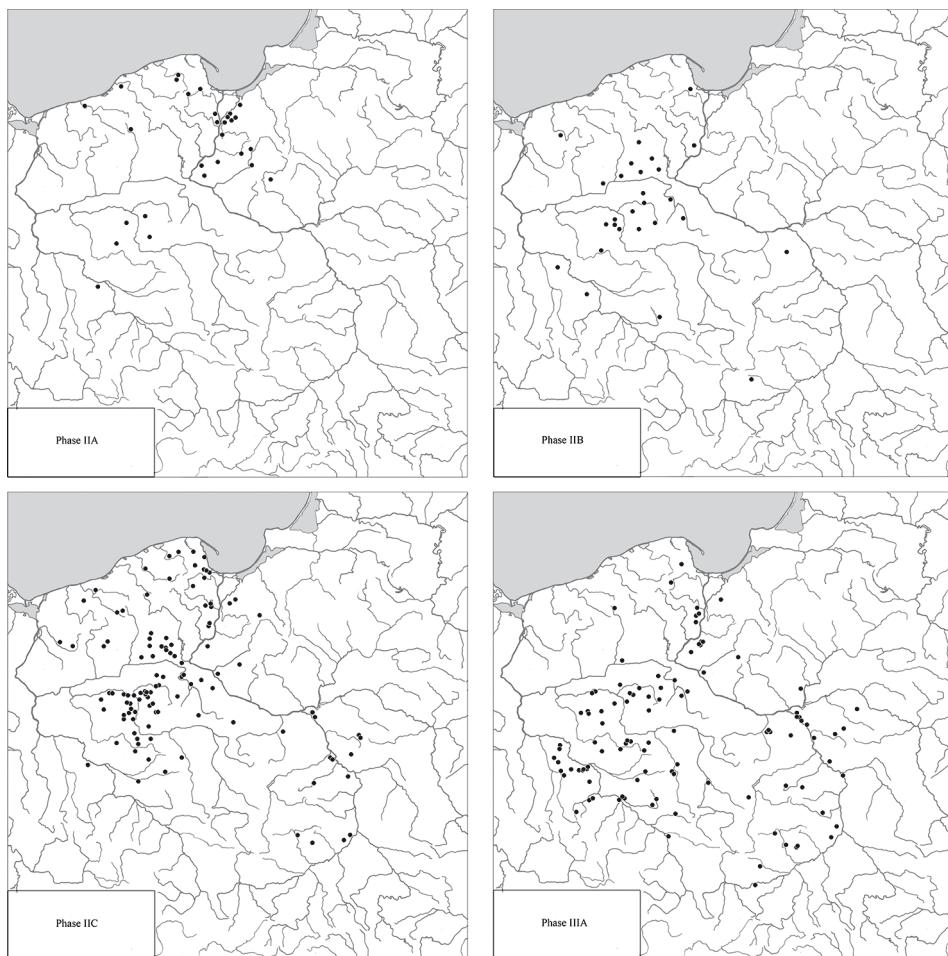


Fig. 4. Clothing fastening items characteristic of the Pomeranian culture for the phases IIA-IIIB.  
Graphic design by B. Kaczyński

and nail-like heads, equipped with, strongly swan-neck profiled necks (Kaczyński 2018, 274, fig. 4; Fig. 8: h). Artefacts of this type are grouped in the youngest parts of the Niederkaina cemetery, dated to HaD<sub>1</sub> (Heyd 1998 27–29, fig. 13). This phase also includes the use of the Strzebielinko type spectacle fibulae and the most common wearing of pins with spiral heads (most often made of a wire with a quadrangular cross-section), both in the community of the Pomeranian culture in Pomerania (Fig. 8: g) and in the communities of the Lusatian Urnfields in the Oder area (Gedl 2004, 65–68; fig. 8: a). In this phase, a small number of typical forms of pins of Hallstatt stylistics, widespread in Greater Poland, should be distinguished, *i.e.*, pins with stamp-like, grooved heads, which proves that the area under discussion in this initial Lusatian-Pomeranian transformation stage remained under the influence of the Oder River region.

In the middle Karczemki phase (IIB), falling in the developed HaD period, elements of the ‘northern component’ in northern and eastern Greater Poland and Kuyavia were recorded (Fig. 4: Phase IIB). At this time, a period of prosperity is visible in the cultural-and-exchange contacts with the middle Oder production centre in the Wicina area. The evidence of these influences were the typical forms of artefacts from this centre appearing in cemeteries with box burials, including: vase-shaped pins with grooved heads, conical headed pins with incised bases, equipped with strongly profiled swan necks (*e.g.*, Michalak 2010, figs. 29: 1, 3–5, 30: 1–4; Orlicka-Jasnoch 2013, fig. 7: 1–3). Their spatial distribution within Greater Poland proves that there was a route connecting the middle Oder region with Eastern Pomerania, leading through the Krajeńskie Lake District. In phase IIB, the first iron ornaments of the Pomeranian culture, inlaid with lamellas of non-ferrous metals appear and spread, *i.e.*, disc-shaped pins with swan necks, sharp-profiled (of Mrowino type) and cross fibulae inlaid with gold and copper alloy lamellas of Tłukomy type, which appeared in ‘Pomeranian’ environment in western Greater Poland and Krajna region, and at the end of the Karczemki phase. These items, along with the ongoing migration, spread to Lower Silesia, Masovia, central Poland, and Lesser Poland (Fig. 5: A; 8: i, j, m, n; Kaczyński 2015, fig. 6).

In the developed Karczemki phase (IIB), exotic hints of long-range influences from northern Italy are recorded, especially the areas of the Este and Golasecca cultures. Among the most unique imports from the HaD<sub>1</sub>/HaD<sub>2</sub> phase are the *sanguisuga* fibula with a long foot decorated with coral inserts and the ‘Schlangenfibel S1’ fibula according to Günter Mansfeld (Fig. 8: b; Kostrzewski 1936, fig. 3; Kaczyński and Grzędzielska 2022, figs 1 and 2). Both types are grouped within the Veneto and the southern zone of the central Alps. This type of fibula most likely reached the areas of the Pomeranian culture along the route through the eastern Hallstatt areas by the agency of the Oder area Urnfield communities. Along the same route came pear-shaped pendants, originating from northern Italy. There, they are most common in the Golasecca IIB phase according to Raffael Carlo De Marinis (De Marinis 1981, 217), which, according to Trachsel’s correlation, corresponds to the first half of the 6th century BC. These objects spread to the western areas of the Urnfield communities and the Pomeranian culture (Cassini and Chaume 2014, fig. 6).

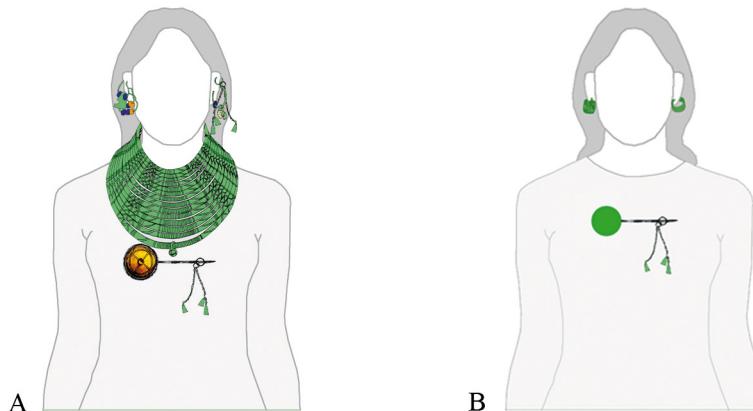


Fig. 5. A set of pins and body ornaments of women from Pomerania (A) and Brandenburg (B) in the middle part of the HaD phase. Graphic design by B. Kaczyński

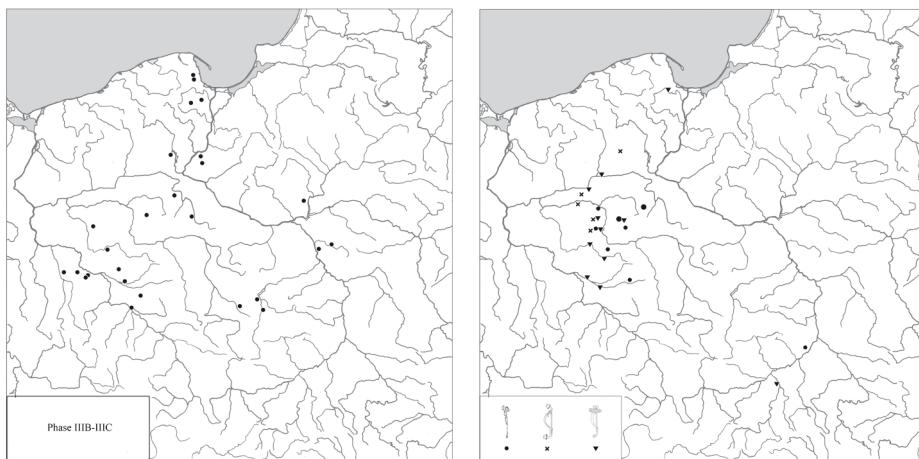


Fig. 6. Clothing fastening items characteristic of the Pomeranian culture for the phase IIIB-IIIC, and distribution of clothing fastening objects from Greater Poland from phase IIIC (circles – bimetallic pins with heads decorated with cuts; crosses – Wymysłowo-Wróblewo brooches with elements decorated with cuts; triangles – the remaining Wymysłowo-Wróblewo brooches). Graphic design by B. Kaczyński

In phase IIIB, fibulae with a decorative foot of Wicina type were taken over from the Odra River communities (Fig. 8k, l). The dating of these items requires correction from the HaD<sub>3</sub> period, *i.e.*, to HaD<sub>2</sub>, which would be compatible with the dendrochronological dates of the fall of the hillfort in Wicina in the first half of the 6th century BC, but also with the dating of bronze items in hoards or, finally, with reception of elements of the Scythian area

(Grechko 2020, 598, 599, fig. 9; Krąpiec and Szychowska-Krąpiec 2013, 373-374; Maciejewski 2019, 69, 70). The discussed fibulae were distinguished by Georg Kossack (who has classified them as variant A2 – with massive, faceted in cross-section bows), were classified and discussed solely in terms of the bow shape and the appearance of the foot (Kossack 1987, 122, fig. 5: 4-8; Parzinger 1993, 514-516). Only Zenon Woźniak, based on the findings of Gunter Mansfeld and Martin Trachsel, pointed out that early specimens from the southwestern areas of Polish land are distinguished by mounting an iron spring axis on bronze items, which thus indicates the development of a different tradition of fibulae construction (Woźniak 2010, 48-50). It seems possible that the same was true of the Wicina type and typologically similar fibulae of Wojszyce type, which were rare in neighbouring areas (Kaczyński 2015, fig. 6). Probably the source of inspiration for the people of the Oder Lusatian Urnfields were not the areas of northern Italy and the eastern Hallstatt zone, where specimens modelled on the Certosa fibulae with single-coiled springs were commonly produced. It seems more likely to have been derived from the arched, navicella-type and bow brooches ('Bogenfibeln'), boat brooches ('Kahnfibeln') and 'Paukenfibeln' from the areas of Bavaria, where the crossbow-like construction appeared and became widespread already in HaD<sub>2</sub> (Mansfeld 1973, 26-28, 49-55; Trachsel 2004, 81-83).

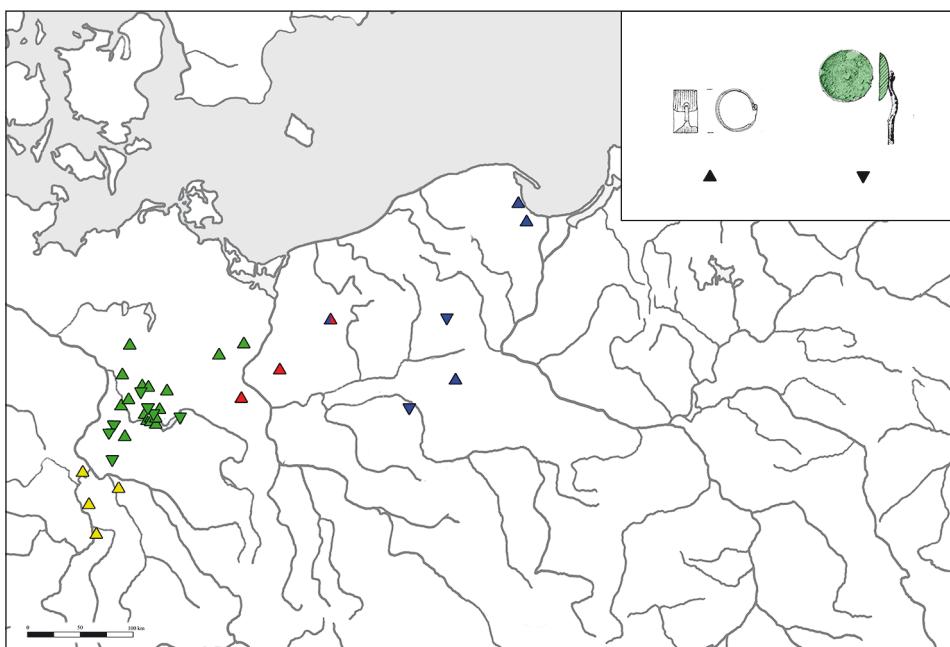


Fig. 7. Dispersion of band earrings (ger. *Bandohrringe*) and Zakrzewek type pins from the Early Iron Age in Central Europe. Blue triangles – Pomeranian Culture; red – Górzycy group; green – Jastorf Culture; yellow – Thuringia Culture; red/blue – Marianowo group. According to S. Griesa 1982; H. Seyer 1982; R. Müller 1985; R. Wołagiewicz 1979 with additions

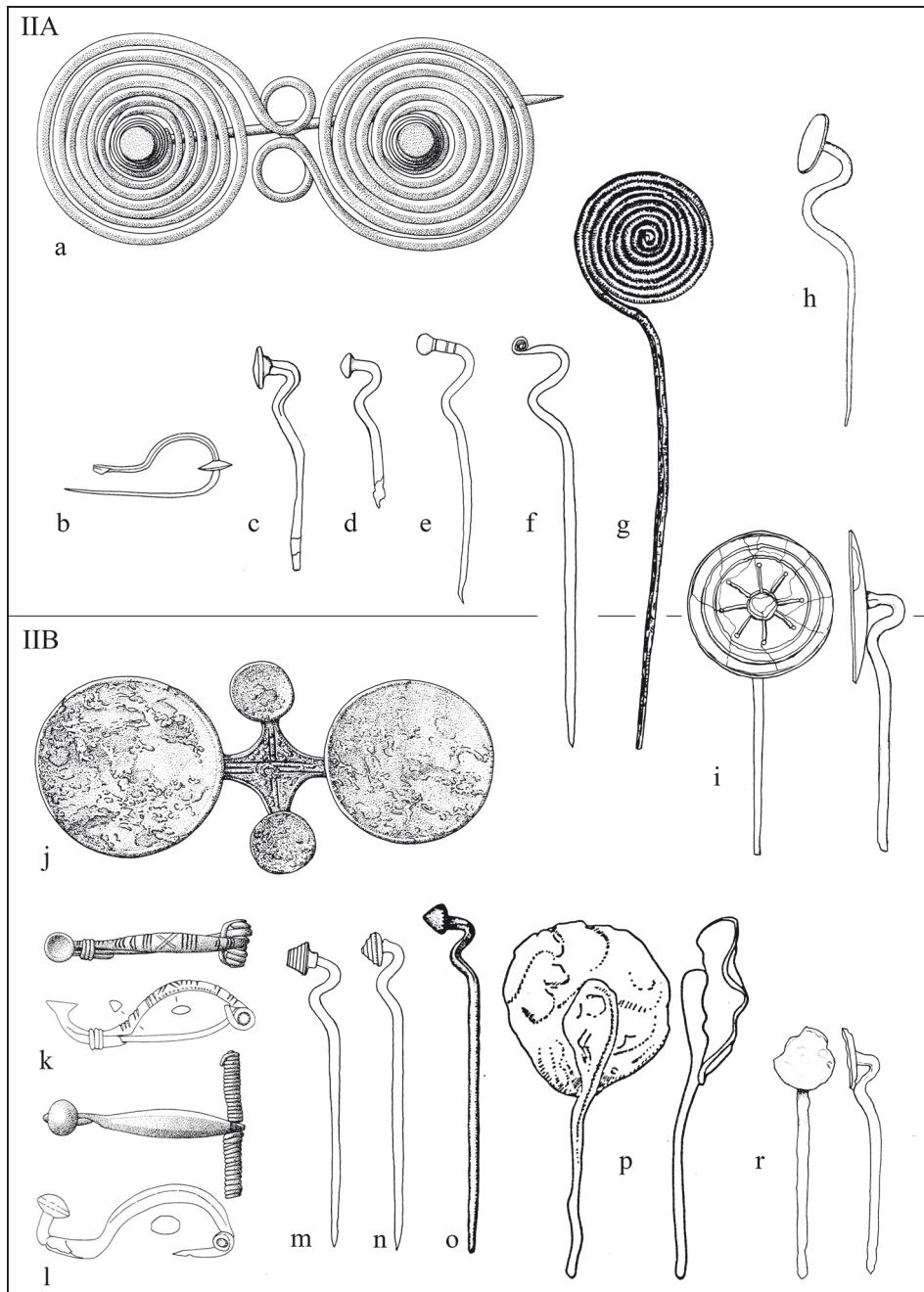


Fig. 8. Clothing fastening items characteristic of the Pomeranian culture in phase IIA and IIB.  
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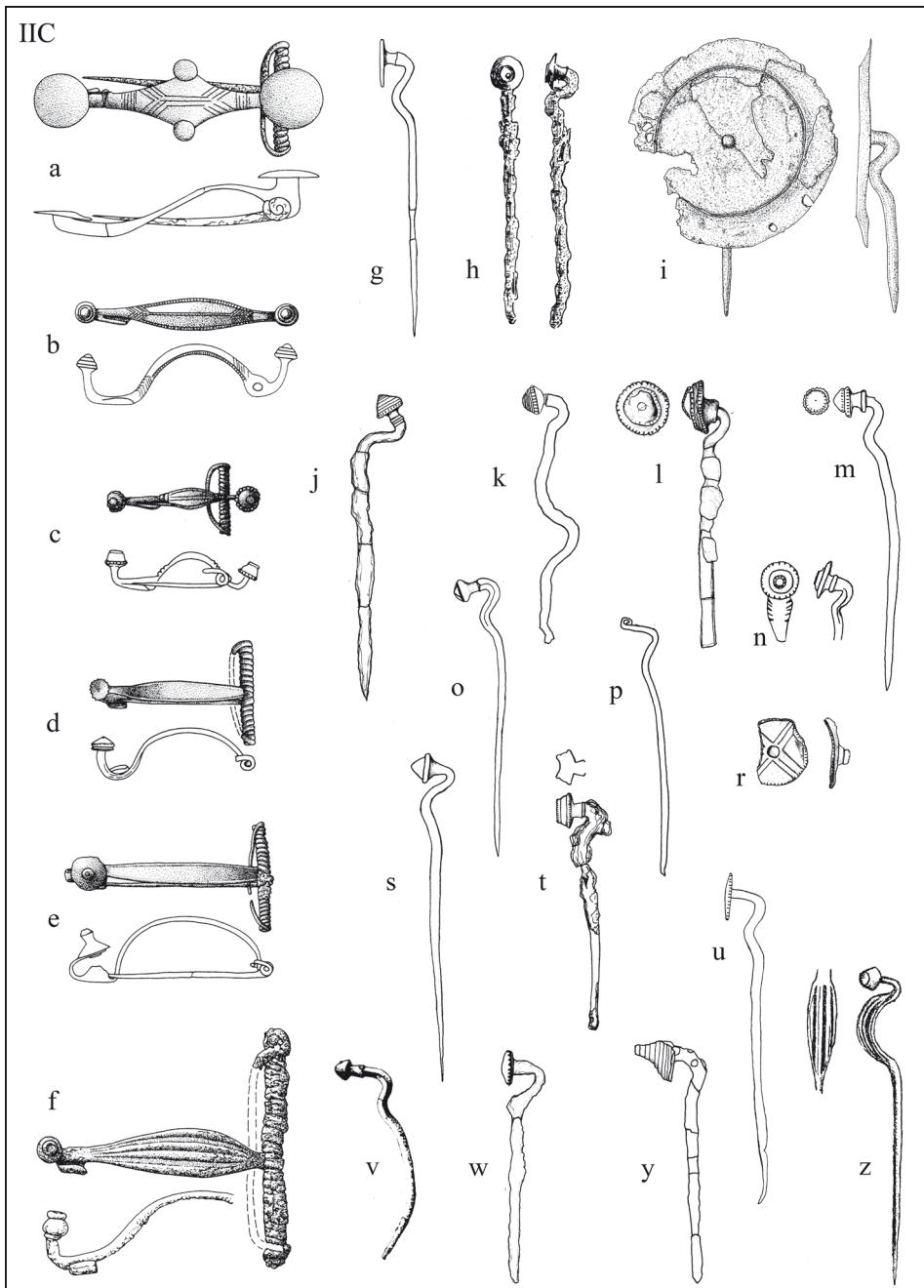


Fig. 9. Clothing fastening items characteristic of the Pomeranian culture in phase IIC.  
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In the final part of the Karczemki phase (IIC), dated to the second half of the 6th century, *i.e.*, in the period after the fall of the hillfort in Wicina and decline in the importance of the middle Oder River Urnfield community groups, a period of prosperity is observed in the production of garment-fastening items in the Pomeranian culture. The weakening of the discussed cultural zone contributed to intensification of the migration of the population of the Pomeranian culture on Polish Lowlands. At that time, elements of the 'northern component' appeared in most areas of the Polish Lowlands, with the exception of the central Odra region and areas south of the Odra, as well as parts of Lesser Poland, and probably some areas east and south-east of the Vistula (Fig. 4: Phase IIC).

In this phase, an abundance of original items of Pomeranian culture in the area of Greater Poland is observed, including fibulae with symmetrically arranged ornamental elements of the Wymysłowo-Wróblewo type and fibulae with cross-shaped bows of Sinołeka type – specimens modelled on basis of the earlier fibulae of Tłukomy and Strzebielinko type (Fig. 9a-c; Gedl 2004, 115-118, 133, pl. 60: 335-338, 61: 340-349, 66: 426-427). According to Zenon Woźniak, the doubling of ornamental elements in the case of Wymysłowo-Wróblewo fibulae was inspired by the early style of Celtic art, which was manifested by the doubling of ornamental elements (Woźniak 2010, 56). The presence of Sinołeka type fibulae with a cross-bow-like construction, which are undoubtedly later forms of cross-shaped fibulae and transitional forms of the Wymysłowo-Wróblewo type, may indicate that their development in the Pomeranian environment took place beyond external inspirations. Other forms typical of Greater Poland include bimetallic pins made in the late Hallstatt stylistics with heads shaped similarly to the knobs of the above-mentioned fibulae, as well as bimetallic conical, bowl-shaped and disc-headed pins, ornamented with constrictions, incisions and engraved strokes (Fig. 9: h, j, k, l, m, o, t, v, y; *e.g.*, Kaczyński 2017; 2020). The analysis of the spread of stylistically similar garment-fastening items in the Pomeranian culture brings interesting observations. As an example, we can mention the spread of Wymysłowo-Wróblewo fibulae with knobs ornamented with incisions, as well as bimetallic pins with similarly-constructed heads. Within the range of occurrence of these stylistically close items, two adjacent areas stand out, the first characterised by the use of pins, the second by wearing fibulas, which may indicate either regional fashion preferences of the inhabitants, the migration or acculturation process, or simply the area of activity of a specific manufacturer (Fig. 6: map on the right side).

Among forms of foreign provenance, mainly in southern Greater Poland, Lower Silesia and Lesser Poland, fibulae with a decorated foot ('Fußzierfibeln') modelled on the west Hallstatt forms F2 and F3 according to Mansfeld occur, referred to in Polish literature as the Kietrz, Grabonóg-Grzmiąca and Łuszko types (Fig. 9d-f; Z. Woźniak 2010). In the late Karczemki phase (IIC), an inflow of individual Jastorf imports from the middle Elbe basin is observed, *i.e.*, multi-element bimetallic disc-headed pins with bent stems (in the form of an animal's crop – hence the German name, 'Kropfnadeln') and band earrings (Figs 5B; 7; 8p). Their emergence can be interpreted as a manifestation of matrimonial contacts, as the items were part of women's equipment.

The phenomenon of the mass appearance of new, original forms of garment-fasteners coincides with the moment of the greatest spread of the Pomeranian culture elements. A similar situation can also be observed in other cultural units with a migration model developed in the southern Baltic zone and can be simply explained by the need to stand out and manifest their distinctiveness in the newly occupied areas.

## PIERZWIN/ULESIE PHASE

At the beginning of the older pre-Roman period, which coincides with the beginning of the Pierzwin/Ulesie phase (IIIA), synchronised with the earlier part of the LTA (the first three decades of the 5th century BC), the preferences and style of items fastening garments in Pomeranian culture had changed. The occupation of the areas of the middle Oder River area and the areas south of the Oder by the discussed population resulted in the establishment of clear contacts with the La Tène and Jastorf world and resulted in the appearance of new original forms and a significant influx of imports. The centre of gravity of the native production of the Pomeranian culture moved from Greater Poland to Lower Silesia, and it cannot be ruled out that this was a group of craftsmen coming from the same environment. A characteristic feature of garment-fastening items at the beginning of the Pierzwin/Ulesie phase was that they were almost entirely made of iron. Bronze and bimetallic objects occurred sporadically, mainly in Greater Poland and central Poland (Fig. 4: Phase IIIA).

The distinctive fibulae forms noted in phase IIIA included specimens with band bows of the Andrea Lorentzen Type II and III, referred to as Kowalowice/Altmark fibulae, as well as of the Piekary Wielkie type (Fig. 10: a, b, d; Lorentzen 1992, 65, map 4; Gedl 2004, 122-131, pl. 63: 383-389, 64, 65; Grygiel and Orzechowski 2015, 172, 173, map 2). In the same centre, located near today's Wrocław, pins equipped with the so-called 'crop' (crooked stem) – modelled on specimens from the Elbeland areas were manufactured (Fig. 10: m, n, o). Their heads were usually flattened and rolled into an ear or a wide tube (Kaczyński and Sierant-Mroczynska 2020, 146-147, fig. 8: c). Other characteristic forms, inspired by specimens of the Jastorf culture from Lower Saxony, Thuringia and Brandenburg, included multi-element, disc-headed iron pins with 'crop' of the Zakrzewek and Wytomyśl types, as well as pins with spade-shaped heads (Fig. 10e, g; Kaczyński 2015, 27; 2018, 267). Tongued belt buckles complemented the set of forms manufactured in Lower Silesia of Elbe origin. The distribution of the above-mentioned forms indicates existence of an exchange route between Lower Silesia and Eastern Pomerania, leading through the Krajeńskie and Poznań Lake Districts.

In the allochthonous zone of Silesia and Greater Poland, mass production began of iron pins with conical or flattened heads rolled into ears, and especially pins with disc-shaped heads, ornamented with incisions on the edges, with characteristic bidirectionally bent hooked necks, referred to as the Brzozówiec type, as well as more commonly recorded

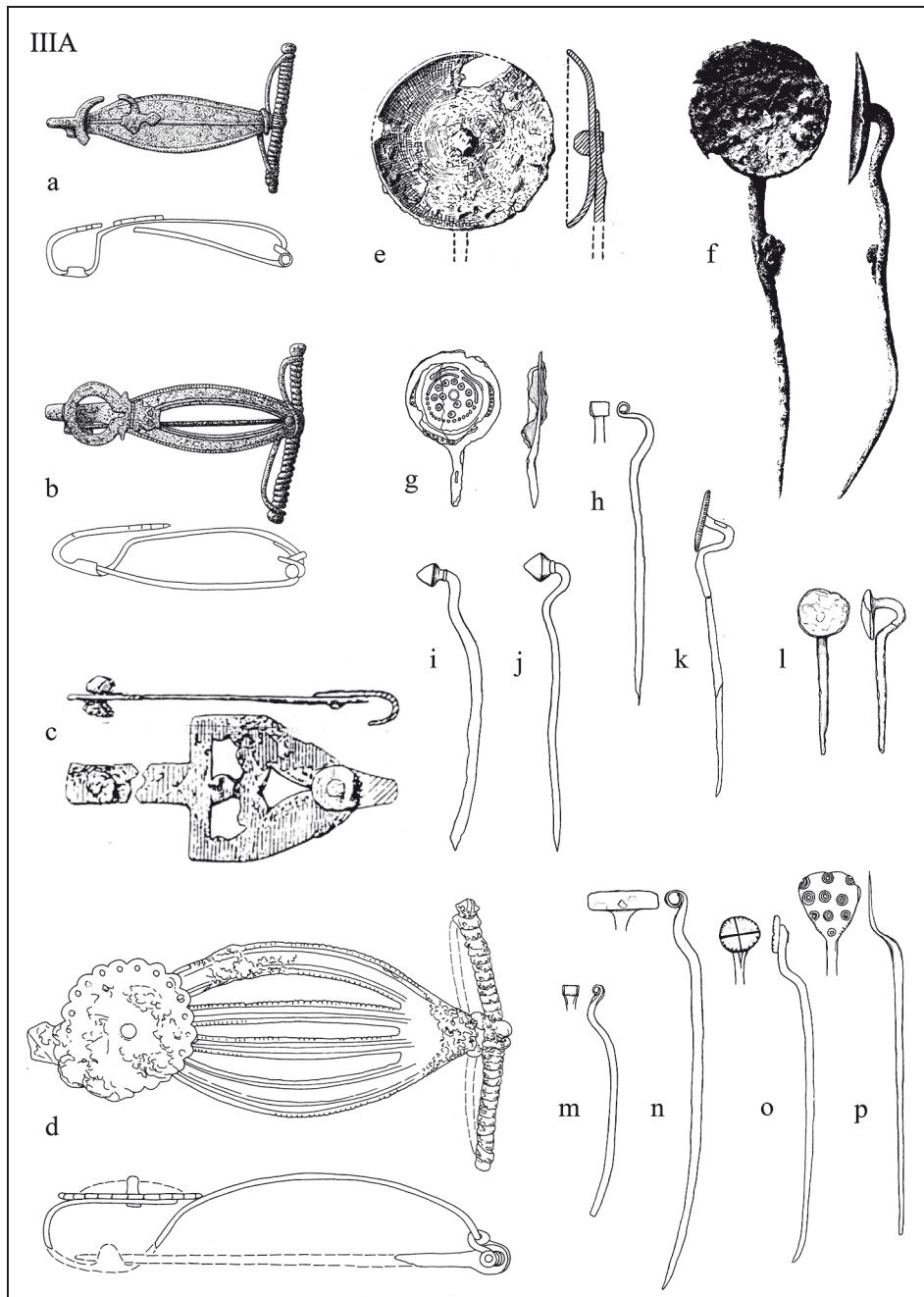


Fig. 10. Clothing fastening items characteristic of the Pomeranian culture in phase IIIA.  
Graphic design by B. Kaczyński

specimens without incisions belonging to the Skórcz type (Fig. 10: k, l); Kaczyński 2015, 27; 2018, 267; 2019, 62-64). The only variety of pins possibly produced in the south-eastern zone were iron specimens with hooked necks and flattened heads rolled into ears, which may be indicated by their greatest accumulation (Fig. 10: h; Kaczyński 2022, 172-174, fig. 14: c).

The analysis of the spread of forms typical of the final phase of Karczemki (IIC) and the initial Pierzwin/Ulesie (IIIA) phase allows for a hypothetical analysis of population changes taking place in some provinces of the Pomeranian culture (Fig. 4: Phase IIC, IIIA). The situation is most striking in Pomerania, as in the central and western parts there is a clear

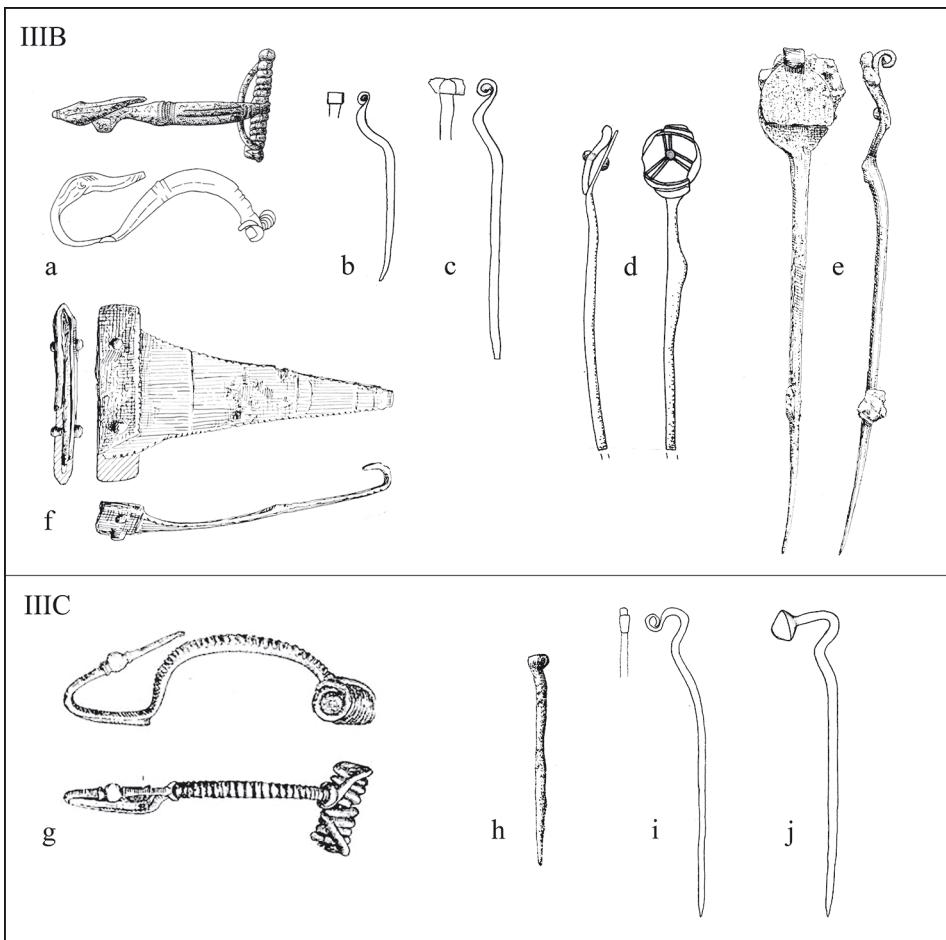


Fig. 11. Clothing fastening items characteristic of the Pomeranian culture in phase IIIB and IIIC.  
Graphic design by B. Kaczyński

lack of forms typical of phase IIIA. This phenomenon can be interpreted as due to depopulation caused by the ongoing migration of the Pomeranian culture to the south and south-east, as well as the ongoing shifts of the Jastorf culture community from the so-called Marianowo phase. The presence of iron pins typical of the discussed phase, as well as Celtic openwork belt buckles of the Hochscheid-Linz type (Megaw 2005; Woźniak 2010, 67, 68), prove the presence of the Pomeranian culture population in Eastern Pomerania, as well as the permanent functioning of the route towards Lower Silesia. It is also worth adding that iron products associated with the Lower Silesian centre are also recorded in central Poland, Lesser Poland and Masovia.

In the middle part of the Pierzwin/Ulesie phase (IIIB), corresponding to the horizon of occurrence of early La Tène construction fibulae, there is a clear decline in the production of new forms within the Silesian centre and an almost complete lack of new items within Greater Poland and the south-eastern zone. The main forms are iron fibulae of early La Tène construction with bird heads, found in Lower Silesia (Fig. 11: a; Woźniak 2010, 72-74). In this phase, pins with a crop and a tendency to greater neck deviation, with the head flattened and rolled into an ear are still produced (Fig. 11: b, c). The new forms include later varieties of multi-element pins of the Wytomyśl type, modelled on the Jastorf culture tutulus pins from Thuringia, as well as single imports from Gotland – pins with sail-like formed ‘crop’ shaped stems (Fig. 11: d, e; Kaczyński 2015, 27; 2018, 267, 268, fig. 1; Kaczyński and Sierant-Mroczyńska 2020, 148). The phase in question is the last one in which original metal products of the Pomeranian culture are observed. At that time, settlements in the south-western zone became more dispersed, probably related to the infiltration of the Jastorf milieu, and the route connecting Eastern Pomerania with the Lower Silesia and further the La Tène zone ceased to function (Fig. 4: Phase IIIB). The last moment of the community of the Pomeranian culture, indicating the functioning of native garment-fas-teners was the horizon of early La Tène construction Duchcov type fibulae (Fig. 11: g; Grygiel 2018, 18-21, 354, fig. 167), marking the last recognisable part of the Pierzwin/Ulesie phase (IIIC). The occurrence of this fibulae type in pit and cinerary urn burials indicates the presence of Pomeranian culture communities exclusively in the south-eastern zone (Fig. 6: Phase IIIC). The scatter of these fibulae from the upper and middle Bug basin and from areas of Masovia indicates the existence of Pomeranian-La Tène contacts, probably focused on the amber trade. The co-occurrence of Duchcov type fibulae with other items used to hold clothes together at the level of small cemeteries in the south-eastern zone proves that in this phase pins in the late Hallstatt style with conical, flattened heads and heads rolled into an ear were still used, in other words, forms that appeared at the begin-ning of the Pierzwin/Ulesie phase (Fig. 11: h-j). They should be considered the last traces of the use of swan’s neck pins in central Europe.

## CONCLUSIONS

In this work, focus was on the diversity and chronology of the Pomeranian culture in the allochthonous zones. It was indicated that the adaptation of the 'Pomeranian' cultural model took place to a different extent in the Oder Lusatian Urnfields area and in the areas occupied by the Masovian Lusatian Urnfields. The south-western zone, distinguished on the basis of the characteristics of the source materials, was characterised by a greater number of 'late Hallstatt' elements, characteristic mainly of Lower Silesia and the middle Oder region. The Pomeranian-Lusatian acculturation process took place in a different way in the allochthonous south-eastern zone, occupied by Masovian communities of Lusatian Urnfields. The material culture in this zone was characterised by a marked impoverishment of inventories and a homogeneity of sources. Throughout the entire period of its operation, influences from the eastern, nomadic zone were recorded.

The main problem hindering the dating of Pomeranian culture materials in allochthonous areas was the lack of a uniform internal relative chronology. The existing schemes developed for Polish lands from the 1970s and 1980s, based on Paul Reinecke's proposals from the first decade of the last century, no longer fulfilled their function due to being outdated in the light of the new approaches concerning central Europe. The presented system of relative chronology for items fastening clothes is a new useful tool for dating, especially in allochthonous areas. Within them, two phases were distinguished: Karczemki (IIA – HaD<sub>1</sub>, IIB – HaD<sub>2</sub>, IIC – HaD<sub>3</sub>) and Pierzwin/Ulesie (IIIA – early LTA, IIIB – late LTA, IIIC – LTB). The system requires expansion to include other categories of material sources.

At the beginning of the Karczemki phase, falling in the mid-7th century BC, there was a slow process of settling Greater Poland by the communities of the Pomeranian cultural model and the establishment of quite intense relations with the Billendorf culture of the middle Oder area – constituting an intermediary in contacts with the Hallstatt zone. In the middle phase of Karczemki falls the appearance of the first original forms of pins and fibulae, produced in the workshops of Greater Poland craftsmen. Many of the indigenous forms were transformed and developed by craftsmen of the Pomeranian culture from products of the types manufactured in the hillfort in Wicina. The period of prosperity of this community's production took place at the declining Karczemki phase, where the production of indigenous bimetallic forms penetrating the areas of Pomerania, the Silesian-Greater Poland border (with the border on Barycz river) and central Poland is observed. The reason for the development was regress of the Billendorf culture and probably taking over contacts with the Hallstatt-La Tène world.

The beginning of the Pierzwin/Ulesie phase brought a shift of the centre of gravity of production from Greater Poland to Silesia and the almost complete domination of iron over bronze forms. At that time, a thriving production centre developed near Wrocław, whose producers drew inspiration from the La Tène and Jastorf world. At that time, there

was a complete lack of forms typical of the discussed phase in western and central Pomerania, which could be related to population movements of the Jastorf culture, as well as depopulation caused by the progressive migration of the Pomeranian population towards the south and south-east. In the category of pins, only Jastorf references to areas of Lower Saxony, Brandenburg and Thuringia are observed. The developed Pierzwin/Ulesie phase at the end of the LTA was a time of rapid decline in new, original forms, which foreshadowed a progressive cultural change. In the last noticeable phase, falling in the LTB phase, not very intensive contacts with the eastern Celtic world are observed – the horizon of Duchcov fibulae, while in the production of pins only the continuation of local late Hallstatt traditions is noticeable. In phase IIIC, the Pomeranian culture was present only in the south-eastern zone.

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