

DARIUSZ MANASTERSKI

Faculty of Archaeology,
University of Warsaw
dmanasterski@uw.edu.pl

POTTERY VESSELS AS EVIDENCE OF CULTURAL DIFFUSION IN THE LATE NEOLITHIC AND EARLY BRONZE AGE IN MASOVIA AND NORTH-EASTERN POLAND

ABSTRACT

In the Late Neolithic, the area of today's north-east Poland was a frontier of two different socio-economic and belief systems, one represented by societies based on a food-producer economy, the other by hunter-gatherer groups. They were involved in processes which led to the emergence of many local syncretic societies, the majority of which complied with the conventions of the para-Neolithic communities. This foundation, already complex in the Late Neolithic, was further differentiated as a consequence of the influence of the Bell Beaker and Iwno cultures. As a result, the multi-

vector processes that transpired between various societies at the time led to the formation of a new phenomenon in north-eastern Poland. It was characteristic for the Early Bronze Age and was called the Trzciniec culture, which was part of a much broader cultural convention known as the Trzciniec cultural circle. Due to the nature of the discoveries from this area, the phenomenon is best reflected in pottery, examples of which can be perceived not only in terms of utilitarian products but mainly as markers of contacts and evidence for diffusion.

Keywords: pottery, cultural diffusion, Late Neolithic and Early Bronze Age, Masovia and north-eastern Poland

Introduction

Despite being penetrated by agricultural and pastoral societies in the Late Neolithic and Early Bronze Age, north-eastern Poland and a major part of Masovia still remained dominated by groups belonging to the sizable East European circle of cultures with hunter-gatherer economies.¹ Therefore, this area became not so much a frontier between the two economic systems, but rather an extensively mixed zone which, in many cases, provoked mutual contacts and fostered relations between individuals and groups, as reflected in artefacts bearing evident traits of cultural syncretism. This is most clearly seen in pottery, which is also the basic material in the identification process.²

The lifestyle in the area was characterised by mobility connected with a hunter-gatherer or pastoral economy. This led to unstable settlement activity and the tempo-

rary nature of residential and economic structures, also resulting in a limited number of artefacts found at such sites. The preference for dune-type sites shown by the societies of that period also brought important but negative consequences for archaeological research. Factors such as light sandy soil, recurrent precipitation and the detrimental activity of humic acids led to the almost total decomposition of organic remains after centuries of exposure. This is particularly unfavourable for the establishment of chronology and prevents conclusive dating of archaeological sources, not to mention the absence of data associated with the economy or funerary rituals.

For the reasons listed above, pottery seems to be the only relatively reliable source of information. In most cases, the vessels are not preserved complete but are represented by sherds of various dimensions. The most important among these are decorated fragments since

¹ Kempisty 1973; 1989, 301–326; Okulicz 1973, 66–87; Wiślański 1979, 319–336; Gedl 1989, 414, map 21; Józwiak 2003, 69–92; Manasterski 2009, 134–149; 2016, 24–27.

² Kowalczyk 1969, 32–34; Kempisty 1973, 56–61; Gumiński 1999, 61ff; 2001, 133ff; 2012, 95–98; Manasterski 2009, 30ff; 2010; 2012; 2016, 118–120.

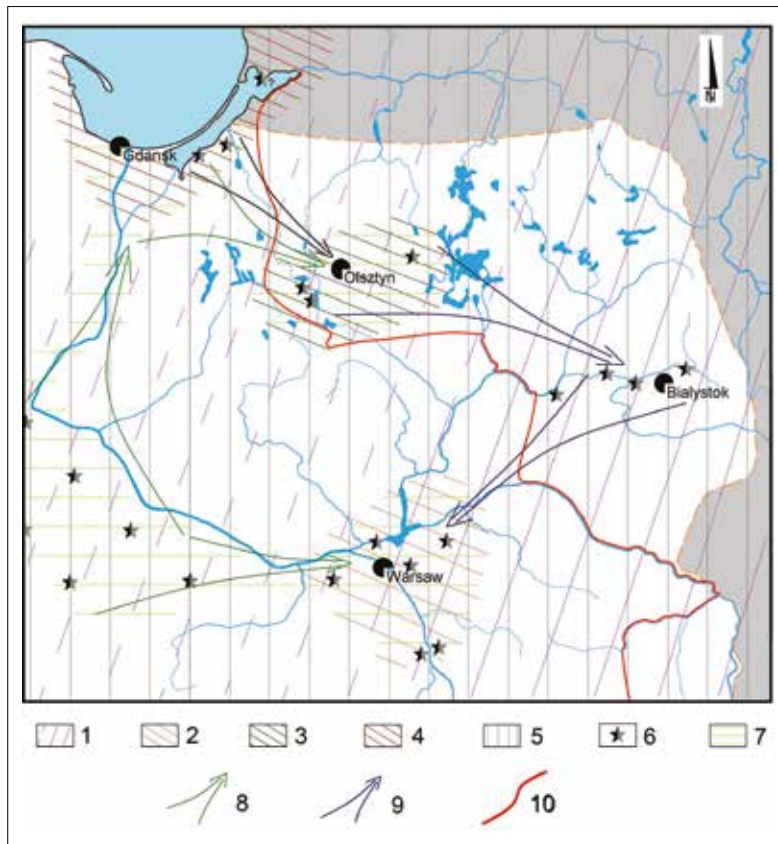


Fig. 1. Cultural entities in the Late Neolithic and Early Bronze Age and schematic directions of the 'expansion' of the Early Bronze Age styles of pottery.

1–3 – societies of the Neman cultural circle (1 – Neman group, 2 – Linin group, 3 – Ząbie-Szestno group); 4 – Rzucewo culture; 5 – ecumene and sub-ecumene of the Corded Ware culture; 6 – Bell Beaker pottery and pottery with a Bell Beaker stylistic component; 7 – ecumene and sub-ecumene of the Iwno culture in the area of emergence of the Trzciniec cultural phenomenon; 8 – direction of the influx of the Iwno culture style; 9 – direction of the influx of the Bell Beaker style; 10 – frontier of the North European and East European Plains.

decoration is often a signature that characterises the societies of different cultural groups,³ including those populating Masovia and north-eastern Poland in the Late Neolithic and Early Bronze Age (Fig. 1).⁴

The conclusive identification of complete vessel shapes proves much more problematic due to the fact that the pottery is usually heavily fragmented. It is also rather difficult or even impossible to draw conclusions on the makers' cultural affiliation based on the technological features of the vessels, particularly the composition of the clay body and the quality of firing since the makers mixed various technological traditions or even neglected technological regimes.

Methodology

It was assumed that an analysis of the stylistic features and their variations would enhance the understand-

ing of the processes that took place in the researched societies based on the following concepts: the assumption that pottery decoration was a signature that characterised different societies of various cultural groups,⁵ acknowledgement of the possibility that pottery also functioned in a non-utilitarian (stylistic) aspect,⁶ and Whallon's assumption that interactions between makers determined the nature of the diffusion of ideas and the stylistic practices within a given group or between different groups.⁷

The area of research was a territory occupied by Neolithic and para-Neolithic groups of various origins. Autochthonous hunter-gatherer populations of the Neman cultural circle were the most represented societies: the Linin group in central and north-eastern Masovia, the Ząbie-Szestno group in the Masurian Lake District, and the Neman group in north Podlachia, also identified, although to a relatively limited extent, in Masovia and the Masurian Lake District.⁸ They shared

³ Minta-Tworzowska 1994, 160–171, fig. 21, see further references therein.

⁴ Kempisty 1973, 35ff; 1989a, 262–272; 1989b, 301–326; Okulicz 1973, 66–133; Machnik 1978, 30–31; 1979, 339–343, 364–366; Wiślański 1979, 319–326, 331–336; Dąbrowski 1997,

90–92; Januszek, Manasterski 2012; Manasterski 2009, 30–31; 2016; Wawrusiewicz *et al.* 2015, 177–186; 2017, 159–176.

⁵ Minta-Tworzowska 1994, 160–171.

⁶ Watson 1977; Kobylińska 1980.

⁷ Cited after Kobylińska 1980, 197.

⁸ Manasterski 2016, 18–27.

comparable components and dynamics of change, leading to the emergence of societies of the Trzciniec type. In this part of the North and East European Plains, the end of the functioning of the Neolithic and para-Neolithic societies fell to the Early Bronze Age, in the formation phase of the Trzciniec culture as per its classical understanding. Thus the beginning and end of the transformations in this period can be indicated easily. On the other hand, the identification of the driving force – the initiator and catalyst of the process that contributed to the emergence of a new cultural value, the Trzciniec culture – poses serious problems. Circumstantial evidence derived from the analysis of ceramic sources from the area in question suggests that it was a substrate of allochthonous Bell Beakers. This article presents views on the identification and importance of various cultural components that participated in the development from the autochthonic Late Neolithic (para-Neolithic) pottery of the Neman cultural circle to the vessels of the Trzciniec type in the Early Bronze Age.

Pottery as a marker of cultural identification and evidence for diffusion

A generalised cultural image of the population occupying the area of north-eastern Poland and Masovia in the Late Neolithic and Early Bronze Age was compiled on the basis of research conducted so far, mainly using ceramic sources (Fig. 1). However, a more profound analysis, also supported by the latest discoveries, indicates that the image was much more complex and the changes were not the same everywhere. One of the most important insights was the realisation that this region was a distinct broad frontier zone of significant economic and cultural groups, within which syncretic societies emerged and functioned.⁹ The entities that took part in their formation were, on the one hand, hunter-gatherer cultures that had been functioning there for a long time and, on the other hand, the arriving agricultural and pastoral groups. These heterogeneous societies survived in the region until the macro-unification of the Trzciniec cultural circle, actively contributing to its formation.¹⁰ Scholars of the subject have been debating for decades on what culture-forming factors initiated this process. The strong influence of the Early Bronze Age cultures, especially the Iwno culture, is the most frequently mentioned driving force.¹¹ Alternatively, looking from a different perspec-

tive, the impact of the *Riesenebecher-Trzciniec* cultural package can also be considered as such.¹²

Nevertheless, the image of the transformations taking place to the east of the Iwno culture and the group's contribution represented so far have been subject to change as a consequence of both recent discoveries and a re-analysis of the older ones. Pottery plays the most significant diagnostic role in this case. The vessels in question are characterised by the presence of features which are typical of pottery created by the para-Neolithic, Late Neolithic, and Early Bronze Age societies occupying this area, as well as by syncretism reflected in various mixtures of different components, together with their non-homogeneous alterations, which, in extreme cases, display singular eclectic characteristics.¹³

Cultural components identified in pottery made in the Late Neolithic are either absent in the pottery of the Trzciniec cultural circle, which would suggest that their message became obsolete, or are still visible but to a varying degree, functioning as an 'evolutionary' link in the perception of progressing transformations. The stylistic features of these vessels are their most important distinctive attributes – their shapes combined with decoration. If only their fragments are available for analysis, the motives and patterns are the main carriers of information while the shaping techniques convey less information. Technological parameters are of secondary importance, as in this period traditional technologies associated with various cultural entities were abandoned.

The stylistic features of this pottery include:

1. the presence of decorative motives typical of the Neman culture: motifs made by stamping, with a furrow stitch, as well as perforations (Fig. 2) which evolved towards the pseudo-zone and pseudo-zone-metope patterns (Fig. 3);
2. the presence of decorative motives typical of the style characteristic for the Corded Ware culture and post-Corded Ware culture societies (Fig. 4), as well as their mixture with a para-Neolithic component which led to the emergence of one of the groups of the Linin style (Fig. 5);
3. the presence of decorative motives typical of the Bell Beaker culture style (Fig. 6) and their combination with a para-Neolithic component which led to the emergence of one of the groups of the Linin style (Fig. 7);
4. the presence of decorative motives of the late Linin style that were gradually enriched with early Trzciniec features which could be classified as the

⁹ Józwiak 2003; Czebreszuk 1998; Koško, Klochko 1998; Makarowicz 2001; Manasterski 2009; 2016.

¹⁰ Kadrow 1998, 407; Koško, Klochko 1998; Manasterski 2009, 148–149; 2016, 136; Makarowicz 2010, 24.

¹¹ Makarowicz 1998, 142–157; 2010, 24.

¹² Czebreszuk 2001, 150–169.

¹³ Manasterski 2009, 62–81; 2014a; 2016, 114–120; Wawrusiewicz *et al.* 2017, 159–176.

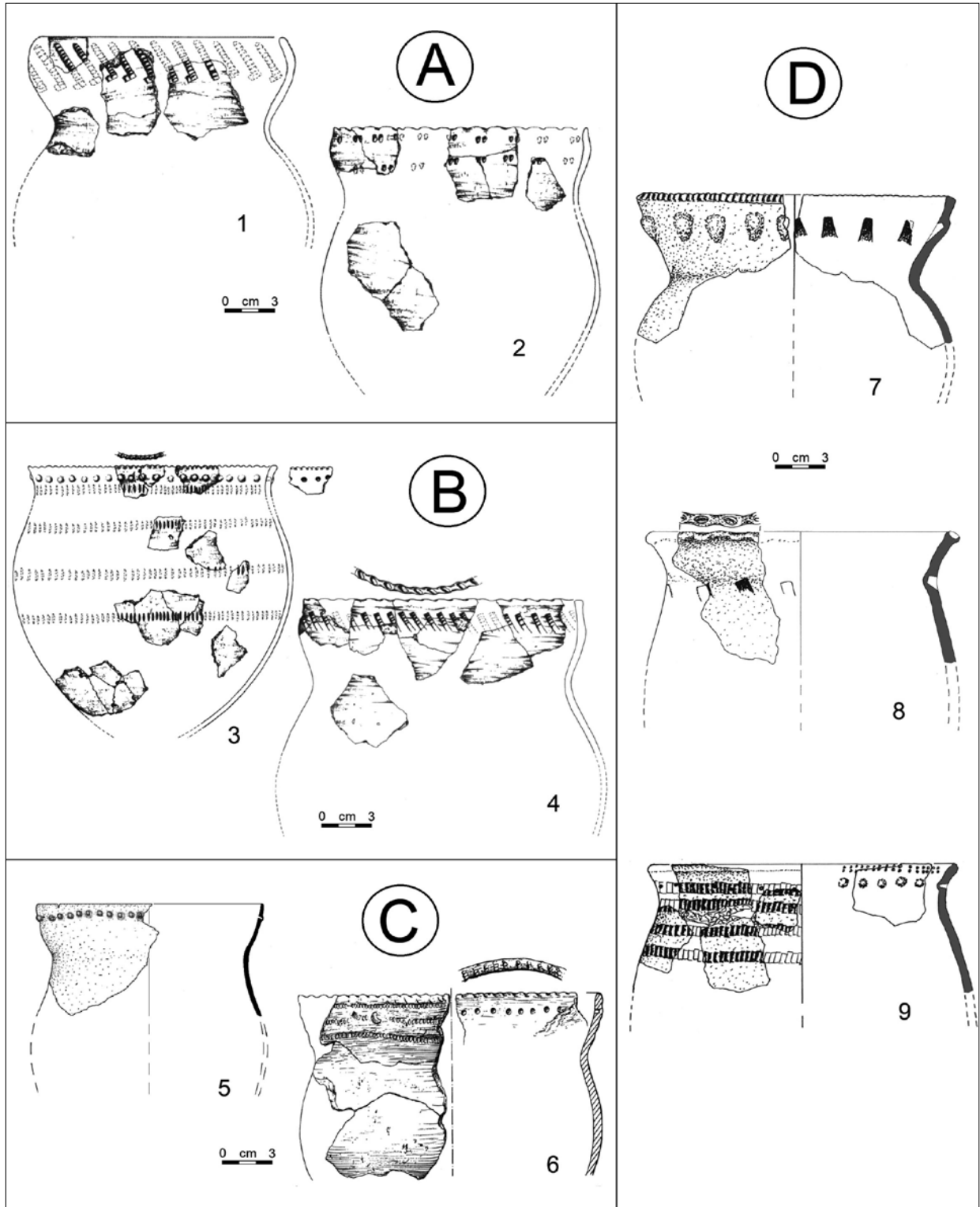


Fig. 2. Classic Neman vessels: A – north Podlachia, B – frontier of Masovia and Podlachia, C – Masovia, D – Masurian Lake District; 1–2 – according to Wawrusiewicz 2011, figs 4.1, 4.7; 3–4 – according to Wawrusiewicz *et al.* 2015, figs IV.8.1, IV.13.2; 5 – according to Manasterski, Januszek 2011, fig. I.5; 6 – according to Kempisty 1973, fig. XIX.1; 7–9 – according to Manasterski 2009, figs 39.8, 90.2, 21.6 (modified by D. Manasterski).

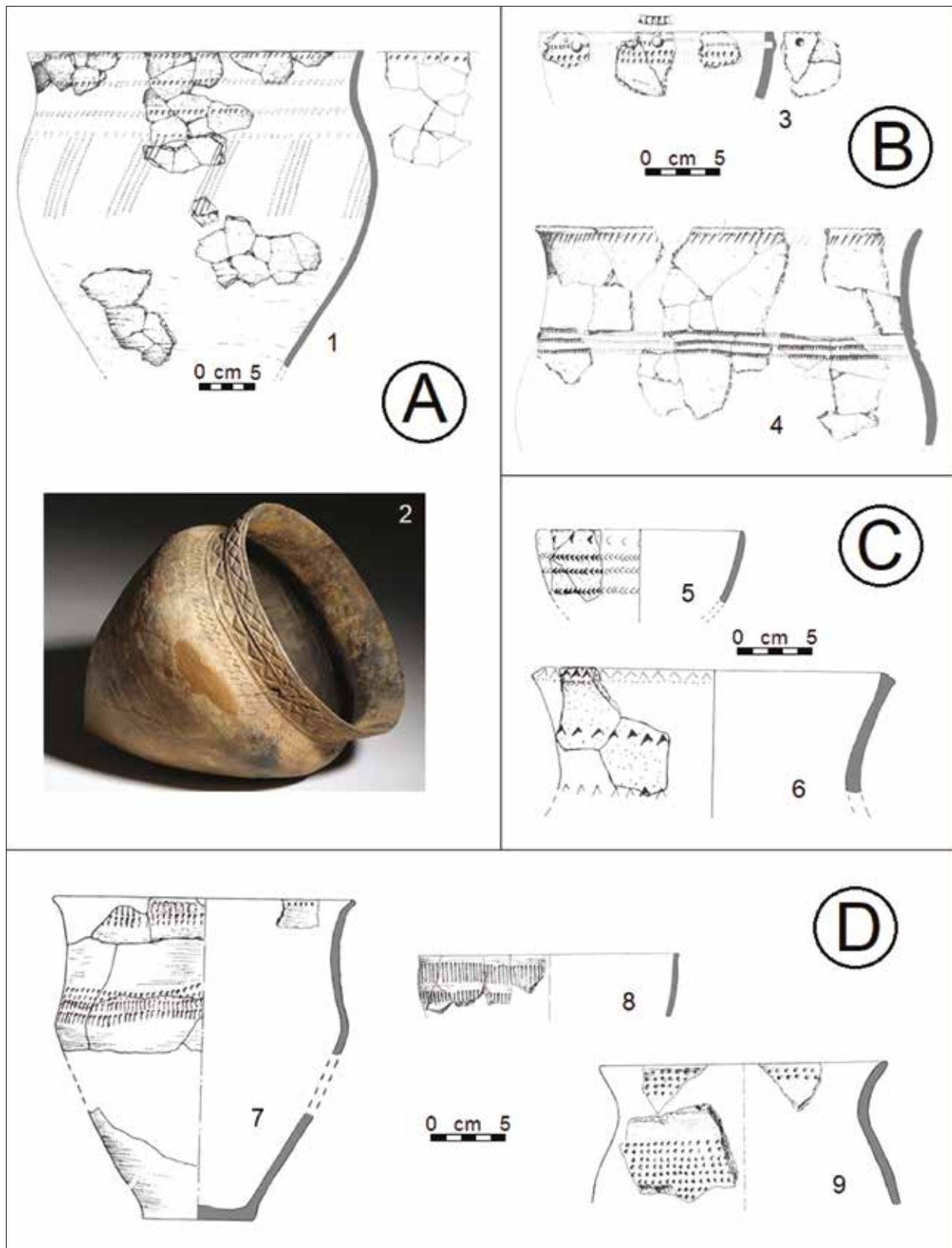


Fig. 3. Late Neman vessels: A – north Podlachia, B – frontier of Masovia and Podlachia, C – Masurian Lake District, D – Masovia; 1 – according to Wawrusiewicz *et al.* 2015, fig. 70; 2 – from the collections of the Podlasie Museum in Białystok, photo. A. Wawrusiewicz; 3–4 – according to Wawrusiewicz *et al.* 2017, figs V.66, IV.22.1; 5–6 – according to Manasterski 2009, figs 33.2, 33.4; 7–9 – according to Kempisty 1972, figs XXVI.20, XX.1, V.11 (modified by Manasterski).

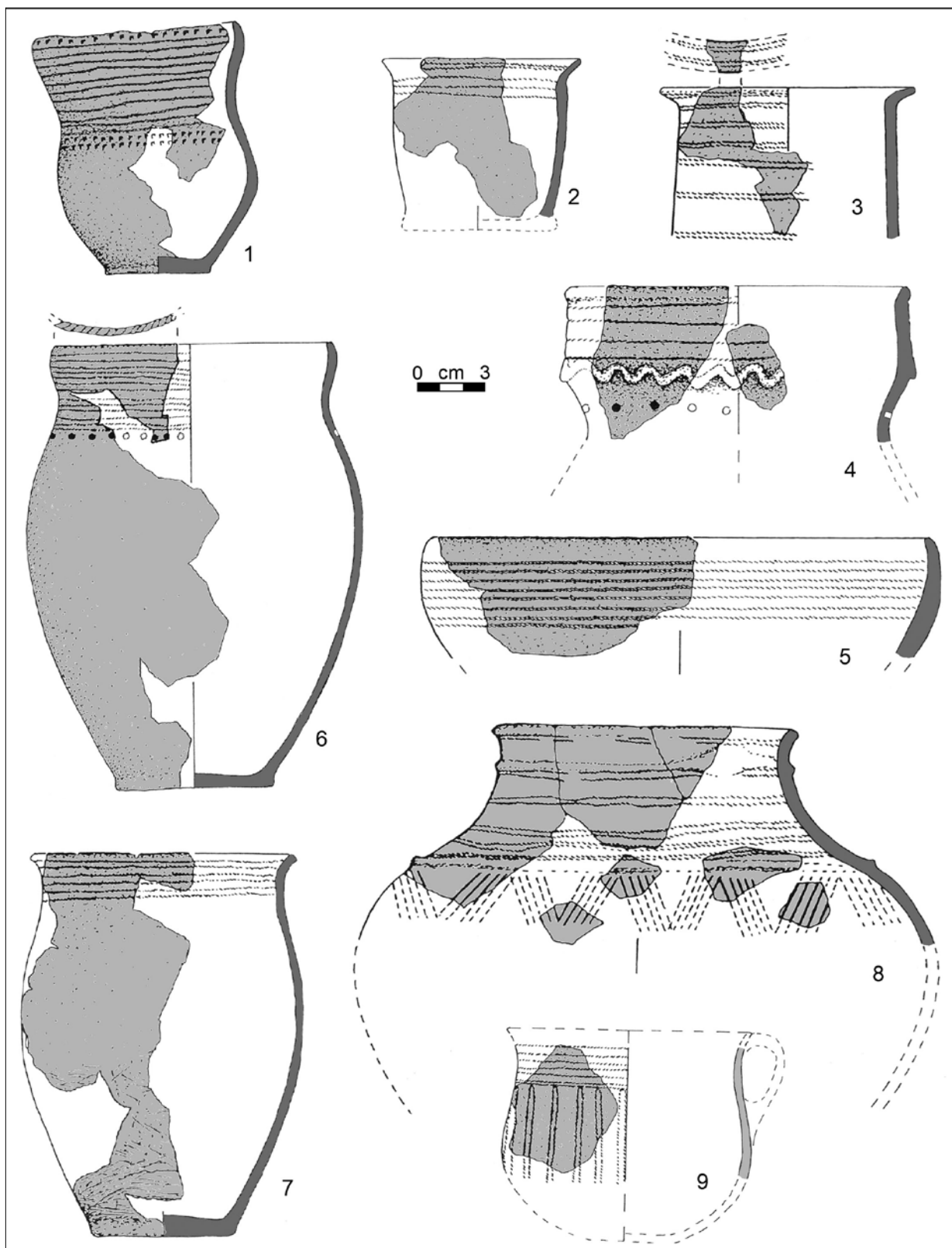


Fig. 4. Corded Ware culture and epi-Corded Ware culture vessels from the Masurian Lake District (according to Manasterski 2009, figs 54.10, 93.2, 84.3, 21.1, 38.5, 101.4, 1.7, 47.9 – modified by D. Manasterski).

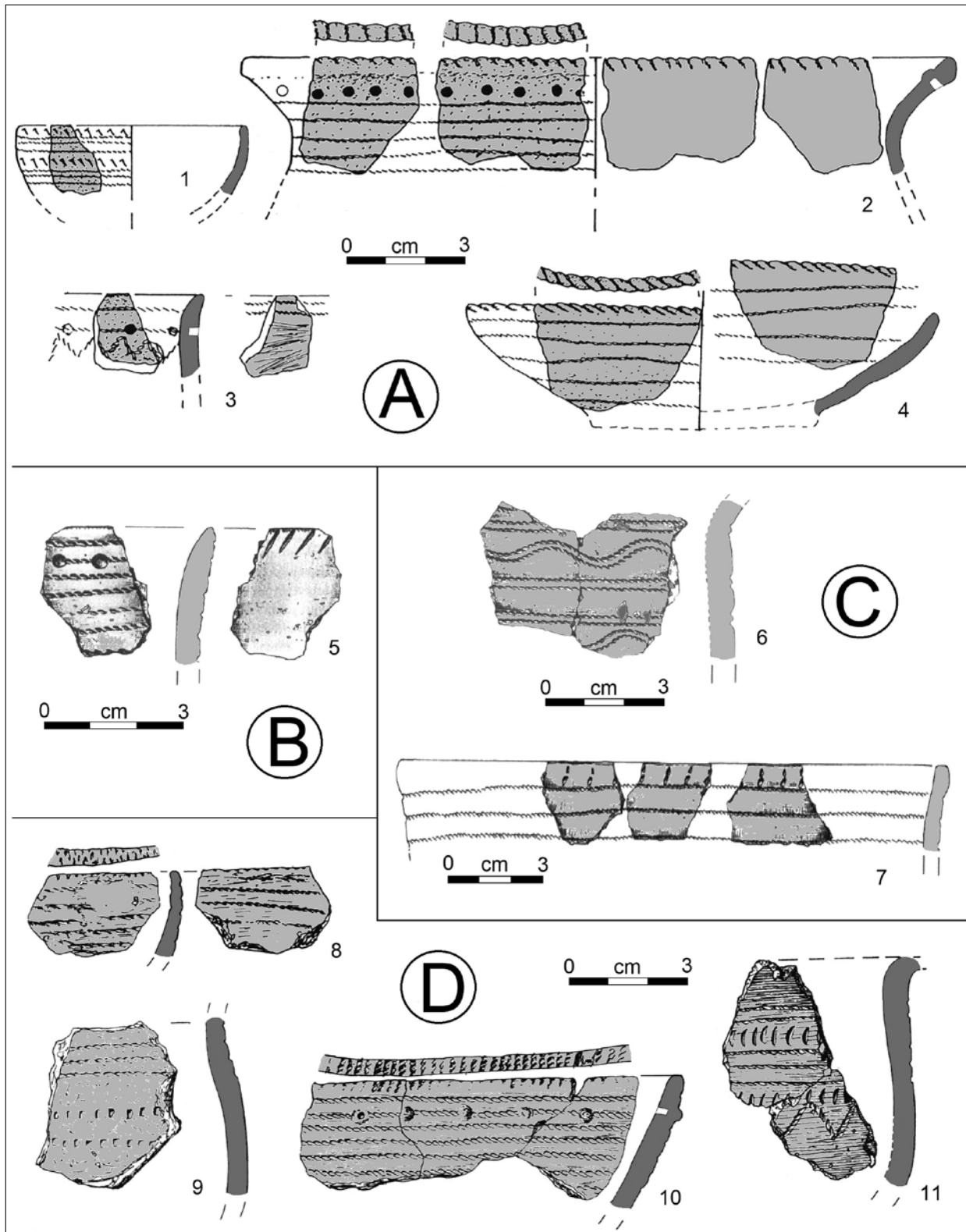


Fig. 5. Linin style vessels with a Corded Ware culture component: A – Masurian Lake District, B – north Podlachia, C – frontier of Masovia and Podlachia, D – Masovia; 1–4 – according to Manasterski 2009, figs 43.4, 48.10, 84.10, 23.2; 5 – according to Wawrusiewicz *et al.* 2015, fig. 58.1; 6–7 – according to Wawrusiewicz *et al.* 2017, figs III.60.5, III.60.6; 8–11 – according to Kempisty 1972, figs XIV.5, XXXIII.4, XIX.8, XI.11 (modified by D. Manasterski).

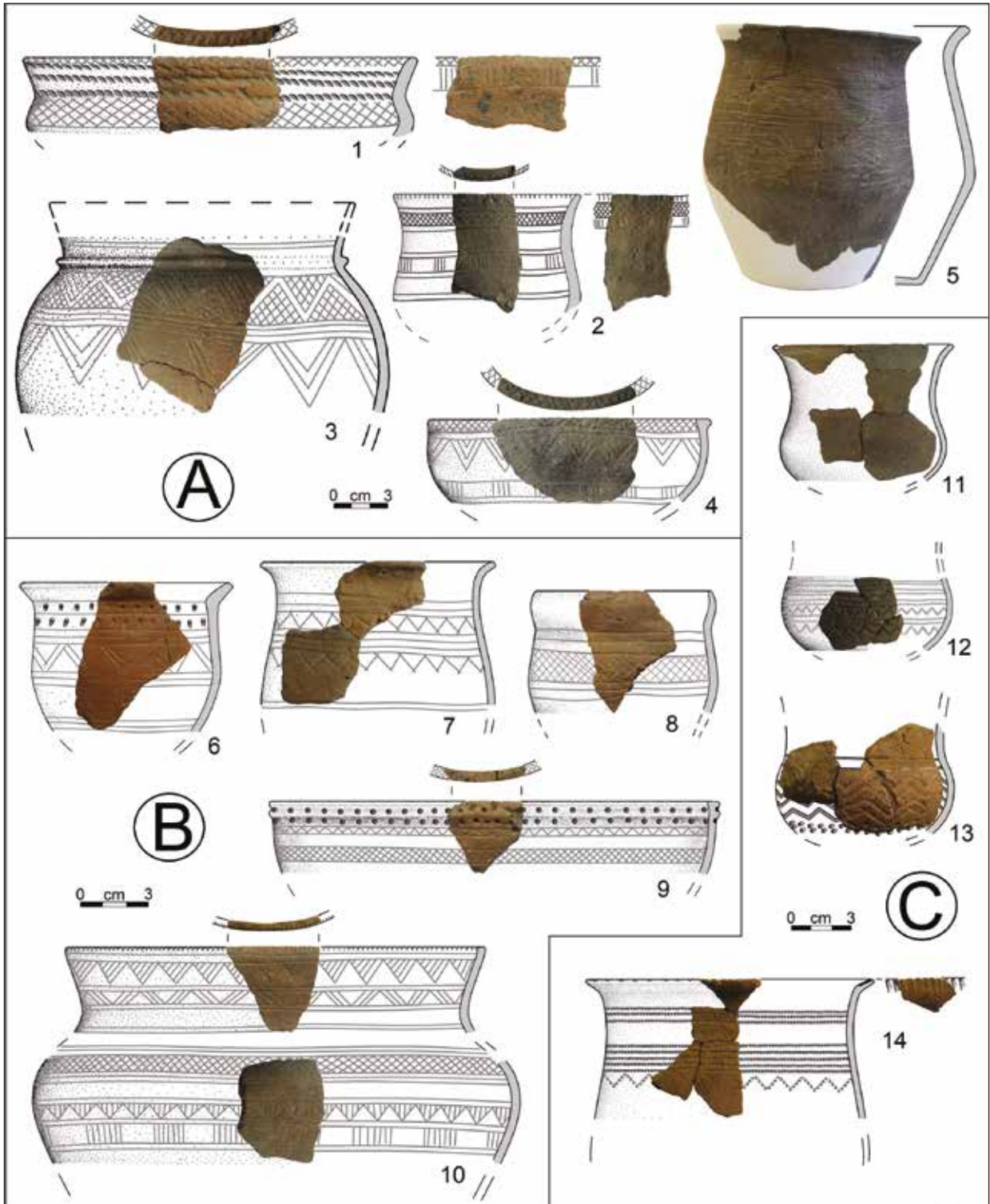


Fig. 6. Bell Beaker vessels: A – north Podlachia, B – Masurian Lake District, C – Masovia; 1–4 – according to Manasterski 2016, figs 8.1, 3.1, 6.1, 8.2; 5 – according to Wawrusiewicz *et al.* 2015, fig. 107.A; 6–14 – according to Manasterski 2016, figs 18.2, 18.1, 11.2, 15.1, 17.1, 22.1, 23.1, 22.2, 26.1 (modified by D. Manasterski).

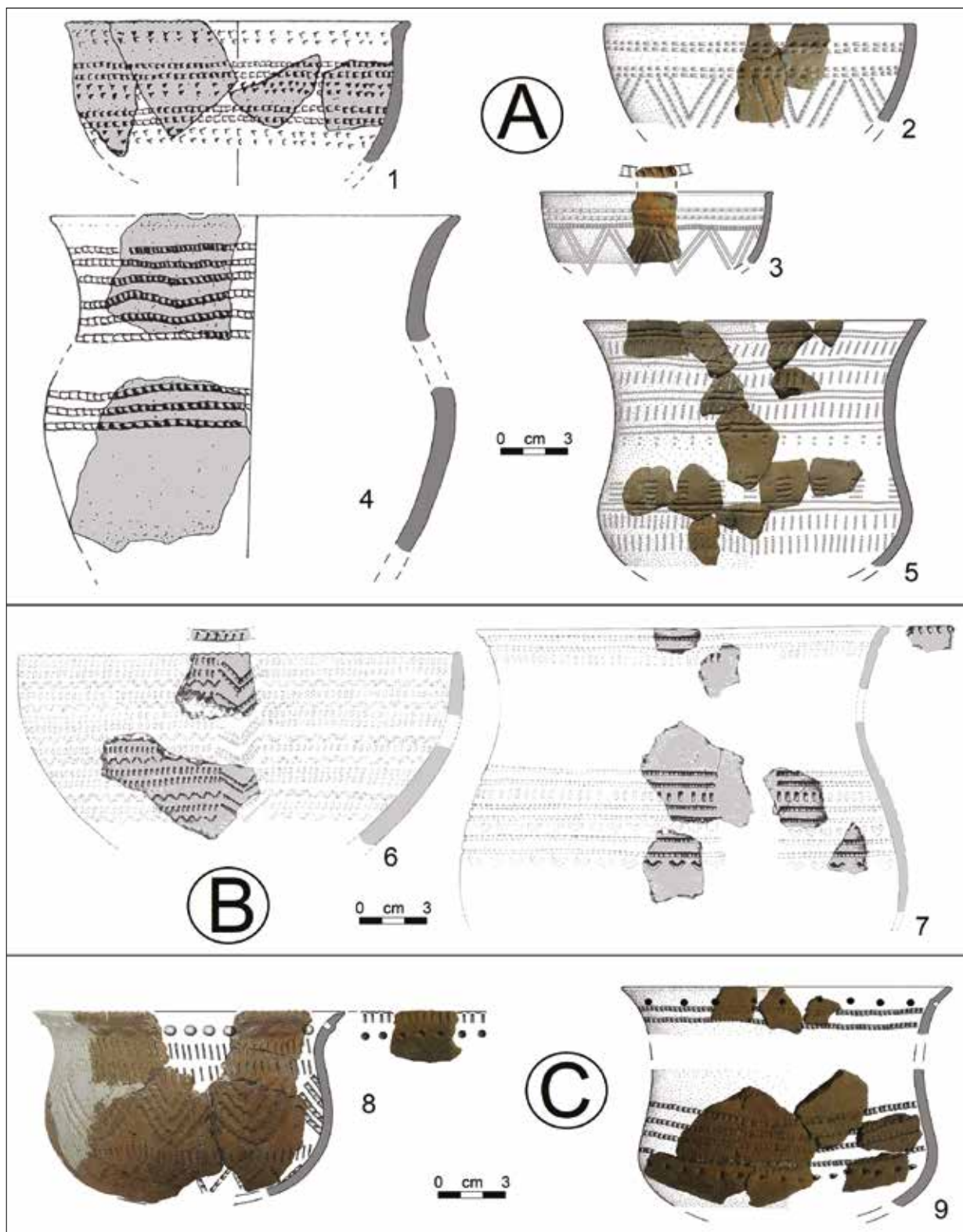


Fig. 7. Linin style vessels with a Bell Beaker component: A – Masurian Lake District, B – frontier of Masovia and Podlachia, C – Masovia; 1–5 – according to Manasterski 2009, figs 31.3, 16.3, 16.2, 35.6, 11.1; 6–7 – according to Wawrusiewicz *et al.* 2017, figs IV.18.2, IV.18.1; 8–9 – according to Manasterski 2016, figs 25.3, 26.2 (modified by D. Manasterski).

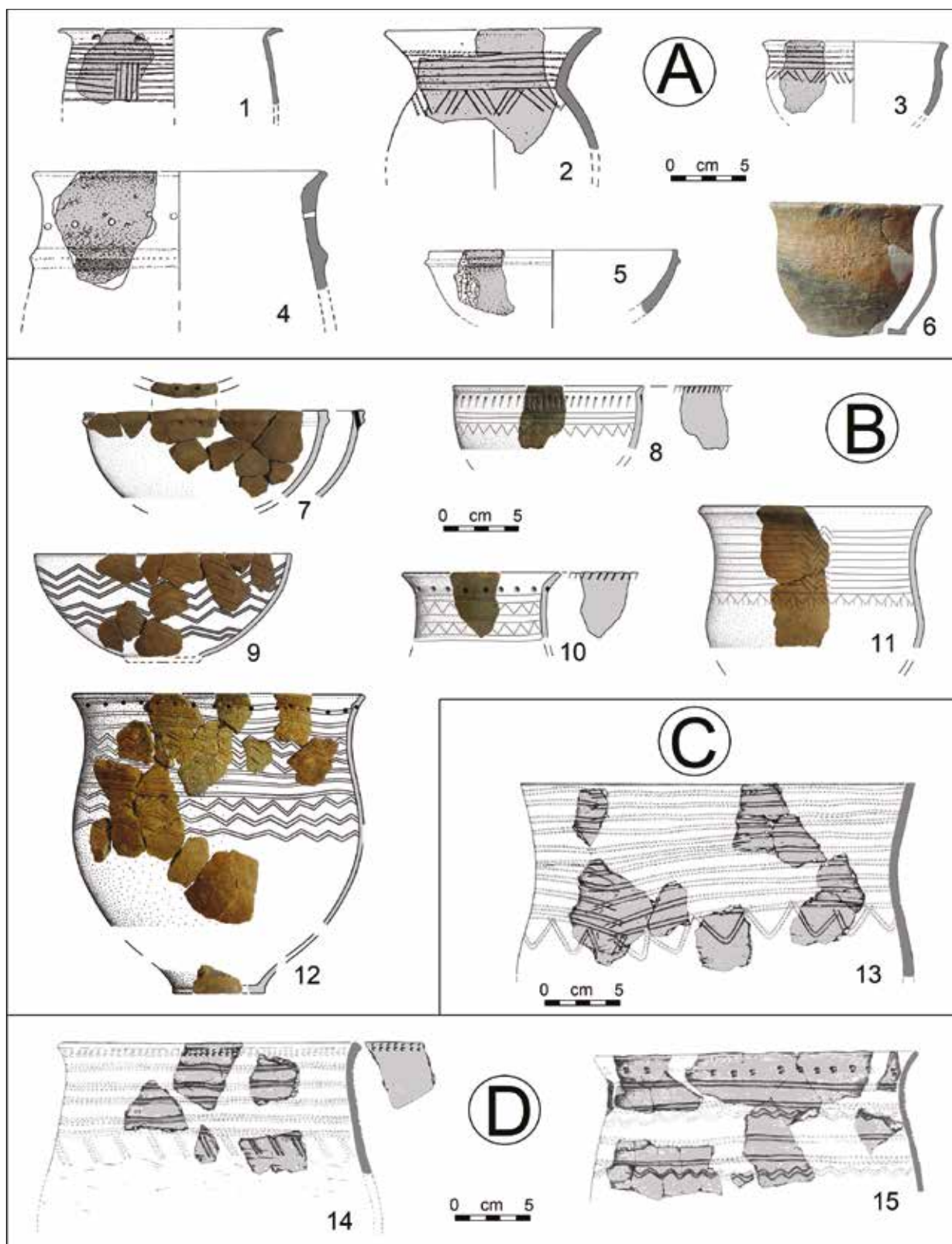


Fig. 8. Vessels representing Linin, proto-Trzciniac and early Trzciniac styles: A – Masurian Lake District, B – Masovia, C – north Podlachia, D – frontier of Masovia and Podlachia; 1–5 according to Manasterski 2009, figs 87.6, 11.7, 43.2, 95.3, 29.1, 17.2; 6–12 – according to Manasterski 2016, figs 24.1, 25.1, 24.2, 23.2, 28.2, 27.2; 13 – according to Wawrusiewicz *et al.* 2015, fig. 104; 14–15 – according to Wawrusiewicz *et al.* 2017, figs III.54.1, III.59.3 (modified by D. Manasterski).

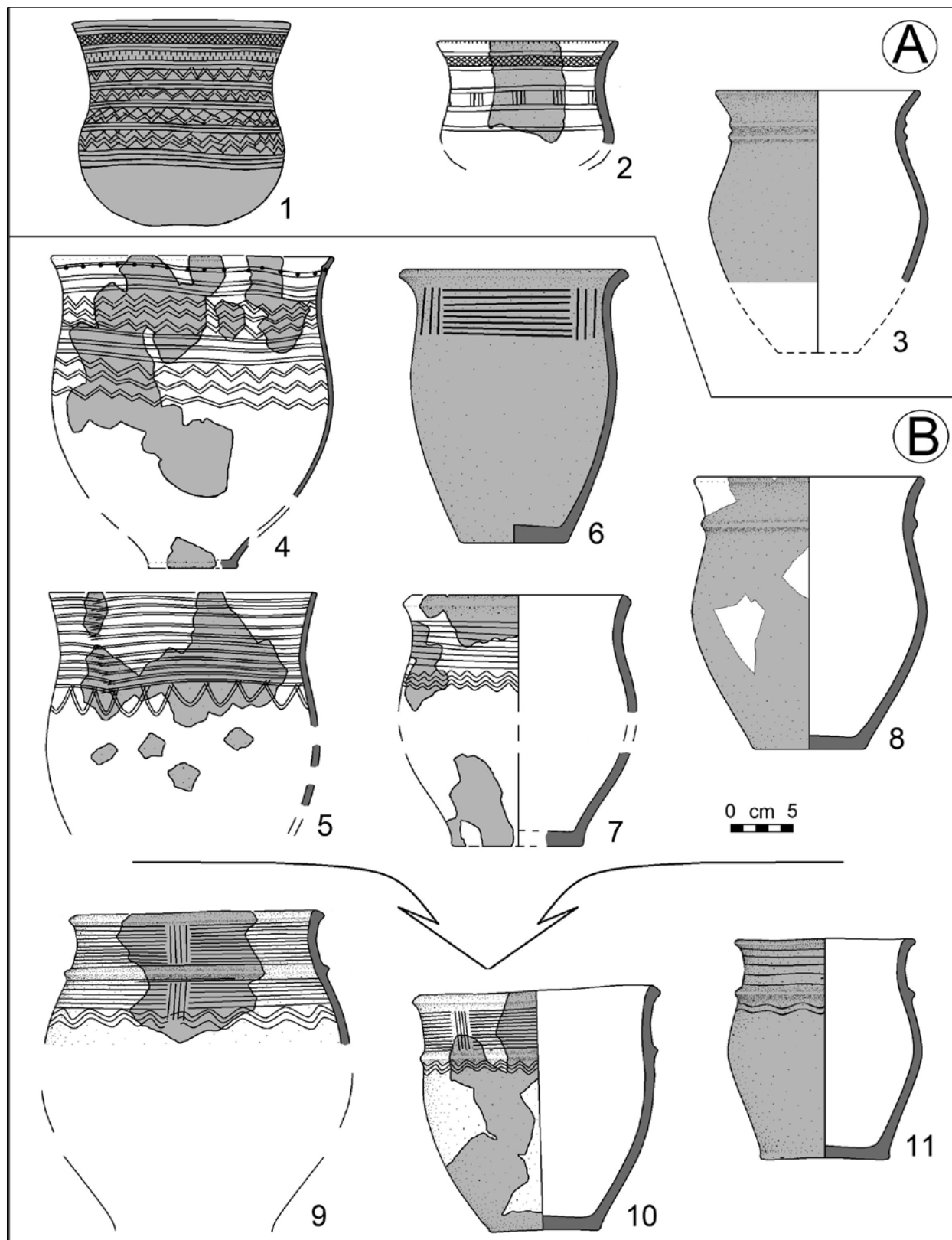


Fig. 9. Diagram of stylistic transformations of pottery associated with the diffusion of the Bell Beaker style in the middle and lower Vistula River basin – *Riesenebecher-Trzciniec* in the west and *epi-Bell Beaker Linin-Trzciniec* in the east: A – initial forms (bell beaker and *Riesenebecher*), B – intermediate and final forms (according to Manasterski 2016, fig. 42 – modified by D. Manasterski).

proto-Trzciniec style (Fig. 8) and which later reached the form of the classic Trzciniec style (Fig. 9).

Conclusions

As a result of the analysis, two regularities can be observed in this process. These could be regarded as crucial to understand the formation of a new cultural phenomenon in this region, namely the Trzciniec culture. Para-Neolithic societies subjected to the influence of the Corded Ware culture and Bell Beakers in the Late Neolithic were its foundations. Although Corded Ware culture artefacts are much more frequent than objects associated with the Bell Beaker culture, the influence of the latter was much more pronounced and could be seen, even if to a limited extent, in late Neman pottery (Fig. 3), and mainly in late Linin as well as proto- and early-Trzciniec vessels (Figs 8, 9). Interestingly, there was an additional contribution of the Iwno culture from the other side of the Vistula river in the Early Bronze Age (Fig. 1),¹⁴ which is most evident in the pottery style of the Linin and Ząbie-Szestno groups, i.e. the western branch-

es of the Neman cultural circle, but it cannot be traced in the Neman group.¹⁵

It should be emphasised that the diffusion process did not progress in the same manner across the whole area. Apart from differences at the macro-regional level (latitude), there were differences between the micro-regions resulting from the various degrees of absorption and processing of external factors by the local groups functioning at the time. As a consequence, there is a wide range of syncretic styles in pottery, from those produced by the most progressive societies, characterised by nearly identical copies of foreign patterns, to items made by the most conservative groups which did not accept new styles or adopted them only to a limited extent. The planigraphic study of the distribution of the sites leads to the conclusion that the former were located in the areas of waterways that ensured good communication: convenient river systems such as the Vistula and Narew rivers and their tributaries in Masovia and north Podlachia or the systems of rivers and lakes in the Masurian Lake District. Pottery made by the most conservative groups is known from areas isolated with natural barriers, e.g. large marshes and swamps, such as the waterlogged areas of the Biebrza River basin in north Podlachia.

Bibliography:

- Czebreszuk J. 1998 „Trzciniec” – koniec pewnej tradycji, (in:) A. Koško, J. Czebreszuk (eds), „Trzciniec” – system kulturowy czy interkulturowy proces?, Poznań, 411–429.
- Czebreszuk J. 2001 *Schylek neolitu i początki epoki brązu w strefie południowo-zachodniobałtyckiej (III i początki II tys. przed Chr.). Alternatywny model kultury*, Poznań.
- Dąbrowski J. 1997 *Epoka brązu w północno-wschodniej Polsce*, Białystok.
- Gedl M. 1989 Ogólna sytuacja kulturowa we wczesnym i starszym okresie epoki brązu w Europie, (in:) J. Kmiecinski (ed.), *Pradzieje ziem polskich I, 2. Od paleolitu do środkowego okresu lateńskiego. Epoka brązu i początki epoki żelaza. Wczesna epoka brązu*, Warszawa–Łódź, 401–414.
- Gumiński W. 1999 Kultura Zedmar a kultura Narva. Razem czy osobno, *Światowit I(XLII)/B*, 59–69.
- Gumiński W. 2001 Kultura Zedmar. Na rubieży neolitu „zachodniego”, (in:) J. Czebreszuk, M. Kryvaltsevich, P. Makarowicz (eds), *Od neolityzacji do początków epoki brązu. Przemiany kulturowe w międzyrzeczu Odry i Dniepru między VI i II tys. przed Chr., Archaeologia Bimaris. Dyskusje 2*, Poznań, 133–152.
- Gumiński W. 2012 Nowe wyjątkowe siedlisko osadnicze paraneolitycznej kultury Zedmar na wschodnim cyplu wyspy Szczepanki (sektor „A”) na Mazurach, *Światowit IX(L)/B*, 87–144.
- Januszek K., Manasterski D. 2012 Obiekt obrzędowy – depozyt przedmiotów symboliczno-użytkowych społeczności z wczesnej epoki brązu w Skrzyszewie, gm. Wieliszew, woj. mazowieckie, *Studia i materiały do badań nad neolitem i wczesną epoką brązu na Mazowszu i Podlasiu II*, 115–145.
- Józwiak 2003 *Spółeczności subneolitu wschodnioeuropejskiego na Niżu Polskim w międzyrzeczu Odry i Wisły*, Poznań.

¹⁴ Kempisty 1973, 58–61; Manasterski 2009, 124, 129–132; 2010; 2014b, 89–93; Makarowicz 2010, 15ff.

¹⁵ Józwiak 2003, 190–195; Manasterski 2009, 74–81; 2014a, 45–47; Wawrusiewicz et al. 2017, 159–176.

- Kadrow B. 1998 Środkowoeuropejski wymiar zaniku cywilizacji wczesnobrązowej: trzciniecki system społeczno-kulturowy u progu kariery, (in:) A. Koško, J. Czebreszuk (eds), „Trzciniec” – system kulturowy czy interkulturowy proces?, Poznań, 405–409.
- Kempisty E. 1972 Materiały tzw. kultury ceramiki grzebykowo-dółkowej z terenu Mazowsza i Podlasia, *Wiadomości Archeologiczne* XXXVII(4), 441–483.
- Kempisty E. 1973 Kultura ceramiki grzebykowo-dółkowej na Mazowszu i Podlasiu, *Wiadomości Archeologiczne*, XXXVIII, 3–75.
- Kempisty A. 1989a Kultura ceramiki sznurowej, (in:) J. Kmiecinski (ed.), *Pradzieje ziem polskich I, 1. Od paleolitu do środkowego okresu lateńskiego. Epoka kamienia. Neolit*, Warszawa–Łódź, 262–300.
- Kempisty A. 1989b Kultury paraneolityczne, (in:) J. Kmiecinski (ed.), *Pradzieje ziem polskich I, 1. Od paleolitu do środkowego okresu lateńskiego. Epoka kamienia. Neolit*, Warszawa–Łódź, 301–326.
- Kobylińska U. 1980 Problemy, metody i implikacje amerykańskiej „socjologii ceramicznej”, *Archeologia Polski* 25(1), 193–203.
- Koško A., Klochko V. 1998 „Trzciniec” – stabilizacja systemu cyrkulacji wzorców kulturowych na pograniczu „cywilizacji wczesnobrązowych” wschodniej i zachodniej Europy? Zasięg i mechanizmy zjawiska, (in:) A. Koško, J. Czebreszuk (eds), „Trzciniec” – system kulturowy czy interkulturowy proces?, Poznań, 397–404.
- Kowalczyk J. 1969 Początki neolitu na ziemiach polskich, *Wiadomości Archeologiczne* 34, 3–69.
- Machnik J. 1978 Wczesny okres epoki brązu, (in:) A. Gardawski, J. Kowalczyk (eds), *Prahistoria ziem polskich III. Wczesna epoka brązu*, Wrocław–Warszawa–Kraków–Gdańsk, 9–136.
- Machnik J. 1979 Krag kultur ceramiki sznurowej, (in:) W. Hensel, T. Wisłański (eds), *Prahistoria ziem polskich II. Neolit*, Wrocław–Warszawa–Kraków–Gdańsk, 337–411.
- Makarowicz P. 1998 *Rola społeczności kultury iwieńskiej w genezie trzcinieckiego kręgu kulturowego (2000-1600 BC)*, Poznań.
- Makarowicz P. 2001 Trzciniecki krag kulturowy – wspólnota pogranicza Wschodu i Zachodu, (in:) J. Czebreszuk, M. Kryvaltsevic, P. Makarowicz (eds), *Od neolityzacji do początków epoki brązu. Przemiany kulturowe w międzyrzeczu Odry i Dniepru między VI i II tys. przed Chr.*, *Archaeologia Bimaris. Dyskusje* 2, Poznań, 351–360.
- Makarowicz P. 2010 Trzciniecki krag kulturowy – wspólnota pogranicza Wschodu i Zachodu Europy, *Archaeologia Bimaris. Monografie* 3, Poznań.
- Manasterski D. 2009 *Pojezierze Mazurskie u schyłku neolitu i na początku epoki brązu w świetle zespołów typu Ząbie-Szeszto*, Warszawa.
- Manasterski D. 2010 Exchanges between syncretic groups from the Mazury Lake District in northeast Poland and Early Bronze Age communities in Central Europe, *Archaeologia Baltica* 13, 126–139.
- Manasterski D. 2012 Iwieńsko-trzciniecki komponent stylistyczny we wczesnobrązowej ceramice Pojezierza Mazurskiego, *Światowit* VII(XLVIII)/B, 89–94.
- Manasterski D. 2014a Mazowiecka ceramika z przełomu neolitu i epoki brązu ze zbiorów Państwowego Muzeum Archeologicznego w Warszawie, *Studia i Materiały do Badań nad Neolitem i Wczesną Epoką Brązu na Mazowszu i Podlasiu* IV, 31–75.
- Manasterski D. 2014b Od „Linina” do „Trzcina” – wpływ i ewolucja „pucharowej” stylistyki dekoracji naczyń jako przyczynę do badań nad kształtowaniem się społeczności wczesnej epoki brązu na Mazowszu i w Polsce Północno-Wschodniej, *Studia i Materiały do Badań nad Neolitem i Wczesną Epoką Brązu na Mazowszu i Podlasiu* IV, 77–109.
- Manasterski D. 2016 Puchary Dzwonowate i ich wpływ na przemiany kulturowe przełomu neolitu i epoki brązu w północno-wschodniej Polsce i na Mazowszu w świetle ceramiki naczyniowej, *Światowit Supplement Series P: Prehistory and Middle Ages* XIX, Warszawa.
- Manasterski D., Januszek K. 2011 Ślady osadnictwa paraneolitycznego i wczesnobrązowego na stanowisku 12 w Skrzyszewie, gm. Wieliszew, *Studia i Materiały do Badań nad Neolitem i Wczesną Epoką Brązu na Mazowszu i Podlasiu* I, 131–145.
- Minta-Tworzowska D. 1994 *Klasyfikacja w archeologii jako sposób wyrażania wyników badań, hipotez oraz teorii archeologicznych*, Poznań.
- Okulicz J. 1973 *Pradzieje ziem pruskich od późnego paleolitu do VII w. n.e.*, Wrocław–Warszawa–Kraków–Gdańsk.
- Watson P.J. 1977 Design analysis of painted pottery, *American Antiquity* 42(3), 381–393.
- Wawrusiewicz A. 2011 Okres neolitu i wczesnej epoki brązu na Podlasiu. Stan i perspektywy badań, (in:) U. Stankiewicz, A. Wawrusiewicz (eds), *Na rubieży kultur. Badania nad okresem neolitu i wczesną epoką brązu*, Białystok, 13–36.

- Wawrusiewicz A., Januszek K., Manasterski D. 2015 *Obiekty obrzędowe Pucharów Dzwonowatych z Supraśla. Złożenie darów – przejście terenu czy integracja kulturowa? Ritual Features of Bell Beaker in Supraśl. The Offering – Taking Possession of the Land or Cultural Integration?*, Białystok.
- Wawrusiewicz A., Kalicki T., Przędziecki M., Frączek M., Manasterski D. 2017 Grądy-Woniecko. Ostatni łowcy-zbieracze znad środkowej Narwi, Białystok.
- Wiślański T. 1979 Krąg ludów subneolitycznych w Polsce, (in:) W. Hensel, T. Wiślański (eds), *Prahistoria ziem polskich II, Neolit*, Wrocław–Warszawa–Kraków–Gdańsk, 319–336.