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‘TRZCINIEC’ POTTERY FROM ŻANĘCIN, OTWOCK DISTRICT, AS AN EXAMPLE OF SOUTHERN CULTURAL INFLUENCE IN THE MASOVIAN LOWLANDS

ABSTRACT

The Trzciniec Culture and Eastern Trzciniec Culture, or in more general terms the phenomena jointly known as the Trzciniec-Komarów-Sośnica Cultural Complex or the Trzciniec Cultural Sphere, are culturally heterogeneous Bronze Age communities dated to between ca. 1900 BC and ca. 1000 BC, inhabiting large swathes of Central-Eastern Europe. The only cultural marker enabling relatively reliable identification of the said communities is their characteristic pottery. For it is in the ceramic vessels where the echoes of cultural heritage of the societies that co-created this phenomenon have been preserved, along with various influences of social groups neighbouring them spatially and temporal-

ly. However, their identification and interpretation is far from straightforward, due to the scarcity of other types of artefacts, including bronzeware. One of such problematic questions is related to the reception of Transcarpathian cultural influences by south-western groups of the ‘Trzciniec’ communities (including those from Lesser Poland) and their transmission further northwards, into the Masovian Lowlands. The ‘Trzciniec’ settlement in Żanęcin, Otwock district, excavated five years ago, provided new and significant data shedding light on the question discussed above. The present text addresses the said research issues.

Keywords: Bronze Age, Trzciniec Culture, pottery, Masovian Lowlands, southern cultural influence, chronology

Introduction

The Trzciniec Culture and Eastern Trzciniec Culture, or in more general terms the phenomena jointly known as the Trzciniec-Komarów-Sośnica Cultural Complex or the Trzciniec Cultural Sphere, are nothing more and nothing less than archaeological concepts. They have their dedicated champions and enemies. However, what lies hidden behind them are name-

less and fairly heterogeneous socio-cultural units from the Bronze Age, dated to between ca. 1900 BC to ca. 1000 BC, inhabiting large swathes of Central-Eastern Europe.¹ One may even risk stating that the only thing that they really have in common, at least when it comes to elements preserved to this day and affording relatively reliable cultural identification of the said groups, is their characteristic pottery.² It is in the ceramic vessels where the echoes of cultural heritage of the societies that

¹ Makarowicz 2001; 2010.

² Czebreszuk 1998.

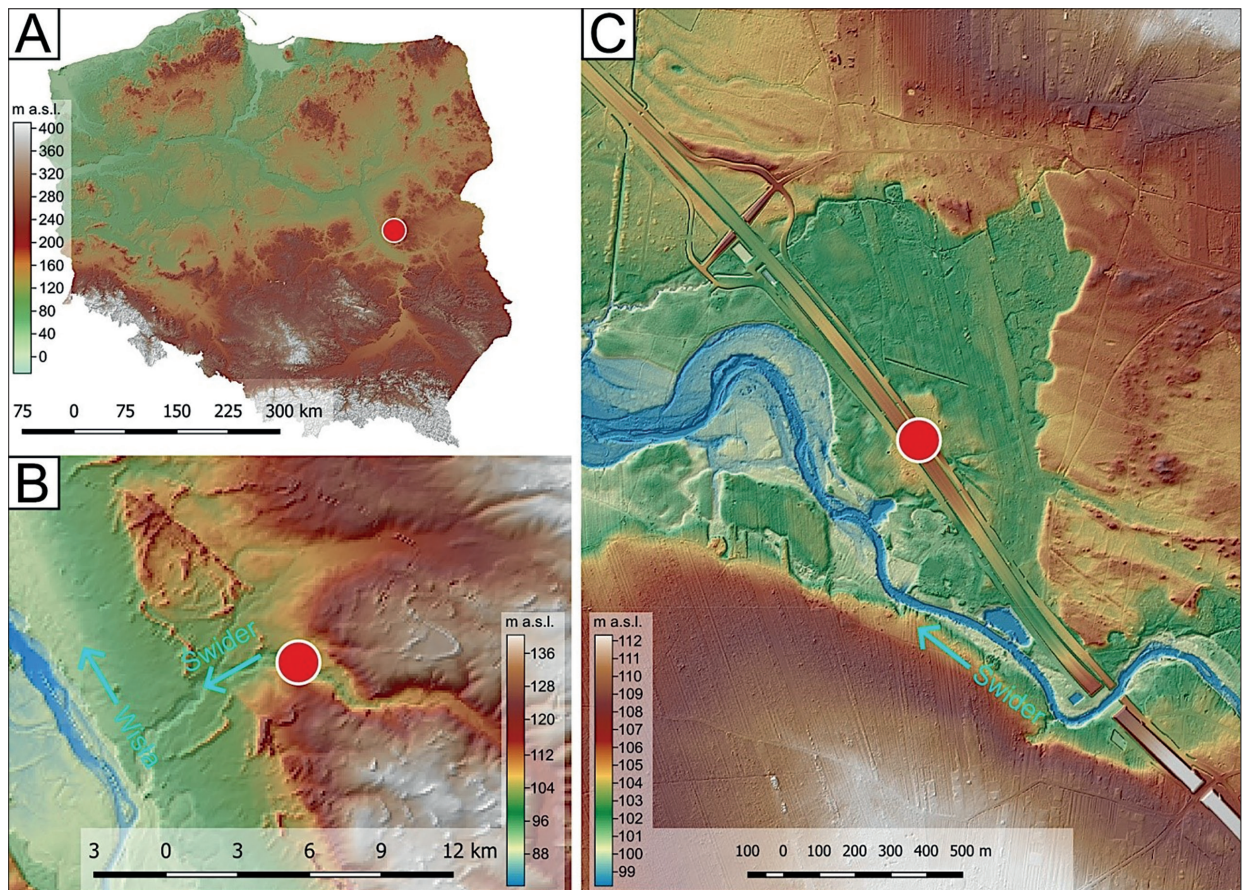


Fig. 1. Żanęcin, Site 9, Otwock district, Masovian voivodship. Site location marked on the schematic model of Poland's landform relief (A), a section of the Vistula valley (B) and a segment of the Świder River valley (C) (compiled by K. Żurek).

co-created this phenomenon have been preserved, along with various influences of social groups neighbouring them spatially and temporally.³ However, their identification and interpretation is far from straightforward, due to the relative scarcity of other types of artefacts, including bronzeware, which could support present inferences about various cultural relations and processes.⁴ One of such problematic questions is related to the reception of Transcarpathian cultural influences by south-western groups of the 'Trzciniec' communities (including those from Lesser Poland) and their transmission further northwards, into the Masovian Lowlands. The issue has already been noted by Jacek Górski, who considered the Vistula River as the main communication route.⁵ Whereas the Transcarpathian influences are clear along the left tributary of the said river, reaching

their limits in Kuyavia, similar traces have so far been scarce to the east of it. Moreover, they have been limited almost exclusively to potsherds from single vessels, all of which were decorated in a similar manner, characteristic for the Lesser Poland groups. This picture seems to be shifting as the excavations progress, mostly thanks to rescue works or investigations related to infrastructural investments. One such place, rich in new and significant data relevant for the present discussion, is Żanęcin, Otwock district (Fig. 1: A), where traces of habitation by members of the Trzciniec community are accompanied by a relatively large assemblage of pottery with southern inspirations. The present contribution aims to introduce the aforementioned ceramic artefacts and place them in the cultural context of the 'eastern branch' of the emerging meridian communication route.

³ Makarowicz 2010; Wawrusiewicz *et al.* 2015, 195; Manasterski 2016, 131–137; Wawrusiewicz *et al.* 2017, 173.

⁴ Makarowicz 2010, 333–359.

⁵ Górski 2011.

Materials and methods

Site 9 in Żanęcin, designated in the documentation of the National Institute of Cultural Heritage as AZP 58-69/78, is located in the Masovian voivodship, in Otwock district (Fig. 1: A, B). According to the adopted divisions of physico-geographical regionalisation, this area belongs to the Garwolin Plain – a mesoregion of denudation plains composed of sandy-clay deposits, forming part of the Central Masovian Lowland.⁶ The dominant soil types here are brown soils developed on loamy sands and glacial tills. In the eastern part, on the higher terraces of the Vistula, rusty soils occur, while the river valleys are dominated by alluvial and groundwater gley soils.

The site is situated on the elevation of a Pleistocene alluvial fan, dissected by the waters of the Świder River – a right-bank tributary of the Vistula. It is now an exposed area forming a fragmentarily preserved older terrace within the valley, near the right bank of the river's present-day channel (Fig. 1: C).

The archaeological excavations were commissioned by the General Directorate for National Roads and Motorways and carried out in 2019 by a consortium of companies: Zabytki, Badania, Projekty, Realizacje Michał Grabowski and Pracownia Archeologiczna Mirosław Mazurek. The research covered an area of nearly 7,000 m² and was related to the construction of the S17 expressway.⁷ The area designated for archaeological investigation was cleared of trees and shrubs and then covered with a survey grid aligned with the geographical coordinate system, where the ordinate axis was assigned lettered labels and the abscissa axis numerical labels. The modern humus layer, approximately 30 cm thick, was removed using machinery. The exploration of cultural layers and subsurface features (various types of pits and structural remains) was conducted manually. All finds were recorded three-dimensionally and documented both photographically and through drawings. Small pits were excavated in their entirety, while larger ones were divided into halves or quarters, with profiles of their fills also documented. The research confirmed human activity in this area during the Mesolithic, the Bronze Age, the Roman Period and the modern era – from the late 19th and throughout the 20th century. For the latter period, particularly distinct traces of combat from World War II were identified, significantly disrupting earlier stratigraphic sequences. However, the precise

three-dimensional recording of individual artefacts enabled further analysis⁸, especially detailed studies of Trzciniec Culture pottery, along with a spatial-contextual analysis of their distribution.⁹

Prehistoric artefacts, including the Bronze Age potsherds of interest, were recorded exclusively in the sub-surface strata – within a stratigraphically indistinct and completely eroded cultural layer. No subsurface features can be associated with this phase, as nearly all features identified at the site relate to the modern use.

The recovered materials underwent a preliminary cultural and chronological classification aimed at identifying key assemblages reflecting different phases of site use. This was achieved through a macroscopic comparison of raw material, technological and stylistic attributes. Of the 1,407 identified fragments of prehistoric pottery, as many as 1,381 (over 98%) were classified within the Trzciniec Cultural Circle and subjected to further detailed analysis. The remaining 26 fragments belonged to three vessels of the Lusatian Culture, which is associated with a completely different context.

The entire pottery assemblage relevant to this study was characterised using formalised analytical systems developed by researchers of the Kuyavia region, as well as the Lesser Poland patterns applied to the analysis of lowland assemblages of the Trzciniec Cultural Circle. Technological features were described according to the framework established by Janusz Czebreszuk,¹⁰ with later modifications and refinements by Przemysław Makarowicz.¹¹ Rim edges were classified based on the typology of Aleksander Kośko¹², while bases were characterised following the classification proposed by J. Czebreszuk.¹³ The description of decorative patterns and macromorphological features was based on the approach outlined by Jacek Górski.¹⁴ All data concerning the identification of formal characteristics of Trzciniec pottery are presented in tabular form (Tab. 1), while selected distinctive vessel fragments are illustrated graphically (Figs. 2, 3).

To determine the absolute chronology of Trzciniec settlement in Żanęcin, radiocarbon analyses were conducted in 2020 at the 14C and Mass Spectrometry Laboratory of the Institute of Physics, Silesian University of Technology in Gliwice. For the study, fragments of stylistically characteristic (ornamented) vessels were selected, on whose inner surfaces traces of organic substances – carbonised residues – were preserved (Fig. 4: A). This resulted in two BP dates: 2875±35 (GdA-6091)

⁶ Solon *et al.* 2018; Szumacher *et al.* 2021, 297.

⁷ Mazurek *et al.* 2020.

⁸ Mazurek *et al.* 2020.

⁹ Manasterski, Wawrusiewicz 2020.

¹⁰ Czebreszuk 1996, 12–29.

¹¹ Makarowicz 1998, 78–87.

¹² Kośko 1981, 32–33.

¹³ Czebreszuk 1996, 38–39.

¹⁴ Górski 2007; Górski *et al.* 2011a.

Table 1. Specification of Trzciniec Culture pottery from Site 9 in Żanęcin, Otwock district, Masovian voivodship.

Element no.	Fig. no.	Sec.	Inv. No.	Fragment ID	Technological type/group/cycle	Macromorphological type	Edge type	Bottom type	Decorative motif	Comments
1	3:1	A 7	82	k	6/J/IIb		2j		XIII	
2	3:3	A 7	82	b	6/J/IIb				XXa	
3		A 7	82	b	6/J/IIb				XXa	
4	3:2	A 7	82	b	6/J/IIb				XXb	
5		A 7	82	bd	6/J/IIb			?		
6		A 8	91	b	22/E/IIa				XXVII	
7		A 9	98	b	5/J/IIb				XVa	
8		B 6	83/37	k	22/E/IIa		17j			
9		B 7	88	k	15/E/IIa		19j			
10		B 7	88	szb	22/E/IIa				Id	
11		B 7	88	k	16/K/IIb		18j			
12		C 6	321	szb	22/E/IIa		18j		XVd	
13		C 7		k	15/E/IIa					
14		D 7	336	sz	22/E/IIa				XVa	
15		D 7	336	k	22/E/IIa		17h		XVa	
16		D 7	336	k	22/E/IIa		17e			
17		D 7	336	k	22/E/IIa		20j			
18		D 7	336	k	29/E/IIa		19e			
19		D 7	336	k	22/E/IIa		17h		XVa	
20		D 7	336	k	29/E/IIa		17h			
21		D 8	333	b	5/J/IIb				?	
22		E 7	375	k	7/L/IIc		17j			
23		E 7	375	k	18/L/IIc		17c			
24		E 7	375	b	18/L/IIc				*	*presumably fragment of XVa
25		E 8	374	k	24/J/IIb		17e			
26		E 10	361	k	22/E/IIa		17j		XVa	
27		E 10	361	k	22/E/IIa		17j			
28		E 10	361	d	19/L/IIc			15a		
29		E 11	347	k	22/E/IIa	G.2	9d		Ia	
30		E 11	347	sz	29/E/IIa				Ia	
31		E 11	347	sz	22/E/IIa				Ia	
32		E 11	347	b					?	
33	3:7	E 11	347	k	22/E/IIa	M.2.2.b	4h		XXIV	

Table 1. Cont.

Element no.	Fig. no.	Sec.	Inv. No.	Fragment ID	Technological type/group/cycle	Macromorphological type	Edge type	Bottom type	Decorative motif	Comments
34		E 11	347	k	22/E/IIa		17e		XVa	
35		E 11	347	k	29/E/IIa		20j			
36		E 11	347	szb	22/E/IIa				XVy	
37		E 11	347	k	22/E/IIa		17j			
38		E 11	347	k	19/L/IIc		17j			
39		E 12	358	k	29/E/IIa		1j		XVa	
40		E 12	358	k	19/L/IIc		19d		XVa	
41	2:3	F 8	373	szb	7/L/IIc				XVy	
42		F 8	373	szb	7/L/IIc				XVy	
43		F 8	373	k	19/L/IIc		19j			
44	2:2	F 8	373	k	22/E/IIa		19j		XVa	
45		F 8	373	k	22/E/IIa		17j		XVa	
46		F 8	373	k	22/E/IIa		17j			
47		F 9	373	sz	22/E/IIa				XVa	
48		F 9	344	k	22/E/IIa		1k			
49		F 9	373	k	19/L/IIc		18j			
50		F 10	329	k	19/L/IIc		17j		XVa	
51		F 10	346	szb	19/L/IIc				Ia	
52		F 10		k			26c			
53		F 10	329	szb	15/E/IIa				Ia	
54		F 10		k	22/E/IIa		17j?		XVa	
55		F 10	329	k	22/E/IIa		17j		XVt	
56		F 10	329	szb	19/L/IIc				XVy	
57		F 10	346	k	22/E/IIa		1j			
58		F 10	346	szb	29/E/IIa				Ia	
59		F 10	346	k	22/E/IIa		17j		XVa	
60		F 10	346	b	22/E/IIa				XVy	
61		F 10	346	szb	22/E/IIa				XVy	
62		F 10	329	k	16/K/IIb		19j		XVa	
63		F 10	346	k	29/E/IIa		2e			
64		F 10	346	szb	22/E/IIa				XVa	
65		F 10	346	szb					XVa	
66		F 10	346	sz	22/E/IIa				XVa	
67	2:1	F 11	359	kszb	22/E/IIa	G.1.1.1.	17j		XVy	
68	2:6	F 11	118	k			17k		XVy	

Table 1. Cont.

Element no.	Fig. no.	Sec.	Inv. No.	Fragment ID	Technological type/group/cycle	Macromorphological type	Edge type	Bottom type	Decorative motif	Comments
69		F 11	359	k	22/E/IIa		17j		XVt	
70	3:4	F 11	118	kszb	22/E/IIa	M.2.2.b	17l		XXIV	
71		F 11	328	szb	19/L/IIc				Ia	
72		F 11	118	k	22/E/IIa		19j			
73	3:6	F 11	359	k	22/E/IIa	M.2.2.b	17k		XXIV*	* with elements of XVa
74		F 11	359	k	22/E/IIa		17j			
75		F 11	359	k	22/E/IIa		17j		XVa	
76		F 11	359	k	29/E/IIa		17j		XVd	
77		F 11	118	k			18j		XVa	
78		F 11	359	k	22/E/IIa		2k			
79	2:4	F 11	359	kszb	19/L/IIc	G.1.1.1.	1e		XVy*	only wavy line with dots
80	2:7	F 11	359	ksz	15/E/IIa	G.1.1.1.	2c		Ia	
81	3:5	F 12	372	ksz	22/E/IIa	M.2.2.b	17j		XXIV	
82		F 12	233	b	22/E/IIa				XXIIj	
83		F 12	359	k	29/E/IIa		1j		XVa	
84		F 12	359	sz	8/L/IIc				XVy	
85		F 12	372	b	22/E/IIa				XXVII	
86		G 9	369	b	22/E/IIa				XVy?	
87		G 9	369/348	kszb	22/E/IIa	G.1.1.1.	20j		XVa	
88		G 9	348	k	22/E/IIa		1e			
89	4:A	G 9	369	szb	19/L/IIc				XVt	
90		G 9	370	k	16/K/IIb		1e			
91		G 9		k	18/L/IIc		17j			
92		G 10	370	k	7/L/IIc		17j		XVa	
93		G 10	348	k	22/E/IIa		1k			
94				k	19/L/IIc		1e			
95		G 11	119	?	19/L/IIc					
96		G 12	119	sz	18/L/IIc				XVt	
97		ZY 6	320	d	8/L/IIc			9b?	XVt	
98		ZY 5	334	sz	18/L/IIc				XVt	
99		ZY 8	327	sz	22/E/IIa				XVń	
100		ZY 8	327	k	22/E/IIa		19j			

Table 1. Cont.

Element no.	Fig. no.	Sec.	Inv. No.	Fragment ID	Technological type/group/cycle	Macromorphological type	Edge type	Bottom type	Decorative motif	Comments
101		ZZ 6	319	szb					XXVII	
102		ZZ 7	317	szb	8/L/IIc				Xvy	
103		ZZ 7	317	k	7/L/IIc		17j			
104		ZZ 7	317	b	7/L/IIc				XXVII	
105		ZZ 8	324	k	16/K/IIb		1e		XXIV	
106		ZZ 8	324	k	16/K/IIb		1e			
107		ZZ 8	324	b	22/E/IIa				XVv	
108	2:8	ZZ 8	324	b	6/J/IIb	fragment of a sieve-like vessel				
109		ZZ 8	324	b	6/J/IIb				XVa	
110		ZZ 8	324	k	6/J/IIb		50e			
111		ZZ 8		k			19j			
112		ZZ 8		szb					Ia	
113		ZZ 8	324	k	6/J/IIb		1e			
114		ZZ 8	324	?	6/J/IIb				XXIV	
115		Hałda	441	k	22/E/IIa		1j		Xva	
116		Hałda	441	k	6/J/IIb		17e?			
117	2:7	Hałda	441	kb	5/J/IIb	fragment of a spoon				
118				k	5/J/IIb		1e			
119		ZY 7		sz	22/E/IIa				XVt	

and 1180±45 (GdA-6092). Calibration using the OxCal 4.3 programme¹⁵ with the IntCal13¹⁶ calibration curve allowed for the determination of two time ranges, which, with a probability of 68.2%, can be placed respectively within 1112–1006 BC (Fig. 4: B) and 773–892 AD (Fig. 4: B, C). The second of the obtained results was clearly distorted and will not be taken into account in the analysis.

Results

The high degree of fragmentation of the ceramic material made it difficult to determine macromorphological

attributes. Their identification, with certain reservations, was only possible based on larger stylistically distinctive vessel fragments or individual features of their structure. The data obtained in this way are certainly incomplete, and the frequency of some vessel types may be significantly over- or underrepresented due to the distinctiveness of particular structural elements, such as bowl fragments, which are relatively easy to identify in highly fragmented collections. In the analysed assemblage of ‘Trzcinniec’ pottery, 11 forms were identified, including pots, bowls, a sieve-like vessel and possibly a clay spoon.

Among the pots, four specimens with an S-shaped profile and characteristic ‘Trzcinniec’ ornamentation, as well as macromorphological features of Type G.1.1.1,

¹⁵ Bronk Ramsey 2009.

¹⁶ Reimer *et al.* 2013.

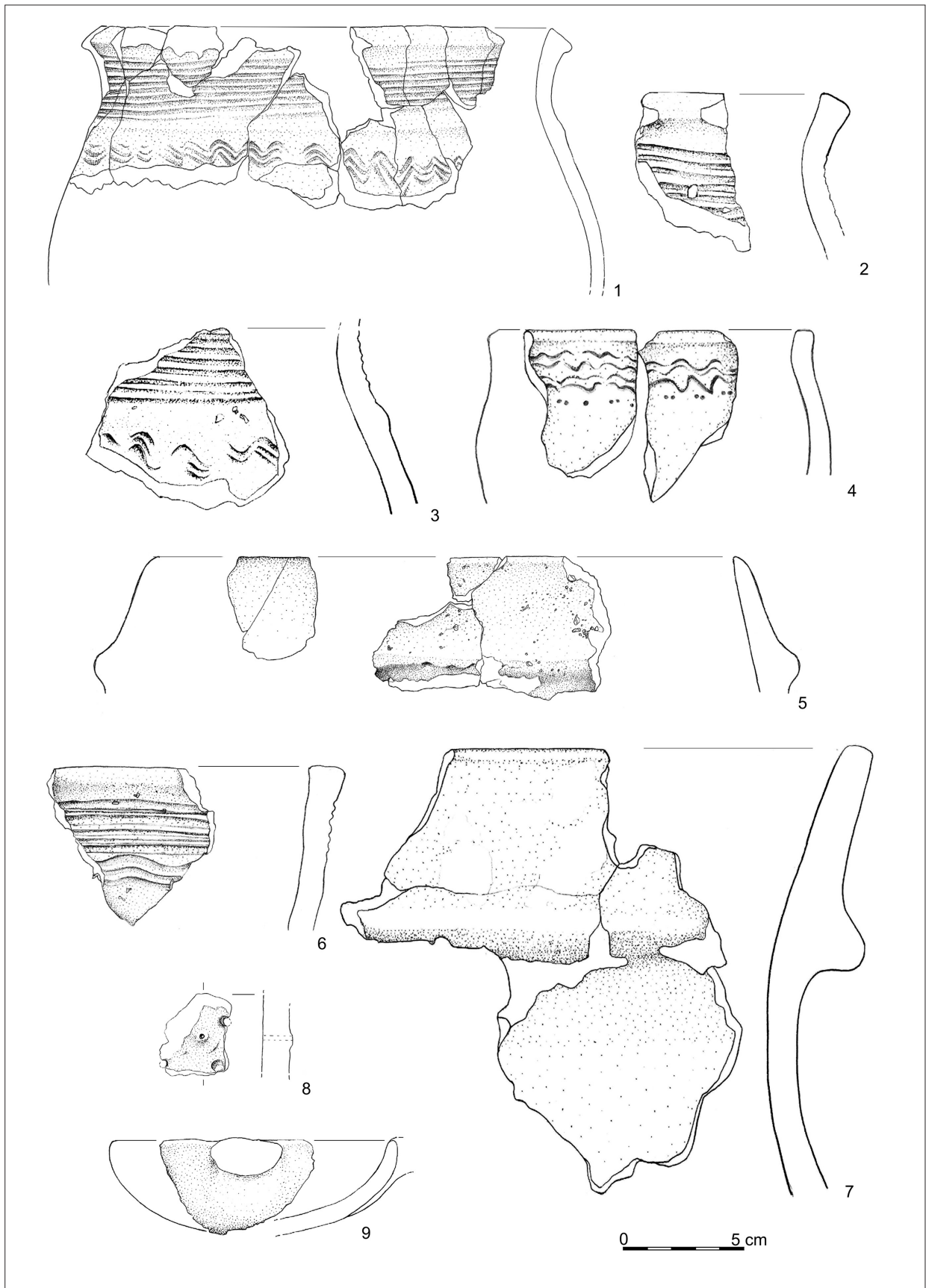


Fig. 2. Żanęcin, Site 9, Otwock district, Masovian voivodship. Selection of 'classic' stylistic elements of 'Trzciniac' pottery (based on Mazurek *et al.* 2020).

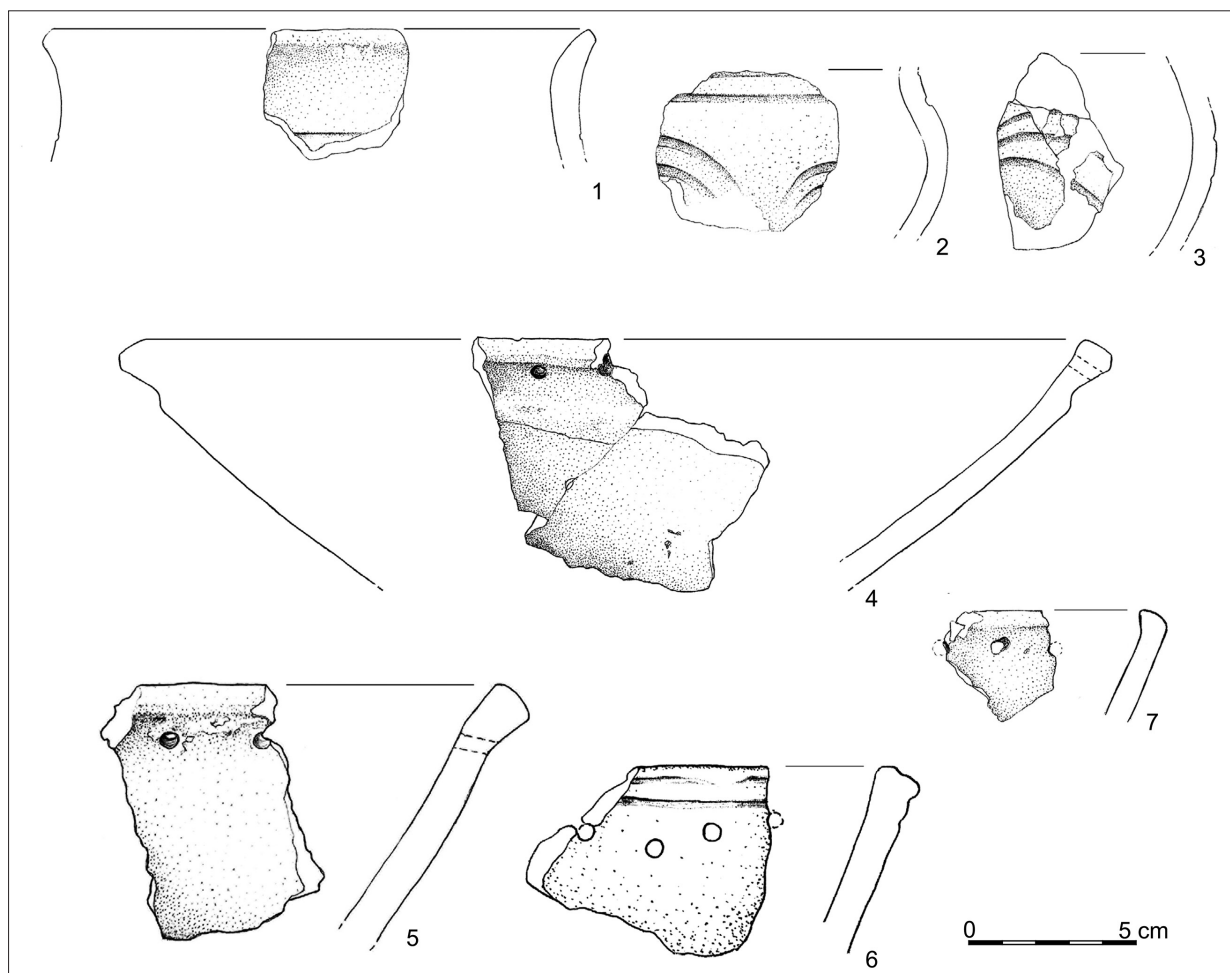


Fig. 3. Żanęcin, Site 9, Otwock district, Masovian voivodship. Selection of ‘southern’ stylistic elements of ‘Trzciniec’ pottery (based on Mazurek *et al.* 2020).

were identified (Fig. 2: 1, 4, 7).¹⁷ None were preserved in their entirety, and their identification was based on partially reconstructed upper sections. The S-profiled pots appeared in two main variants differing in decoration: one featuring horizontal grooves on the neck and upper part of the body, accompanied by a plastic band and a wavy line (Fig. 2: 1, 4), and the other displaying only a horizontal plastic band (Fig. 2: 7). The first variant was more common, as suggested by the identification of three specimens and the generally higher frequency of similarly ornamented fragments. Their reconstructed rim diameters range from 15 to 20 cm and are noticeably narrower than the maximum width of the body. The rims are mostly thickened and obliquely cut on the exterior side, though straight rims appeared occasionally. The second

variant – S-profiled ‘Trzciniec’ pots with a characteristic plastic band – was less frequent. This style is represented by a single better-preserved fragment of the upper part of a vessel with a slightly inward-thinned and rounded rim edge. However, determining its exact dimensions proved impossible (Fig. 2: 7).

Among the Trzciniec vessels, barrel-shaped pots (G.2)¹⁸ with a surrounding plastic band also appeared (Fig. 2: 5). One better-preserved specimen had a diameter of approximately 27 cm, with a rim that was distinctly thinned on the exterior side.

Another group of vessels consists of bowls (Fig. 3: 4–7), which are conical specimens (M.2.2).¹⁹ Their characteristic feature is an ornament, of questionable aesthetic value, consisting of a band of perforations beneath

¹⁷ Górski *et al.* 2011a, 38–39.

¹⁸ Górski *et al.* 2011a, 39, 44–45.

¹⁹ Górski *et al.* 2011a, 45; Górski 2023, 52.

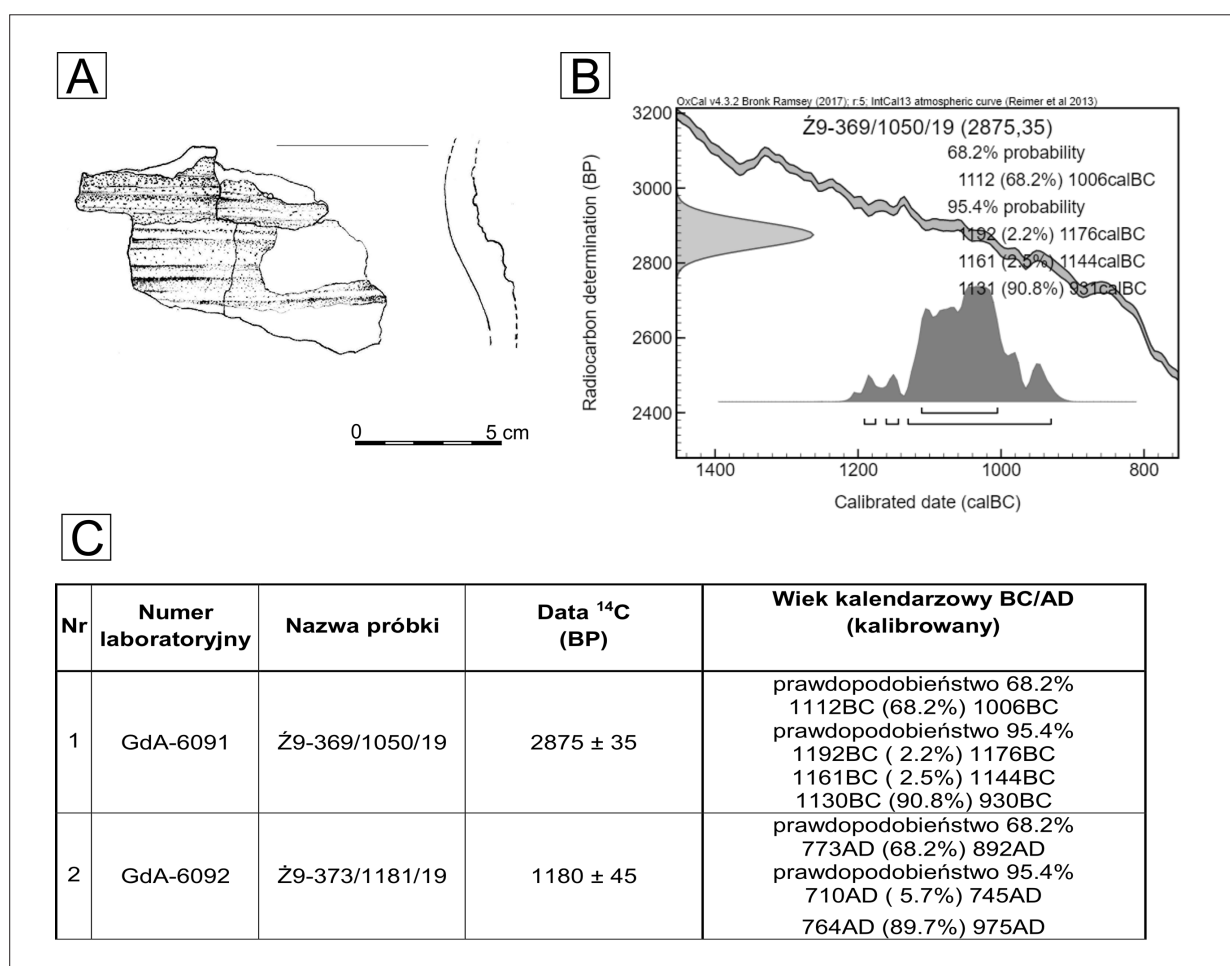


Fig. 4. Żanęcin, Site 9, Otwock district, Masovian voivodship. Potsherd dated by radiocarbon analysis – lab no. GdA-6091 (A) with calibration (B) and summary of all conducted analyses (C).

the rim, which allows classifying them within Type M.2.2b.²⁰ The rims of the bowls were shaped in a distinctive manner, with a slight thickening on the exterior side and a straight or diagonally cut edge. The state of preservation of these vessels obscured their exact original dimensions. The only better-preserved specimen has a reconstructed diameter slightly exceeding 30 cm (Fig. 3: 4).

The analysed ceramic assemblage also included a less distinctive fragment of a sieve-like vessel (Fig. 2: 8) and, most likely, a fragment of a large clay spoon with a broken handle (Fig. 2: 9).

Observations of micromorphological features were essentially limited to identifying the shaping methods of the rim edges. Thickened rims on the exterior side predominated (71.43%), with varying degrees of outward inclination and an 'obliquely cut' finish (Fig. 2: 1, 2). A small

but noticeable percentage (20%) consisted of straight rims with a predominantly curved, open finish (Fig. 2: 4, 7). Less frequent were specimens with rims that were restricted on both sides – horizontally cut or trimmed externally. Thinned rims appeared rarely, 7.14% (Fig. 2: 5), and forms with an overhanging lip were of marginal significance, represented by only one specimen (1.43%). A small number of fragments of flat bottoms were not preserved to a degree that would enable classification.

Considering the technological attributes, the 'Trzciniec' pottery from Żanęcin can be divided into four groups, primarily defined by the type and granulation of the additive used. The first and most numerous Group E (accounting for over 62%) consists of fragments of thin- and medium-walled vessels, in which the ceramic mass was tempered with large amounts of coarse crushed

²⁰ Górski 2023, fig. II.12.

stone. The grains are predominantly white in colour, with sporadically observed selected material in pink or heterogeneous hues. The fracture structure is mostly uniform, occasionally granular, indicating well-prepared ceramic mass. The liberal use and the size of additives result in the characteristic network of cracks on the surface and significant fragility of the walls. The surfaces were smoothed, though often imprecisely, as visible irregularities suggest that this was likely due to the large grain size of the additive. The light brown and/or reddish colour of the pottery suggests firing in an oxidizing atmosphere, but visible stains and discoloration indicate an unstable firing process, meaning it likely took place in an open hearth rather than a pottery kiln. Slightly over 24% of the pottery studied was assigned to Group L, where medium-grain crushed stone was used as the additive. The fractures are usually layered and 'lamellar', which is the result of less meticulous preparation of the ceramic mass. The surfaces are generally even and smooth, although they may also be wrinkled. The occasionally identified 'roughness' is probably the result of post-depositional processes. About 15% of the 'Trzciniec' pottery from Żanęcin was made in the technological convention corresponding to Group J, which encompasses the broadest range of technological experiences of the societies of Late Neolithic and Early Bronze Age from Central Poland.²¹ The main additive used was fine-grained crushed stone, sometimes with an identifiable amount of sand. This technique was used for both thin-walled and medium-thickness containers. The additive was typically added in large quantities. The fractures were either uniform or 'leaf-like', indicating relatively good preparation of the ceramic material. The surfaces were most often even, smooth, and showed visible traces of polishing tools. Less than 5% of the total fragments of vessels were classified into Group K. This is a specific variant of pottery that can be described as 'delicate'. It includes containers with wall thicknesses up to 6 mm, made from a ceramic mass with an additive of fine-grained crushed stone and sand.²² The fractures were typically uniform, occasionally layered, and the surface of the walls was usually smooth, although sometimes slightly wrinkled.

The decorative motifs were identified on 51 specimens (Tab. 1) and divided into seven ornamentation groups. The largest share, reaching 64.86%, consists of horizontal grooves located on the necks and/or upper parts of the bell-shaped vessels, most likely pots

(Fig. 2: 1–3, 6). They were often accompanied by a small, circumferential plastic band that horizontally separated the entire composition. At the bottom, the design was closed with a repeated wavy line or, less frequently, a row of short, diagonal grooves. Significantly fewer in number (13.51%), but also notable for their size, are the horizontal strips occurring independently, which were always located on the neck or upper part of the body (Fig. 2: 5, 7). The third in terms of frequency are the small holes (8.11%), which are, however, difficult to classify solely as decorative elements (Fig. 3: 4–6). Other motifs were recorded less frequently or as traces, such as stamps (5.41%), arches (4.05%) (Fig. 3: 2, 3) and pits.

Discussion

Technological, stylistic and morphological attributes of the Trzciniec Culture pottery from Żanęcin allow for the identification of three main components, the co-occurrence of which should be considered on the basis of their spatial dispersion and mutual chronological and topogenetic relationships. Undoubtedly, the most recognisable element is the presence of vessels characteristic of the so-called Podlachian-Masovian Group of the Trzciniec Culture.²³ This group consists of S-profiled pots, typically featuring a thickened and diagonally cut lip, decorated with a motif of horizontal grooves and/or plastic bands running along the neck or upper part of the vessel's body. These decorative elements are some of the distinctive characteristics of typical 'Trzciniec' pottery (Fig. 2).²⁴ In combination with the characteristic wavy line motif, this creates a distinct 'stylistic atmosphere' of the classical stages of development of the central Masovian groups,²⁵ which is also clearly present in Eastern Masovia and Podlachia.²⁶ The overall interaction of these attributes, along with the dominant technology of vessel production based on coarse-grained crushed stone (Technological Group E), corresponds to the post-Linin Stylistic Group 2a, distinguished based on the well-dated and extensive pottery assemblage from Site 1 in Polesie, Łowicz district.²⁷ Based on the typological, spatial and chronological data estimation conducted there, the period of functioning of the artefacts was determined to fall between the beginning of the 18th and the mid-14th century BC. However, other studies have suggested that similar forms may have persisted into the late developmental stages of the 'Trzciniec' groups.²⁸ One of

²¹ Czebreszuk 1996, 24.

²² Czebreszuk 1996, 24–25.

²³ Cf. Gardawski 1959.

²⁴ Górski *et al.* 2011a, 66–75.

²⁵ Taras 1995, map 6.

²⁶ Wawrusiewicz, Bienia 2014, fig. 7.

²⁷ Górski *et al.* 2011b, 97, 101, fig. 9.

²⁸ Taras 1995, 74.

the potsherds from Żanęcin, for which radiocarbon dating returned a range of 1112–1006 BC with a probability of 68.2% (Fig. 4), should also be placed in this stylistic context. This period is more than two centuries later than the typochronological schemes developed based on the findings from Site 1 in Polesie, located in the basin of the Bzura River – a western tributary of the Vistula.

The second group, rather specific and scarcely represented, consists of fragments most likely from a single vessel (a pot or a large jar) decorated with concentric arcuate grooves beneath horizontal grooves located at the transition between the neck and the body (Fig. 3: 1–3). These may have included knobs, but the state of preservation of the fragments does not allow for a conclusive verdict. In contrast to the ‘classical’ Trzciniec vessels, the shaping of the rim and the vessel’s manufacturing technology, based on a mixture of fine-grained crushed stone and sand, also differed. This, along with the other parameters, allowed for its classification within Technological Group J.

Vessels decorated with knobs encircled from above are rare in Central Masovia, having been known from only a few sites, including Linin,²⁹ where they are considered a result of southern, namely Transcarpathian, inspirations.³⁰ Similar patterns have also recently been recorded in the Trzciniec inventory from the site in Brwinów, Pruszków district.³¹ Relatively small assemblages have also been documented in the Bzura River basin, at the site in Polesie.³² Examples decorated in a similar way were found there, among others, in the context of Grave Ł150, radiocarbon dated to the range 1495–1425 BC,³³ and Feature B327, dated to 1370–1130 BC.³⁴ Vessels similar to the one from Żanęcin have also been recorded in the context of a Trzciniec-Mogiła settlement from Szczepidło, located in the Konin district, near the middle Warta River.³⁵ Based on a series of radiocarbon datings obtained there, the absolute chronology of pottery decorated with concentric arches was determined, placing it within the period of 1269–1236 BC with high confidence (68.2%).

The final, third component of the pottery from Żanęcin consists of bowls – conical vessels, all of which are decorated with a band of perforations below the rim (Fig. 3: 4–6). This form is unusual within the ‘Masovian’ pottery of the Trzciniec Culture, known only from a few sites located near the villages of Makowiec Duży³⁶ and Dębowce-Zdrojki (now Dębowce),³⁷ both in the Mińsk

Mazowiecki district. The mentioned specimens, although very similar, have a distinctly semicircular profile, which sets them apart from the examples from Żanęcin. Interestingly, the only area where such forms appear more frequently is Lesser Poland, particularly within the complex of Trzciniec Culture sites located around Nowa Huta. A substantial series of these vessels was discovered at Site 55 – *Kopiec Wandy* [Wanda Mound].³⁸ These bowls appear in the context of late Trzciniec Culture features. Their fragments were found, among others, in the fill of Feature 228, dated with high confidence (68.2%) to 1302–1204 BC, as well as in Pit B140, which was dated accordingly to the range of 1260–1214 BC.³⁹

As follows from the above considerations, the Trzciniec Culture pottery assemblage from Żanęcin, although scarce and poorly preserved, may serve as evidence of significant cultural processes. However, a correct interpretation of its various topogenetic elements requires an assessment of their relative homogeneity. This can be supported by spatial analyses based on the compiled planigraphic documentation (Fig. 5). A general observation of the spatial distribution of potsherds reveals two rather indistinct concentrations – one in the south and one in the north – separated by approx. 30–50 meters.

The first concentration covers an area of approximately 0.11 ha, where the vast majority of finds are clustered. This is also where the highest number of distinctive potsherds have been documented. In one location, all the ‘classic’ elements characteristic of the Podlachian-Masovian groups coexist, including horizontal grooves, incised wavy lines (Fig. 5: A) and plastic bands (Fig. 5: B). However, they are accompanied by the ‘Lesser Poland’ conical bowls (Fig. 5: C), which clearly coexisted with the classic elements.

The second concentration, located in the northern part of the investigated area, is significantly less distinct. It covers approx. 0.1 ha, with a noticeably smaller number of potsherds recorded. Similar to the southern concentration, classic elements are clearly present (Fig. 5: A, B), but the ‘Lesser Poland’ bowls are absent. Nonetheless, one of the sherds found there came from a vessel decorated with concentric arches (Fig. 5: D), whose stylistic features also indicate a southern provenance.

No significant technological differences could be found between the two concentrations. The frequency of individual technological types is similar.

²⁹ Gardawski 1959, tab. XLIX:2.

³⁰ Górski 2011, 281.

³¹ Skorupska, 2013, tab. 2:4.

³² Górski *et al.* 2011a, fig. 2.43: 1, 3, 7.

³³ Górski *et al.* 2011a, fig. 3. 29.

³⁴ Górski *et al.* 2011a, fig. 3. 31.

³⁵ Makarowicz 2016, fig. 78.

³⁶ Gardawski 1959, tab. L: 2.

³⁷ Taras 1995, 63, 67.

³⁸ Górski 2023, 52.

³⁹ Górski 2023, 52, tab.III.1.

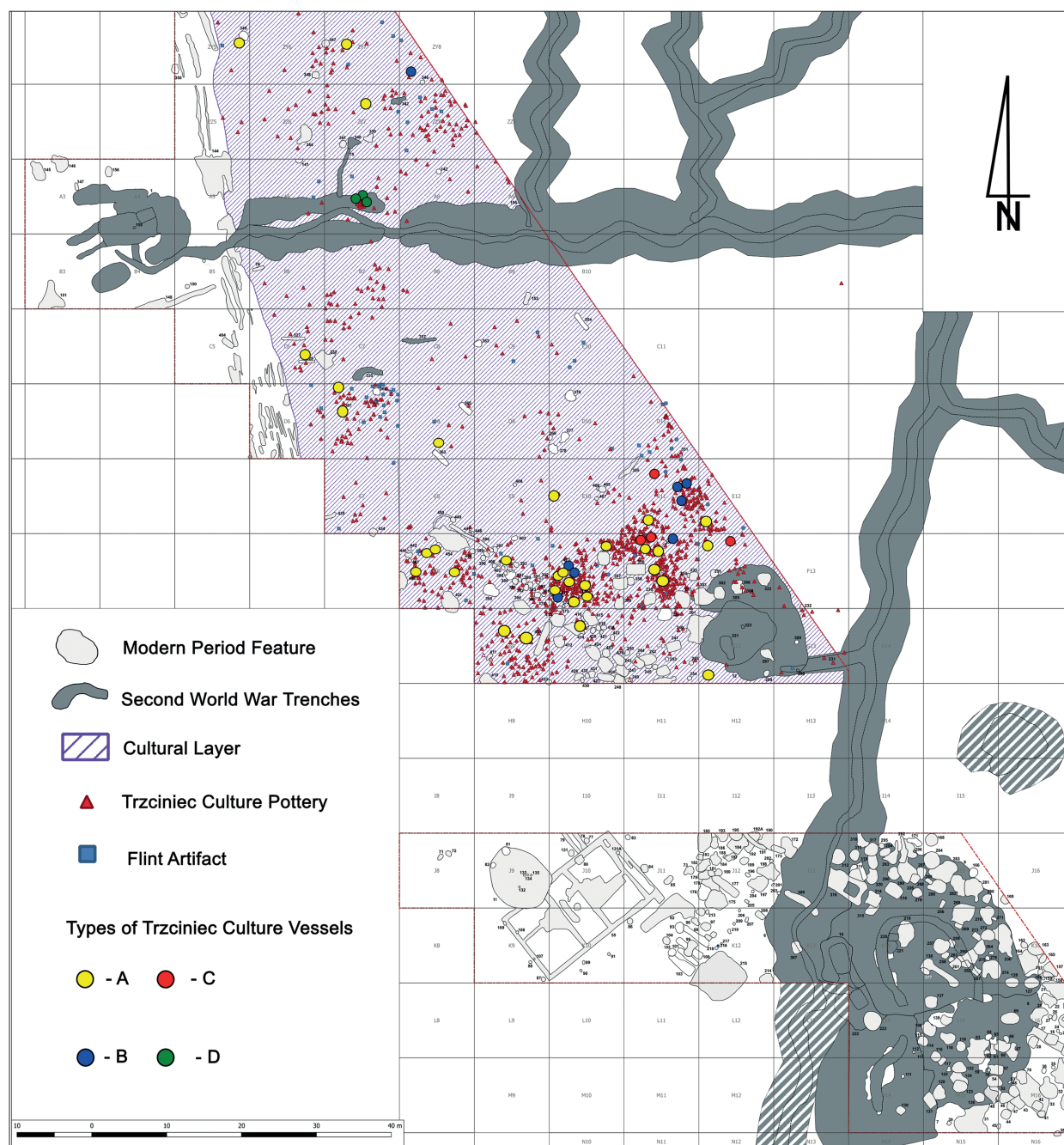


Fig. 5. Żanęcin, Site 9, Otwock district, Masovian voivodship. Spatial distribution of ‘Trzciniec’ potsherds on the site and the layout of contemporary subsurface features – location of fragments of pots decorated with horizontal grooves and wavy lines (A) or with plastic bands (B), conical bowls (C) and the vessel ornamented with concentric arches (D) (after Mazurek *et al.* 2020, with modifications by the authors).

Based on the presented facts, it can be suggested that both zones of the site functioned simultaneously and represent a small, possibly two-homestead settlement, a significant part of which was ‘erased’ due to various levelling works in later periods.

In the end, the discussed sources most likely reflect a very late stage in the development of the Central

Masovian ‘Trzciniec’ groups. On the one hand, older stylistic elements, still post-Linin, persist within these groups. On the other, there is a partial, yet visible adaptation of exotic cultural patterns flowing from the south (Fig. 6). In this context, what previously seemed as erroneous radiocarbon dating result of the potsherd from Żanęcin (Fig. 4: A, B) becomes

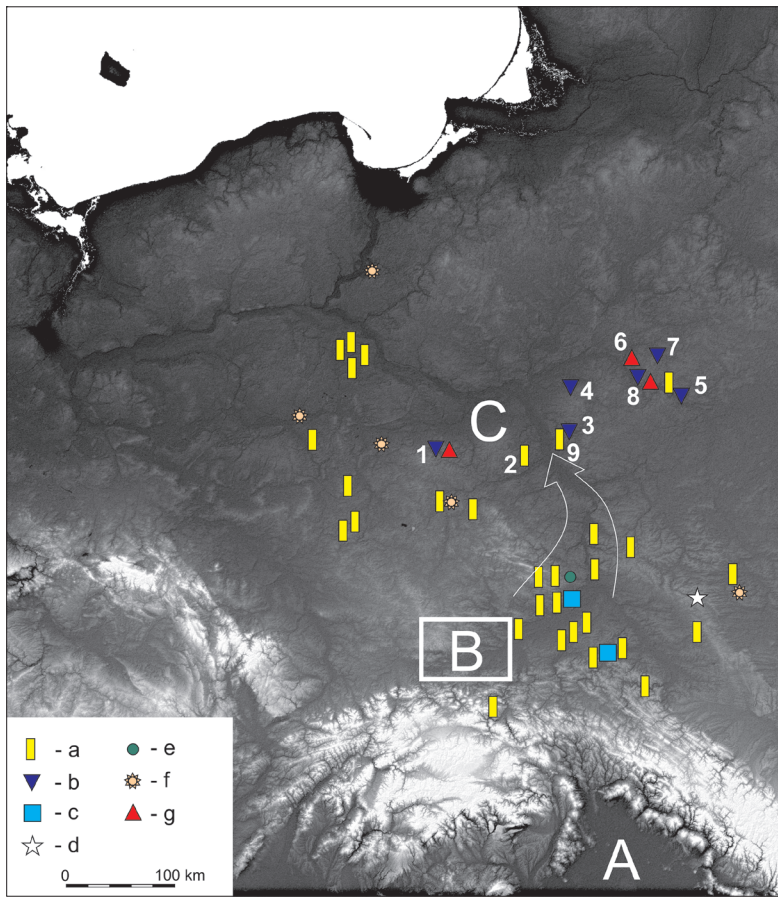


Fig. 6. Location of the Żanęcin pottery finds in relation to selected categories of artefacts with southern features. A – compact range of the Otomani-Fűzesabony Culture; B – Western Lesser Poland; C – remaining area of the Trzciniec Culture. a – vessels with Transcarpathian and Lesser Poland features; b – vessels with Polesie-type stylistic features; c – Krummesser-type knives; d – clay cart-wheel models; e – glass beads; f – amber beads; g – tumuli. 1 – Polesie; 2 – Linin; 3 – Zdrojki; 4 – Laski Stare; 5 – Słochy Annopolskie; 6 – Koryciny; 7 – Kiersnowo; 8 – Klepacz; 9 – Żanęcin (based on Górski 2011, fig. 1a, with modifications by the authors).

credible.⁴⁰ It is acceptable especially when considered alongside pottery that co-occurs spatially with local imitations of both the 'Nowa Huta' type bowls and burial vessels decorated with concentric arches from Szczepidło near the Warta River. The approximately one-hundred-year delay may result from the peripheral and traditional cultural landscape of Central Masovia, where 'classical' stylistics in pottery production dominated for nearly eight centuries. On the other hand, the presence of 'Lesser Poland', or more precisely 'Nowa Huta' cultural elements, visible for example in the adaptation of bowls as part of a set of vessels, attests to the activity of one of the main communication routes leading southward – the Vistula River.⁴¹

Conclusions

The settlement's duration must have been rather short, as indicated by the small quantity of movable finds and the lack of spatial features. But then how can we explain the chronological diversity of the documented ceramic sources and the very late radiocarbon date? One solution is to assume that while the tradition of producing 'classic' Trzciniec vessels in this region – the vicinity of Żanęcin or, more broadly, the Świder River basin – was cultivated persistently, at one point the local community absorbed 'southern' novelties. Should this phenomenon perhaps be linked with the presence of an individual from Lesser Poland, who brought with them a slightly different, 'modernised' tradition of pottery making?

⁴⁰ Manasterski, Wawrusiewicz 2020.

⁴¹ Górski 2011.

Bibliography:

- Bronk Ramsey C. 2009, Bayesian analysis of radiocarbon dates, *Radiocarbon* 51/1, 337–360.
- Czebreszuk J. 1996, *Spółeczności Kujaw w początkach epoki brązu*, Poznań.
- Czebreszuk J. 1998, „Trzciniec” – koniec pewnej tradycji, in: A. Koško, J. Czebreszuk (eds), „Trzciniec” – system kulturowy czy interkulturowy proces?, Poznań, 411–429.
- Gardawski A. 1959, *Plemiona kultury trzcinieckiej w Polsce*, Materiały Starożytne V, 7–189.
- Górski J. 2007, *Chronologia kultury trzcinieckiej na lessach Niecki Nidziańskiej*, Kraków.
- Górski J. 2011, Przejawy oddziaływań zakarpaccich na terenie grupy podlasko-mazowieckiej kultury trzcinieckiej, in: U. Stankiewicz, A. Wawrusiewicz, (eds), *Na rubieży kultur. Badania nad okresem neolitu i wczesną epoką brązu*, Białystok, 279–286.
- Górski J. 2023, *Nowa Huta Mogiła stan. 55 (kopiec Wandy). Wielofazowa osada kultury trzcinieckiej i łużyckiej*, Kraków.
- Górski J., Makarowicz P., Wawrusiewicz A. 2011a, *Osady i cmentarzyska społeczności trzcinieckiego kręgu kulturowego w Polesiu, stanowisko I, woj. łódzkie, Tom I*, Łódź.
- Górski J., Makarowicz P., Wawrusiewicz A. 2011b, Podstawy datowania trzcinieckiego kręgu kulturowego w Polsce środkowej na przykładzie materiałów ze stanowiska w Polesiu w dorzeczu Bzury, *Acta Universitatis Lodzensis. Folia Archaeologica* 28, 91–127.
- Koško A. 1981, *Udział południowo-wschodnioeuropejskich wzorców kulturowych w rozwoju niżowych społeczeństw kultury pucharów lejkowatych*, Poznań.
- Makarowicz P. 1998, *Rola społeczności kultury iwieńskiej w genezie trzcinieckiego kręgu kulturowego (2000-1600 BC)*, Poznań.
- Makarowicz P. 2001, Trzciniecki krąg kulturowy – wspólnota pogranicza Wschodu i Zachodu, in: J. Czebreszuk, M. Kryvalcevic, 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 krąg kulturowy – wspólnota pogranicza Wschodu i Zachodu Europy*, Archaeologia Bimaris, Monografie 3, Poznań.
- Makarowicz P. 2016, *Szczepidło. Osada metalurgów kultury mogiłowej nad Wartą*, Archaeologia Bimaris, Monografie 9, Poznań.
- 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*, in: W. Nowakowski (ed.), Światowit. Supplement Series P: Prehistory and Middle Ages XIX, Warszawa.
- Manasterski D., Wawrusiewicz A. 2020, *Wyniki analizy makroskopowej pradziejowej ceramiki naczyniowej ze stanowisk 9 w Żanęcinie, gm. Wiązowna, pow. otwocki, woj. mazowieckie*, in: M. Mazurek, A. Okoniewska, A. Sznajdrowska-Pondel (eds), *Opracowanie III etapu ratowniczych badań wykopaliskowych na stanowisku nr 9 w Żanęcinie, gm. Wiązowna, Archiwum Generalnej Dyrekcji Dróg Krajowych i Autostrad Oddział w Lublinie*, Rzeszów 2020, 19–26.
- Mazurek M., Okoniewska A., Sznajdrowska-Pondel A. (eds) 2020, *Opracowanie III etapu ratowniczych badań wykopaliskowych na stanowisku nr 9 w Żanęcinie, gm. Wiązowna, Archiwum Generalnej Dyrekcji Dróg Krajowych i Autostrad Oddział w Lublinie*, Rzeszów.
- Reimer P. J., Bard E., Bayliss A., Beck J. W., Blackwell P. G., Bronk Ramsey C., Grootes P. M., Guilderson T. P., Hafflidason H., Hajdas I., Hatte C., Heaton T. J., Hoffmann D. L., Hogg A. G., Hughen K. A., Kaiser K. F., Kromer B., Manning S. W., Niu M., Reimer R. W., Richards D. A., Scott E. M., Southon J. R., Staff R. A., Turney C. S. M., van der Plicht J. 2013, IntCal13 and Marine13, Radiocarbon Age Calibration Curves 0-50,000 Years cal BP, *Radiocarbon* 55/4, 1869–1887.
- Skorupska P. 2013, Ceramika kultury trzcinieckiej ze stanowiska 7 w Brwinowie, pow. Pruszków, *Studia i materiały do badań nad neolitem i wczesną epoką brązu na Mazowszu i Podlasiu* III, 115–182.
- Solon J., Borzyszkowski J., Bidłasik M., Richling A., Badora K., Balon J., Brzezińska-Wójcik T., Chabudziński Ł., Dobrowolski R., Grzegorzczak I., Jodłowski M., Kistowski M., Kot R., Krąż P., Lechnio J., Macias A., Majchrowska A., Malinowska E., Migoń P., Myga-Piątek U., Nita J., Papińska E., Rodzik J., Strzyż M., Terpiłowski S., Ziaja W. 2018, Physico-geographical mesoregions of Poland: verification and adjustment of boundaries on the basis of contemporary spatial data, *Geographia Polonica* 91/2, 143–170.
- Szumacher I., Matuszkiewicz J. M., Gerlée A., Majchrowska A., Papińska E., Sosnowska A. 2021, *Nizina Środkowomazowiecka (318.7)*, in: A. Richling, J. Solon, A. Macias, J. Balon, J. Borzyszkowski, M. Kistowski (eds), *Regionalna geografia fizyczna Polski*, Poznań, 286–297.

Taras H. 1995, *Kultura trzciniecka w międzyrzeczu Wisły, Bugu i Sanu*, Lublin.

Wawrusiewicz A., Bienia M. 2014, Materiały z wczesnej epoki brązu na stanowisku 6 w Żółtkach, woj. podlaskie, *Studia i materiały do badań nad neolitem i wczesną epoką brązu na Mazowszu i Podlasiu* IV, 129–156.

Wawrusiewicz A., Januszek K., Manasterski D. 2015, *Obiekty obrzędowe Pucharów Dzwonowatych z Supraśla. Złożenie darów – przejęcie 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., Przeździecki M., Frączek M., Manasterski D. 2017, *Grądy-Woniecko. Ostatni łowcy-zbieracze znad środkowej Narwi*, Białystok.