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LATE NEOLITHIC AND EARLY BRONZE AGE TECHNOLOGICAL AND TYPOLOGICAL ELEMENTS IN THE PRODUCTION OF FLINT PROJECTILE POINTS OF THE NEMAN CULTURE IN THE POLISH LOWLAND REGION

ABSTRACT

The production of flint projectile points in the late stage of the Neman culture shows certain elements which are clearly similar in terms of technology and typology to the solutions known from flint-working of the people representing the Neolithic and Early Bronze Age cultures. The occurrence of such features has already been presented in relation to Neman culture ceramic production which lies at the heart of the concept of separating horizons within Linin type complexes. An in-depth analysis of the techno-typological features of flint-working in the Neman culture, and especially the typological category of projectile points, reveals similar patterns as well as cultural and chronological references in the case of ceramics.

The most striking elements show analogies to those known from the south-eastern area of the cultural groupings influenced by impulses flowing from the civilization centres of the time. Traces of these influences are clear in certain typological and technological solutions, such as the forms of triangular projectile points, or in applying a trough-like retouch on such points. At the current stage of research, it is hard to determine whether the analogies observed result from not yet recognised intercultural contacts, or rather constitute a certain *signum temporis* characteristic of production in a wider area but during a single, specific chronological interval.

Keywords: Late Neolithic, Neman culture, flint production, projectile points

The group of small flint tools originating from the late stage of the Neman culture includes numerous arrowheads, commonly called 'projectile points'. A range of features of their manufacturing technique shows similarities, in terms of technology and typology, with some elements known from flint-working in other cultures from the Late Neolithic and Early Bronze Age. The occurrence of analogous borrowings has already been noticed some time ago and presented in relation to Neman culture pottery production.¹ These observations laid the foundation for the concept of separating chronological

horizons within Linin type pottery assemblages.² In the absence of in-depth analytical studies on Neman culture flint-working, it was assumed that identifying and selecting a sequence of changes within para-Neolithic material progressing in parallel with the development of the forest cultural system would be possible exclusively on the basis of research into certain features of clay pots. However, a meticulous study of the techno-typological features of Neman culture flint-working, and especially of the most distinctive tool category – projectile points (Fig. 1) – does, in our view, allow to find elements and references

¹ Gardawski 1958, 305, 306; Kowalczyk 1969, 29–31; Kempisty 1973, 35–39.

² Kempisty 1973, 19–22; Józwiak 2003, 195–209.

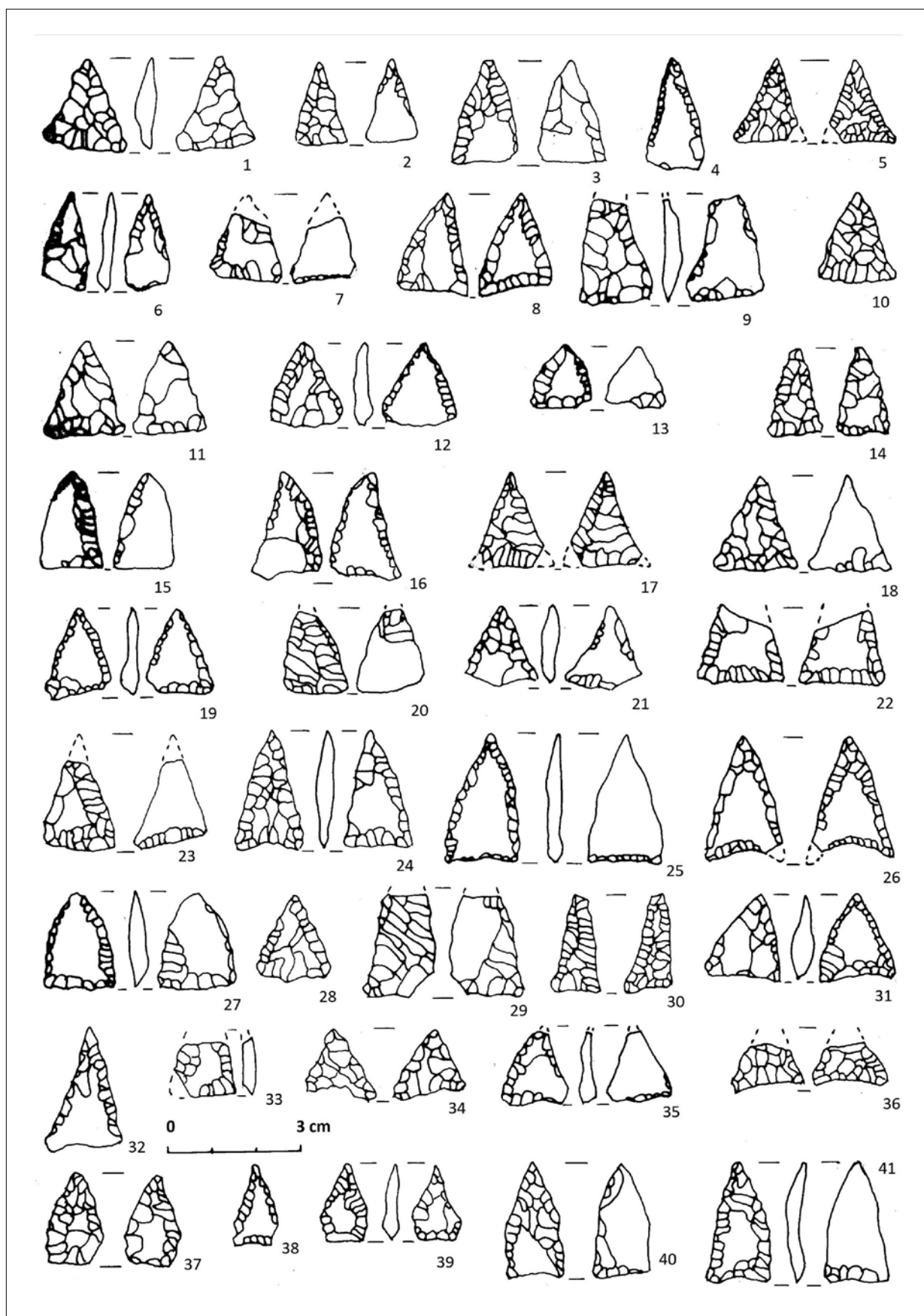


Fig. 1. Projectile points from Neman culture sites according to Kowalewski 2019, figs 1–2 (drawing by B. Karch).

to culture and chronology similar to those indicated in research on pottery production.

In terms of the technological and stylistic features of the ceramic vessels which were linked to the earliest of the distinguished horizons, i.e. the first Linin horizon, references have been observed pointing to pottery production from later stages of the Funnel Beaker culture.³ At the same time, although Neman culture flint-working lacks any direct connotations with the Funnel Beaker culture, some types of triangular projectile points do show similarities with specimens occasionally found in burials known from the southern range of the latter.⁴ It is emphasised, however, that such finds are extremely rare.⁵ Simultaneously, the archaeological context of these points in Funnel Beaker culture assemblages cannot be unambiguously assigned to any specific culture. Both the scarcity of specimens and the location of these projectile points within the skeletons may, in some cases, indicate that the use of the described products is responsible for the death of the buried individuals.⁶ The clearest and most numerous analogies for triangular specimens from the Neman culture can be found in the flint-working of the Tripolye culture and the Lublin-Volhynian culture⁷ (Figs 2–4). Apart from the undoubted similarities in terms of form, one should also mention the use of the pseudo-trough retouch in Neman culture flint-working which is attributed to Eneolithic industries.⁸ The emergence of these tool-making methods within the current territory of Poland is connected with the Lublin-Volhynian culture.⁹ One can also quote further arguments that attest the functioning of quite intensive contacts between the population of the Lublin-Volhynian culture and that of the Neman culture. Views on the influences coming from this cultural environment have been presented in the past based on research of para-Neolithic pottery.¹⁰ In addition, traces of a settlement of the Lublin-Volhynian culture population have been discovered quite far north from their homeland.¹¹ The existence of the above-mentioned contacts is evidenced by the presence of

trapeziums in the Lublin-Volhynian assemblages and even projectile points of the Sośnia type, which were previously believed to belong exclusively to the Neman culture.¹² At the present stage of research, it is already possible to indicate clear and relatively numerous analogies between the types of triangular flint projectile points identified for the Lublin-Volhynian¹³ and Neman cultures.¹⁴ Hence, the asymmetrical triangular projectile points of the Neman culture¹⁵ (fig. 1: 1, 10, 18) find their formal analogues in the shapes of the Lublin-Volhynian points classified as Type A.1–5.¹⁶ In turn, triangular projectile points from the inventories of the Neman culture, with concave side edges and bases¹⁷ (fig. 1: 5, 17), have their counterparts in Type A.7.1 points of the Lublin-Volhynian culture.¹⁸ The Lublin-Volhynian Type A.4.1 and 4.2. specimens¹⁹ are a clear analogy for forest projectile points with a straight base and convex lateral edges²⁰ (fig. 1: 27). Moreover, the triangular projectile points of the Neman culture with slightly convex, raw bases and flat retouched edges²¹ (fig. 1: 12) are similar to those distinguished for Types A.2.1 and B.2.1 of the Lublin-Volhynian culture.²² As already mentioned, numerous references can also be noted in the frequent use of the pseudo-trough retouches on the described artefacts. Both the retouching methods and the location of the retouch on individual projectile points indicate a strong relationship within an almost identical technological idea used by both cultural groups.

As is the case for the Eneolithic south-eastern implications, the broadly defined typological and stylistic features known from the production of projectile points in the Corded Ware culture,²³ as well as the Mierzanowice culture representing the post-Corded groups of the Early Bronze Age,²⁴ are also reflected in a certain kind of points discovered at Neman culture sites²⁵ (fig. 1: 25, 37, 39, 40). It can thus be assumed that the chronological position of such specimens can be synchronous with the third and fourth Linin horizons separated on the basis of 'Corded' features perceived in Neman culture ceramics.²⁶ In addition to the similarities between Neman

³ Józwiak 2003, 196–199.

⁴ Gurba 1959, 14–16, fig. 5a; Libera, Zakościelna 2006, 151, 152, figs 14: 18, 19.

⁵ Gajewski 1949, 10; Libera, Zakościelna 2006, 152, 162.

⁶ Libera, Zakościelna 2006, 161.

⁷ Borkowski, Kowalewski 2019.

⁸ Libera, Zakościelna 2013, 217, 225.

⁹ Libera, Zakościelna 2013, 219.

¹⁰ Gardawski 1958, 305; Gajewski, Gurba 1965, 32, 33; Gurba 1973, 86, 87.

¹¹ Bargieł, Zakościelna 2005, 40.

¹² Zakościelna, Libera 2007, table 1, 260, fig. 2; Kufel-Diakowska, Wilk 2018.

¹³ Zakościelna 1996, fig. 9.

¹⁴ Kowalewski 2019, 325, 328, 329, figs 1: 1–24, 2: 1–6.

¹⁵ Kowalewski 2019, fig. 1: 1–8.

¹⁶ Zakościelna 1996, fig. 9.

¹⁷ Kowalewski 2019, fig. 2: 1–5.

¹⁸ Zakościelna 1996, fig. 9.

¹⁹ Zakościelna 1996, fig. 9.

²⁰ Kowalewski 2019, fig. 2: 6.

²¹ Kowalewski 2019, fig. 1: 12, 13.

²² Zakościelna 1996, 67, fig. 9.

²³ Borkowski 1987, 156–160.

²⁴ Borkowski 1987, 161–167.

²⁵ Kowalewski 2019, 329, 331, fig. 2: 7–17.

²⁶ Józwiak 2003, 201–209.

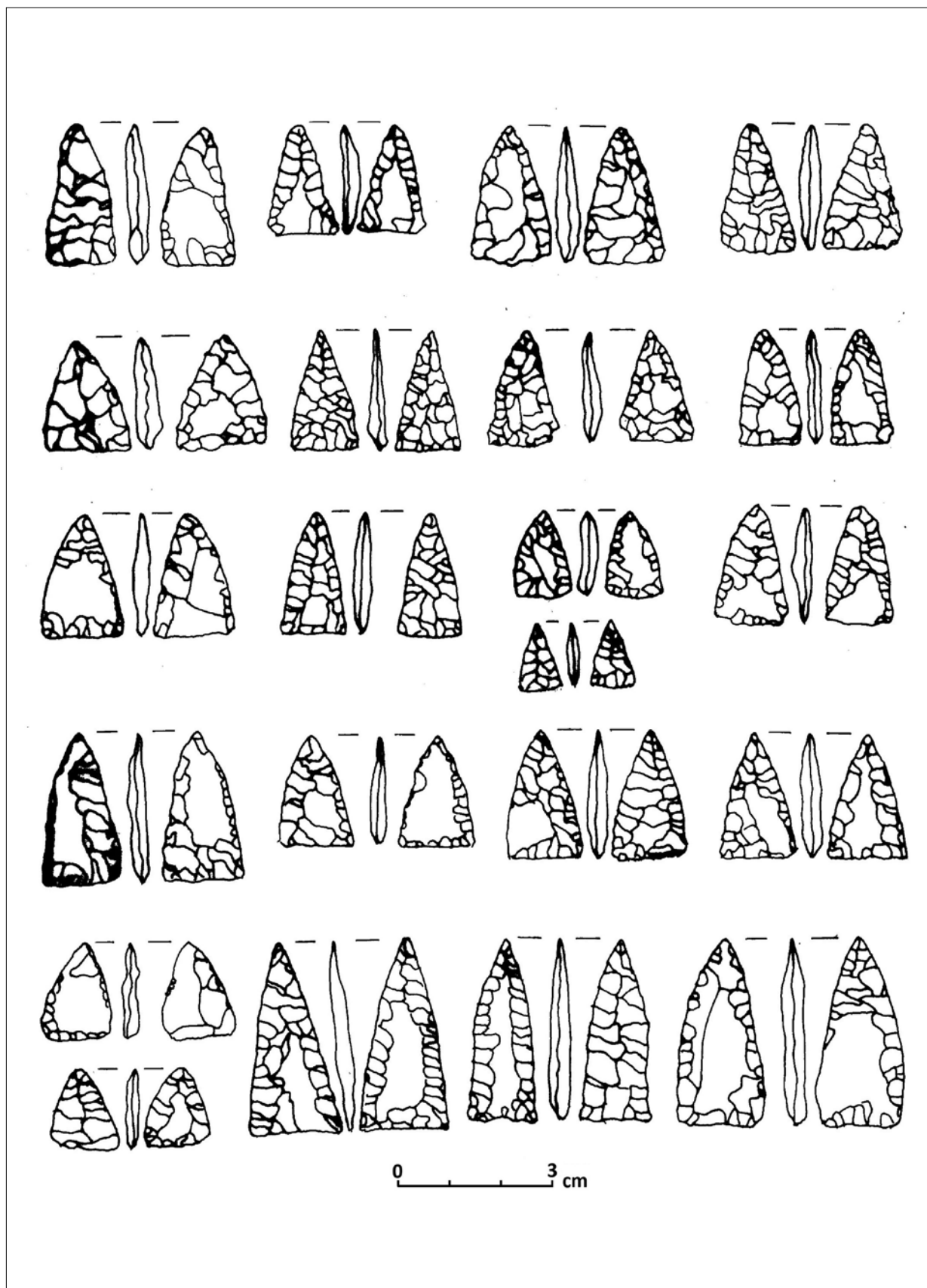


Fig. 2. Projectile points from compact assemblages of the Tripolye culture according to Chernovol, Radomsk'yy, figs 2–7, 10–12 (drawing by B. Karch).

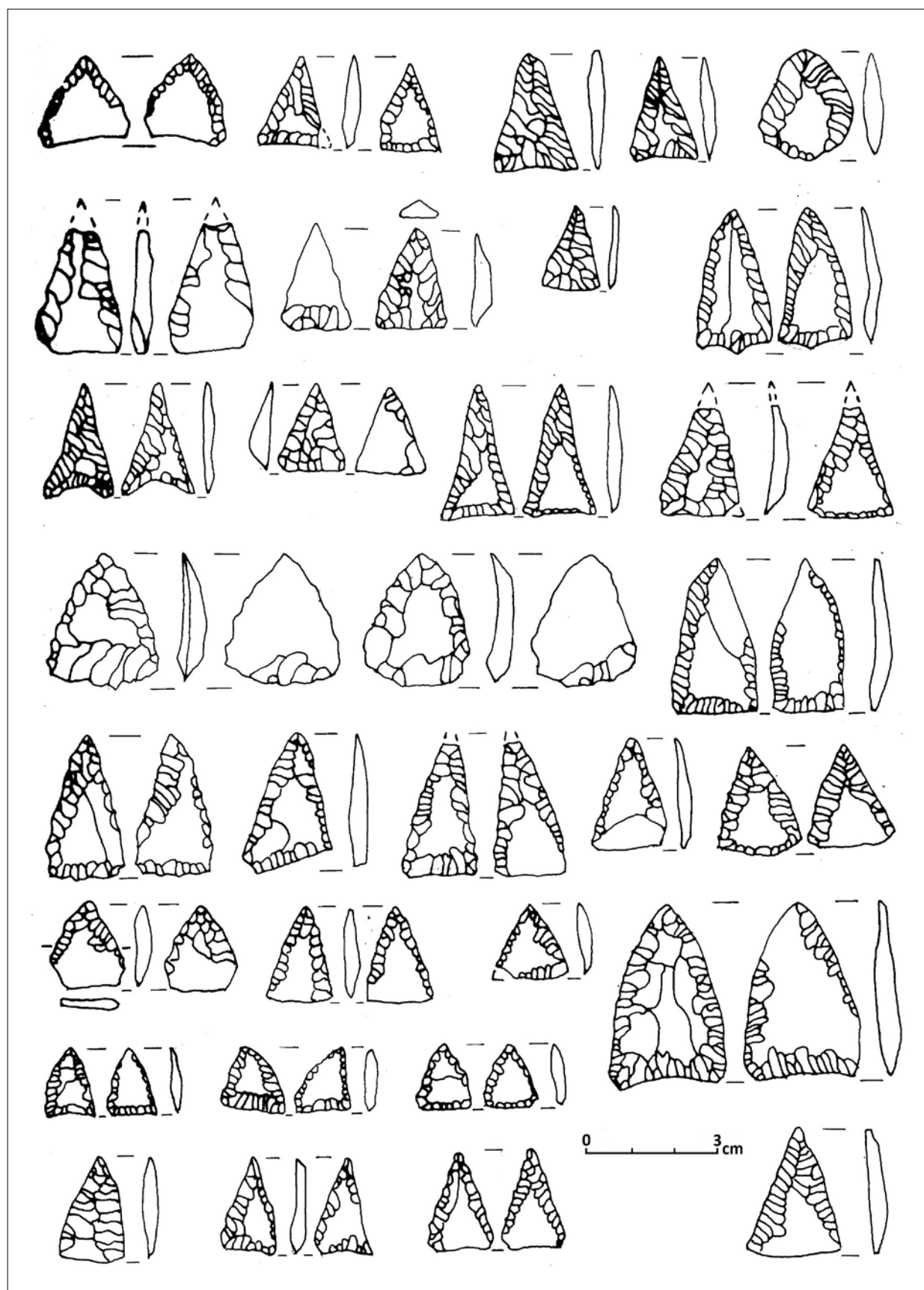


Fig. 3. Projectile points from compact assemblages of the Lublin-Volhynian culture according to Zakościelna 1996, tables II, IV, VI, XXII, XXIII, XXVII, XLII, XLV, XLIX, L, LII, LIV, LVI (drawing by B. Karch).

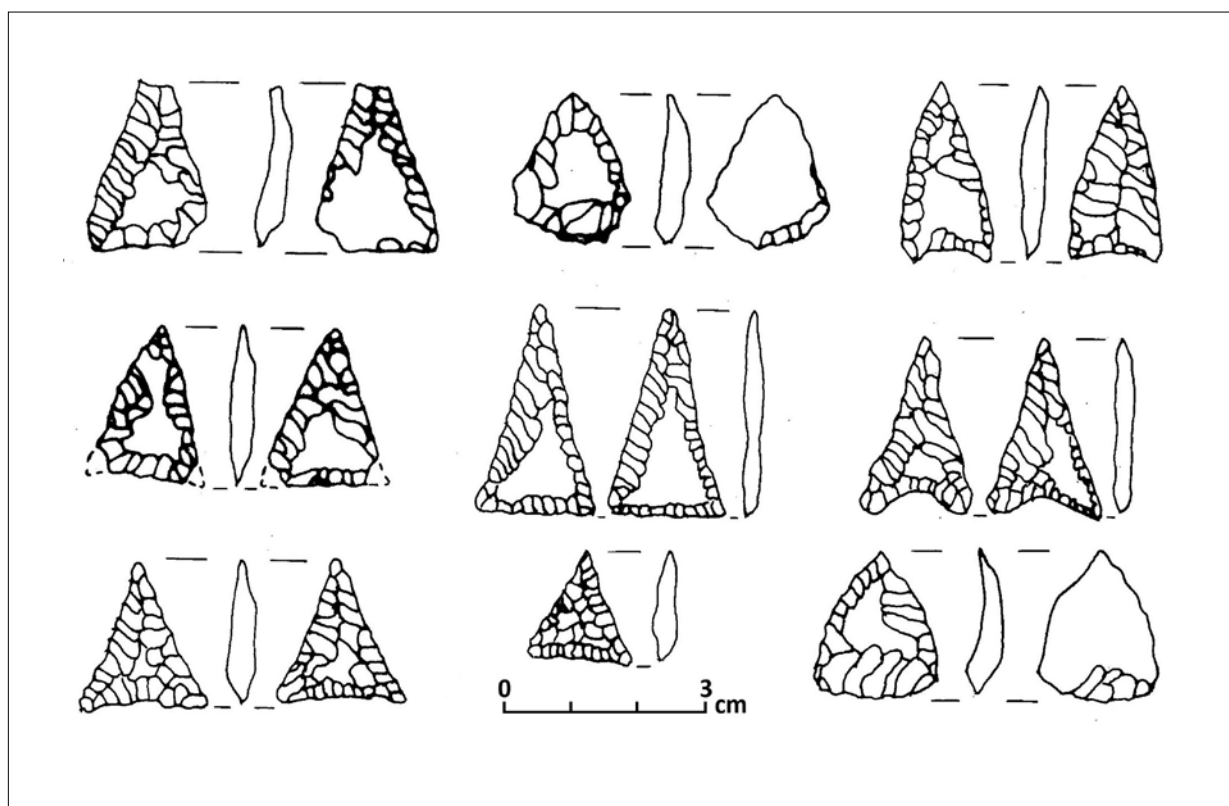


Fig. 4. Projectile points from compact assemblages of the Lublin-Volhynian culture according to Zakościelna 2010, tables XVI, LXII, LXVI, LXX, LXXXVIII (drawing by B. Karch).

culture and 'Corded' projectile points, one can also point out several distinctions which give the Neman culture specimens a certain individual trait. Although they fall in the broadly defined category of Corded Ware culture features, they also bear the mark of a unique 'forest' style. They are distinguished by a common, characteristic method consisting of one-sided retouch of the edge part or the surface, while the other side is almost raw as it is retouched only at the base (fig. 1: 25, 40, 41). Similar technological solutions are known from the production of projectile points in the para-Neolithic Zedmar culture,²⁷ but are also strongly associated with the 'Corded' environment of the Złota culture²⁸ (Fig. 5).

The mechanisms governing this intercultural communication and the degree of its symmetry, as reflected by the intensity of the interactions of the participating groups, are currently unknown and require further research. Based on the example of noticeable influences found in Neman culture pottery production and the

clear references to the patterns known from the Lublin-Volhynian production in the techno-typological features of Neman culture flint projectile points, a significant relationship between the two cultural environments may be postulated. It should be recalled here that research on the potential contacts of the lowland 'Beaker' societies with the Tripolye culture²⁹ and the Lublin-Volhynian culture communities has already been conducted for many years.³⁰ One of the key issues in this regard is the presence of macrolithic products of the Volhynian flint³¹ at the lowland sites of the Funnel Beaker culture, which was perceived as solid evidence for contacts with this raw material's area of origin.³² Some papers addressing these issues emphasise that the para-Neolithic communities of the time undoubtedly must have also participated in relations and cultural contacts between the inhabitants of the Polish Lowland and the neighbouring south-eastern groups influenced by the civilization centres of the time, in addition to the representatives of the Funnel Beaker

²⁷ Różańska 2011, fig. 2: 20, 21.

²⁸ e.g. Krzak 1970, 21, fig. 9: f; 45, fig. 32: b, c, e; 103, fig. 85: f, 1; 117, fig. 100: a; 137, fig. 122: h.

²⁹ Koško 1981; 1988, 173–175.

³⁰ Domańska 1995, 166.

³¹ Domańska 2013, 106; Adamczak *et al.* 2019, 183, 184.

³² Balcer 1983, 205; Koško 1988, 173, 174; Domańska 1995, 166; Rzepecki 2004, 173.

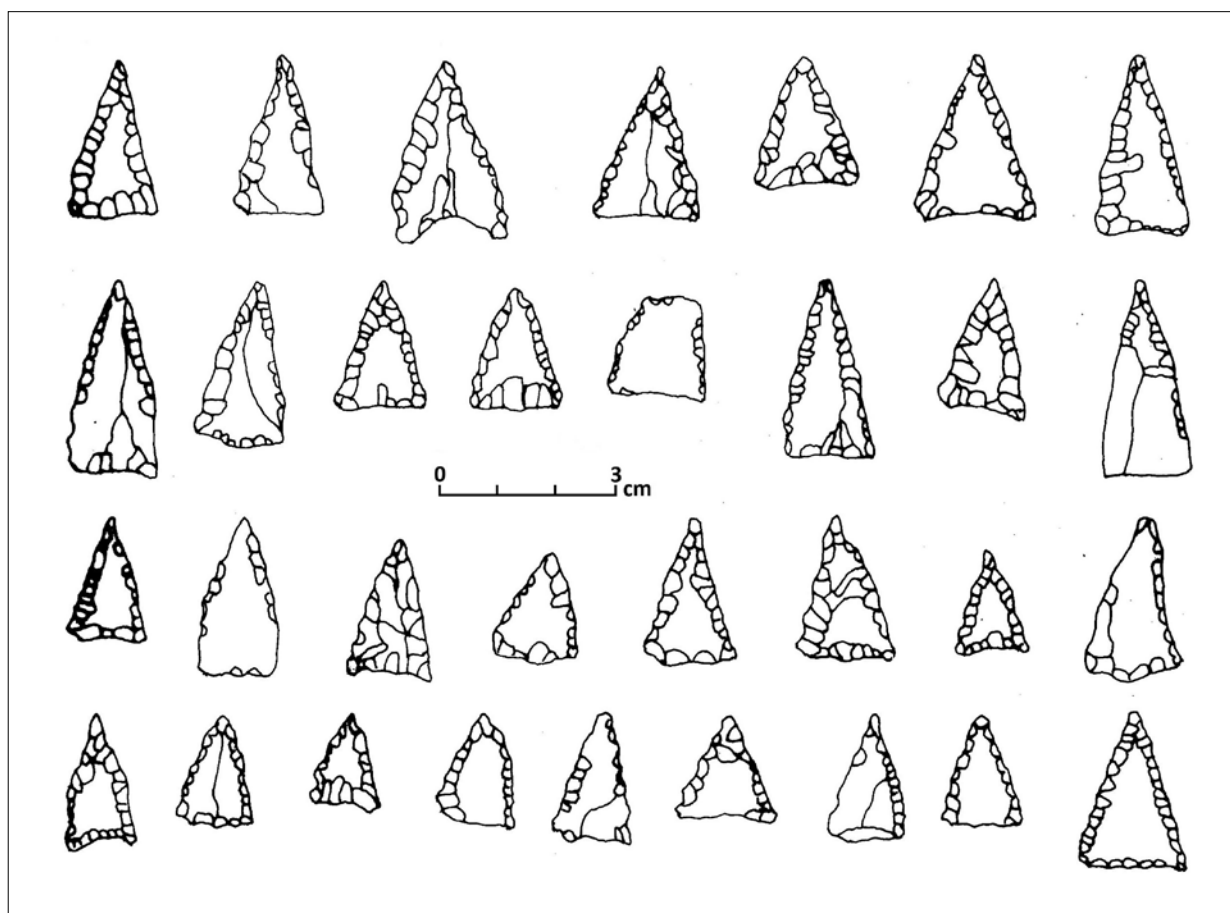


Fig. 5. Projectile points of the Złota culture according to Krzak 1970, figs 3, 32, 64, 80, 85, 100, 118, 122 (drawing by B. Karch).

culture.³³ Traces of southern cultural diffusions perceptible in 'forest' pottery have also been pointed out.³⁴ As mentioned above, the marks of such relations are also legible in the triangular projectile points of the Neman culture. First of all, they can be seen in the typological solutions exemplified by several variants appearing among points of this type. In addition, from the point of view of the technological procedures used, southern influences are manifested by the use of pseudo-trough retouch which has already been mentioned. At the current stage of research, it is still difficult to understand and define the essence of the mechanisms of these contacts and impacts. According to some researchers, the Lublin-Volhynian culture communities may have been interested in the lowland Cretaceous flint deposits.³⁵ Nevertheless, what is most interesting is that the described cultural relations took place between environments that seemingly differed in all respects. On the one hand, there were

hunter-gatherers cultivating a Mesolithic lifestyle, and on the other hand, the representatives of an Eneolithic civilization who maintained contacts with the leading cultural centres of the time. It seems that these were completely separate worlds and yet, for some reason, these peoples not only maintained contact with each other, but also fostered mutual cultural diffusion, as is clearly visible in materials from the sites of both taxonomic units (Fig. 6).

In turn, traces of the influence of the Corded Ware culture have so far been cited in the form of examples provided by the pottery production of the Neman culture.³⁶ In this case, the intensity of contacts leading to 'Corded' cultural diffusions may be confirmed by research on the settlement structure of the Corded Ware culture, which included, in the area of Masovia and Podlachia, zones adjacent to or overlapping with the ecumene of the Neman culture community.³⁷ Traces reflecting the potential impacts of the Early Bronze Age

³³ Koško 1981, 166.

³⁴ Gurba 1973, 86, 87.

³⁵ Bargiel, Zakościelna 2005, 40.

³⁶ Józwiak 2003, 201–209; Domaradzka 2012, 35, 36; Manasterski, Januszek 2013, 28, 31–35.

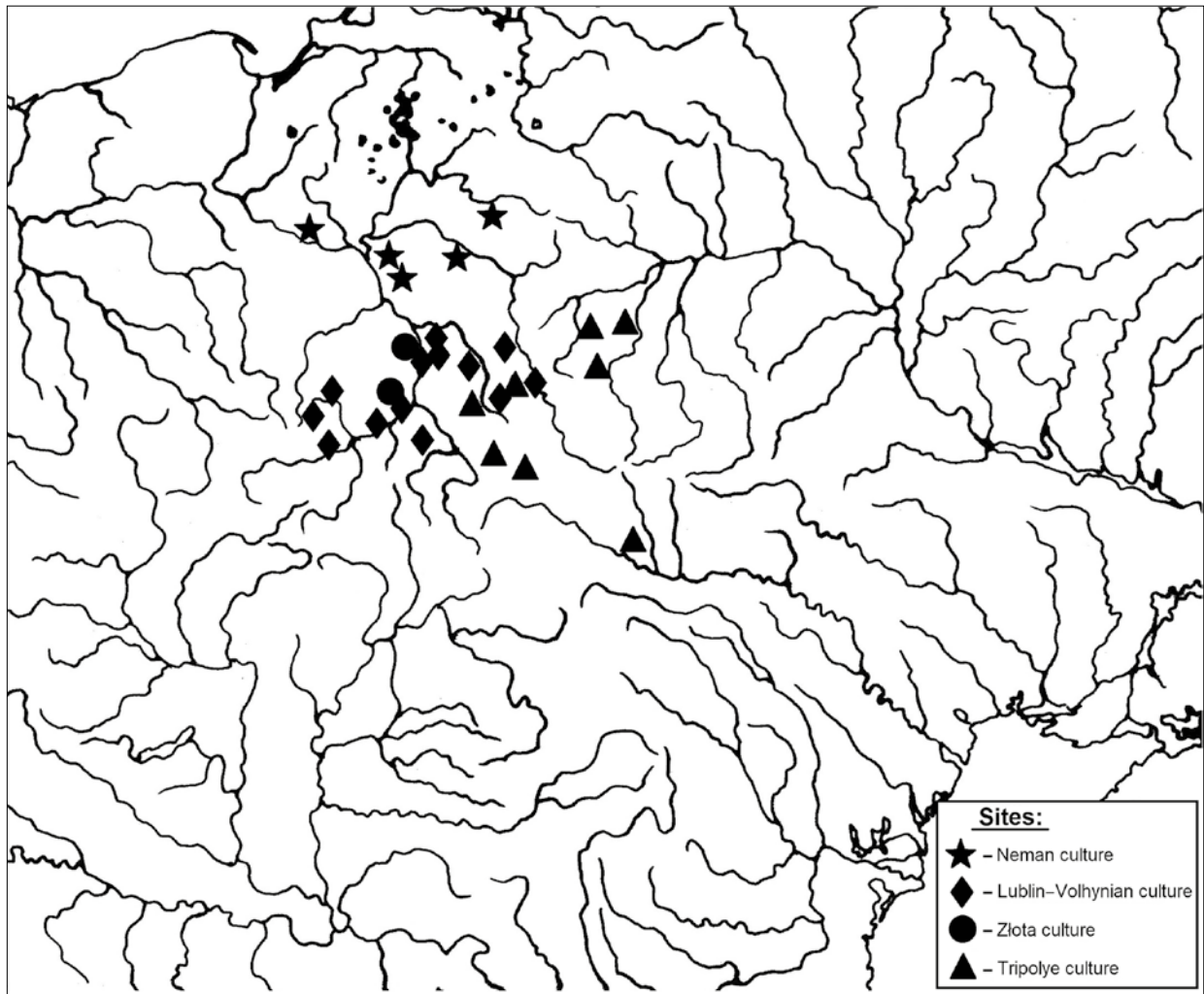


Fig. 6. North-western coverage of selected Late Neolithic cultures in comparison with the south-eastern range of projectile point assemblages in the Neman culture. Based on Zakościelna 1996, map 1; Zakościelna 2010, fig. 1; Józwiak, Domaradzka 2011, figs 3–9; Rybicka 2017, fig. 4 (drawings by B. Karch and W. Borkowski).

environment on the Neman culture show similar patterns.³⁸ Reminiscences of the described influences, in addition to decorative threads which are visible in Neman culture pottery, can also be observed in forest-zone flint projectile points. It should be assumed that if the traces of south-eastern impacts reflect the functioning of a system of contacts and connections of probably economic nature that has not yet been satisfactorily recognised, the material manifestations of the influence of the ‘Corded’

and ‘post-Corded’ groups are an expression of a kind of *signum temporis* which at the time set the rhythm of intensive and profound socio-cultural changes taking place in today’s Polish territory as well as in broadly defined Central Europe. A later result of these processes was a decline of the Late Neolithic and Early Bronze Age cultural structures that led to their integration within the emerging Trzciniec cultural circle, which in turn was an indication of the advent of the real Bronze Age.

³⁷ Bargieł, Zakościelna 2005, 41–43.

³⁸ Kadrow, Machnik 1997, 47; Bargieł, Zakościelna 2005, 43; Zalewski, Wójcik 2016, 89–94.

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