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ENEOLITHISATION FROM THE STEPPES. A CASE STUDY ON VOLHYNIA

ABSTRACT

The aim of the article is to formulate a hypothesis explaining the chronology and genesis of the Lublin-Volhynian Culture, with particular emphasis on such important elements of this culture as the white painting of pottery, the use of trough retouch, and the deposition of flint daggers retouched in this way in the graves of some men. At the same time, two different Eneolithisation processes are reconstructed: from the east (with flint daggers) and from the south-west (with copper metallurgy). It has been pointed out that adaptation of the cultural elements mentioned above must have taken place no later than 4100 BC. The most likely place where this happened was the basin of the upper Styr and Horyn in Volhynia. From about 4400 BC, the area was inhabited by repre-

sentatives of the late phase of the Malice Culture. This community exploited local deposits of excellent-quality Volhynian flint and supplied it to the population of the Tiszapolgár Culture on the upper Tisza and Bodrog rivers. Processes fuelling cultural heterogeneity were taking place in Volhynia. In some grave complexes, there are elements of the Malice, Trypillia, and Polgar cultures. Heterogenisation and cultural hybridisation fostered the emergence of new cultural units. The emergence of the Lublin-Volhynian Culture was impacted decisively by the Skelya Culture, which instilled among the late-Malice people the ideas of hierarchisation of local communities and the rise of the elites (a group of male warriors, distinguished by the possession of blade-daggers).

Keywords: Eneolithisation, Volhynia, flint daggers, white-painted pottery, trough retouch, Skelya Culture, Malice Culture, Lublin-Volhynian Culture

Introduction

The present article was inspired by an excellent doctoral dissertation written by Stanisław Wilk in 2020 and defended a year later at the Faculty of History of the Jagiellonian University in Cracow – the work is entitled *Adaptacja zakarpaccich wzorców kulturowych epoki miedzi na Wyżynie Małopolskiej* [*Adaptation of Transcarpathian cultural patterns of the Copper Age in the Lesser Poland Upland*]. We found many of the theses and research results presented in the said dissertation worthy of admiration and considered them valid in our own contribution.

Because S. Wilk's work has not yet been published, we will not quote details of the numerous analyses in-

cluded in it or debate those research results that may raise doubts. Instead, we will engage certain questions which were omitted or only briefly discussed. The use of white paint on pottery, trough-like retouch, and daggers made of the Volhynian flint – as well as the use of Volhynia as the territory of cultural references – are among those aspects of the Lublin-Volhynian Culture (hereafter: LVC) that were neglected or presented but summarily in the dissertation. However, they are pivotal for characterising and determining the chronology of the earliest phase of Eneolithisation of the territories occupied by the discussed culture. These elements were also essential for the process of defining the LVC – e.g., the (Moravian) Painted Band Pottery Culture,¹ Painted Band Pottery

¹ Żurowski 1930.

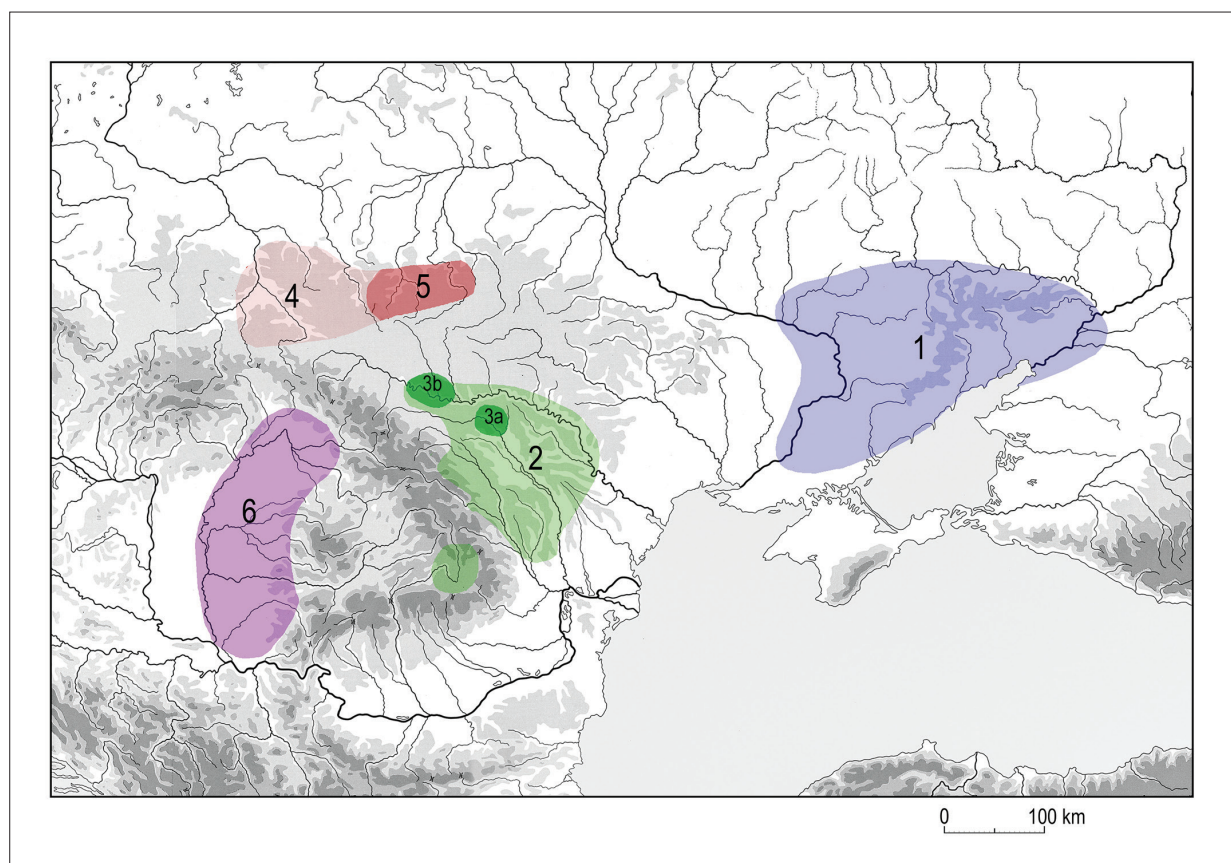


Fig. 1. Cultural situation ca. 4200-4050 BC: 1 – Skelya culture; 2 – CTCC, phase A/BI; 3a – CTCC, phase A3-A4/BI, centre of the Drăgușeni group; 3b – CTCC, phase A4/BI-BI/BII, type Nezvisko II, centre of absorbing Polgar influences; 4 – MC, Rzeszów phase; 5 – MC, Rzeszów phase; formative area of the LVC; 6 – Tiszapolgár-Bodrogresztúr. Graphic design by E. Starkova.

Culture,² Lublin-Volhynian Painted Pottery Culture,³ White Painted Pottery Culture,⁴ White Painted Pottery Group or Lublin-Volhynian Group,⁵ Lublin-Volhynian Culture).⁶

S. Wilk's reconstruction of the complex and multi-phase Eneolithisation process of the Lesser Poland Upland does not include the aforementioned important aspects of the LVC. Thus, their significance and role in these developments cannot be explained by the said reconstruction alone. In a simplified model of the hypothetico-deductive method, the aspects in need of explanation are referred to as anomalies.⁷ Therefore, they form our research questions in the present paper. In order to answer them, we formulate pertinent hypotheses. These will serve as a starting point for new research projects

aiming to obtain data which could be used to reconstruct a more complete view of the Eneolithisation processes – including previously disregarded cultural aspects.

Malice Culture and Lublin-Volhynian Culture in their eastern and south-eastern zones

The compact range of LVC sepulchral sites reaches the Styr River near Lutsk – except for a grave discovered in Trostianets, near Dubno, ca. 40 kilometres further to the east.⁸ The cluster of LVC sites with flint inventories reaches the Ustia River, which is a left tributary of the Upper Horyn⁹ (Fig. 1). The settlement site at Ostrog-Zeman is located furthest to the east (Fig. 2).

² Podkowińska 1953; Nosek 1955.

³ Gurba 1973; Zakościelna 1996.

⁴ Kamińska 1967.

⁵ Kulczycka-Leciejewiczowa 1979.

⁶ Kruk, Milisauskas 1985; Kadrow, Zakościelna 2000.

⁷ Lisiński 2016.

⁸ Zakościelna 2010, fig. 1.

⁹ Zakościelna 1996, 1; Zakościelna 2006a, fig. 1.

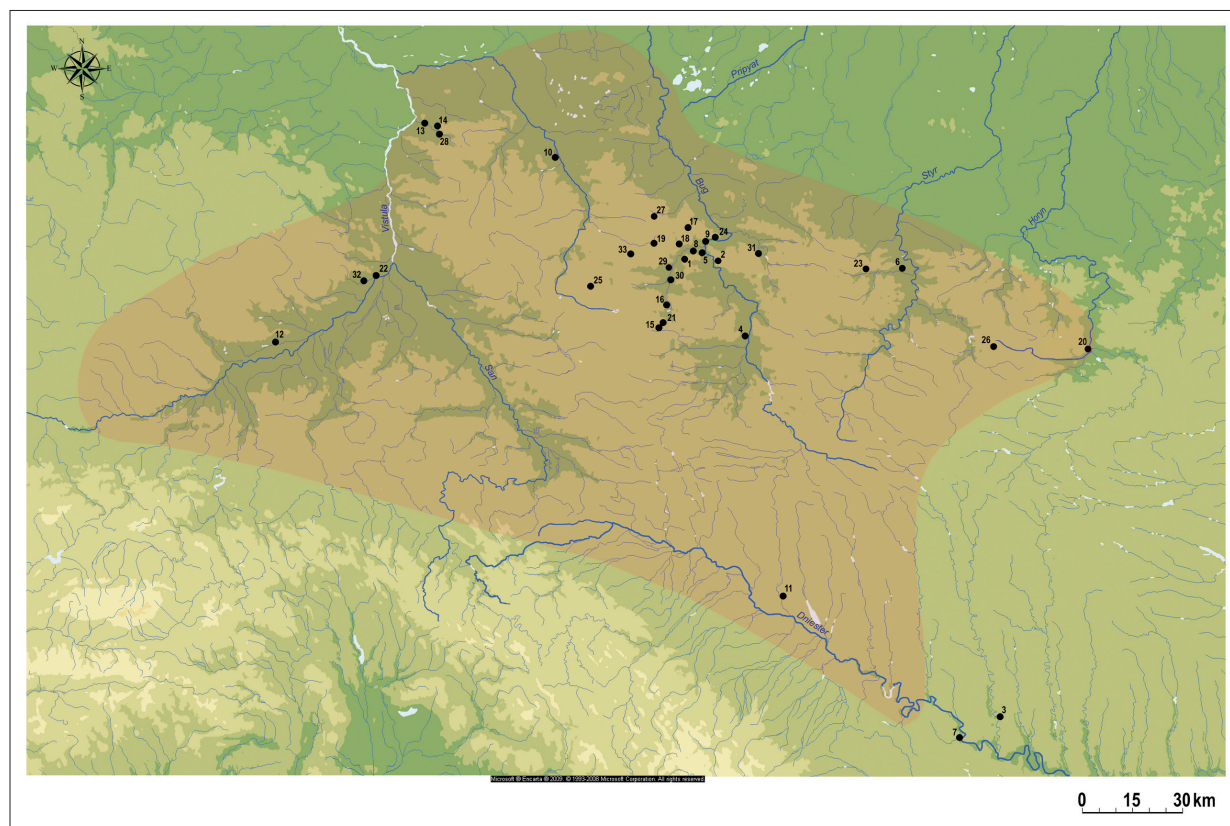


Fig. 2. LVC ceramic dispersion decorated with white oil paint: 1 – Alojzów 9, Hrubieszów District, Lublin Province; 2 – Ambukiv, Volodymyr Rayon, Volyns'ka Oblast'; 3 – Bilče Zolote Ogród II, Borščiv Rayon, Ternopil Oblast'; 4 – Dobriačyn, Sokal Rayon, Volyns'ka Oblast'; 5 – Gródek 1C, Hrubieszów District, Lublin Province; 6 – Holyshiv, Luc'k Rayon, Volyns'ka Oblast'; 7 – Horodnycia, Horodenka Rayon, Ivano-Frankivs'k Oblast'; 8 – Hrubieszów-Podgórze 1a, Hrubieszów District, Lublin Province; 9 – Husynne 2, Hrubieszów District, Lublin Province; 10 – Jaszczów 5, Łęczna District, Lublin Province; 11 – Kolokolin, Rohatyn Rayon, Ivano-Frankivs'k Oblast'; 12 – Książnice 2, Busko Zdrój Rayon, Świętokrzyskie Province; 13 – Las Stocki 7, Puławy District, Lublin Province; 14 – Łopatki, Puławy District, Lublin Province; 15 – Łubcze 27, Tomaszów Lubelski District, Lublin Province; 16 – Mikulin 8, Tomaszów Lubelski District, Lublin Province; 17 – Moniatyczne Kolonia, Hrubieszów District, Lublin Province; 18 – Nieledeu, Hrubieszów District, Lublin Province; 19 – Ornatowice, Zamość District, Lublin Province; 20 – Ostrog-Zeman, Ostrog Rayon, Rivne Oblast'; 21 – Podlodów 2, Tomaszów Lubelski District, Lublin Province; 22 – Sandomierz Wzgórze Zawichojskie 1, Sandomierz District, Świętokrzyskie Province; 23 – S'omaki, Luc'k Rayon, Volyns'ka Oblast'; 24 – Strzyżów I, II, 2A, 26, Hrubieszów District, Lublin Province; 25 – Topornica 36 – Zamość District, Lublin Province; 26 – Trostianec', Dubno Rayon, Rivne Oblast'; 27 – Turowiec, Chełm District, Lublin Province; 28 – Wąwolnica 6, Puławy District, Lublin Province; 29 – Werbkowice Kotorów I, Hrubieszów District, Lublin Province; 30 – Wronowice-Paprzyca 5, Hrubieszów District, Lublin Province; 31 – Zymne, Volodymyr Rayon, Volyns'ka Oblast'; 32 – Złota, Sandomierz District, Świętokrzyskie Province; 33 – Żuków, Hrubieszów District, Lublin Province. Graphic design by E. Starkova.

The presence of the LVC in the territories spreading between the Upper Styr and Horyn was preceded by the chronologically earlier settlement of the Malice Culture (hereafter: MC), which is linked with its late-stage (Rzeszów Phase) and reached even further to the east. Several sites are even located eastwards of the Horyn (e.g., Hoshcha)¹⁰. This settlement was more intensive. In the older literature in Russian and Ukrainian, it is referred to as the Hoshcha-

Werbkowice-(Kostianets) Culture.¹¹ Meanwhile, Polish archaeologists consider it the eastern zone of the late MC.¹²

Cucuteni-Trypillia Cultural Complex

The settlement linked with the late phase of the MC was pioneering – there was no prior colonisation

¹⁰ Kadrow 1988, fig. 1.

¹¹ Cf., for instance, Černyš 1982b, 257–258.

¹² Kruk 1980, 38; Kadrow 1988, 16, fig. 1.

by the population of the classical phase of the MC.¹³ At that time, the population associated with Phase A/BI of the Cucuteni-Trypillia Cultural Complex (hereafter: CTCC) occupied territories located by the Upper and Middle Dniester and Upper Southern Bug River, 150 to 200 kilometres to the south of the discussed settlement cluster of the MC (Fig. 1). The appearance of the late MC population in this area was probably linked with exploitation and distribution of the Volhynian flint, whose easily accessible outcrops were located between the Upper Styr and Upper Horyn.¹⁴ The Volhynian flint – extracted by miners associated with the late phase of the MC – was distributed mainly among the population of the Tiszapolgár Culture from the Hungarian-Slovak borderland, by the rivers of Tisza and Bodrog (Fig. 1).¹⁵

The drainage basin of the Upper Dniester was settled in the classical phase (Ib) of the MC.¹⁶ During the late phase (Rzeszów), the population of this culture did not inhabit the discussed territory.¹⁷ Because of the incidental character of discovered sites located by the Upper Dniester and previously attributed to the LVC, we think that the discussed territory should not be included in the settlement zone of this culture. Single cases of LVC vessels discovered in Horodnytsia and Bilche-Zolote were only imports in the CTCC environment, whereas attribution of the pottery from Kolokolyn to the LVC is questionable.

There are two sepulchral sites located by the Horyn, in the eastern margin of the discussed region: Ostrog-Zeman¹⁸ and Rivne, Stepowa Street.¹⁹ Both included graves containing pottery of a heterogeneous character (attributed to the CTCC, MC, and LVC). It is a clear trace of advanced and ongoing multicultural processes of blending and hybridisation.

Remarks on the chronologies of the MC and LVC

Because there are no ¹⁴C dates from the drainage basin of the Upper Styr and Horyn, we can present only an absolute chronological framework of the MC and LVC

for the territory of Lesser Poland in order to extrapolate it to the former area.

The classical phase (Ib) of the MC in the Targowisko settlement region, on the Wieliczka-Bochnia loess cover, is dated to ca. 4700–4500 BC.²⁰ The chronological range of stratum 6 from the tell in Herpály is similar but somewhat wider.²¹

The idea of the late classical phase (Ic) of the MC came to life as a result of the necessity to classify MC pottery discovered in the Cluster of Pits 108 at Site 16 in Rzeszów, Osiedle Piastów – which blends the features of pottery from the classical and late (Rzeszów) phases.²² The forms of the vessels and some elements of the stroked ornamentation (although in disintegrated patterns) are a continuation of features characteristic for the classical phase (Ib), but they are accompanied by the appearance of pit (or deep-stroked) ornaments, which are typical of the Proto-Tiszapolgár Phase.²³ The chronologies of the end of the classical (Ib) phase and the beginning of the late phase (II) allow us to date the late-classical (Ic) phase of the MC to 4500–4400 BC.

The formation of the Rzeszów stage of the MC (Phase II) was gradual and took many years.²⁴ Its essential features include distinct shoulders of bowls and vases. The same applies to the Gumelnița Culture (phases A1–A2) as well as the Karanovo VI²⁵ and Tiszapolgár cultures.²⁶ Another important feature is rich pit ornamentation, which appeared first in the Proto-Tiszapolgár Phase and predominated throughout the Tiszapolgár B Phase.²⁷

The Rzeszów stage (Phase II) of the MC at the site of the Wzgórze Zawichojskie in Sandomierz was dated to 4400–4200 BC. It was established that the traces of the LVC discovered at this site came from 4000–3900 BC.²⁸ Two absolute dates linked with the Rzeszów stage of the MC come from Site 31 in Rzeszów. They also indicate the time frame of 4400–4200 BC.²⁹

In the Lesser Poland Upland, the LVC is dated to 4030–3830 BC.³⁰ According to S. Wilk, the period between 4250/4200 and 4050 BC marks its initial stage. The scholar suspects that it was the time when the culture emerged (formed) on the cultural substrate of the

¹³ Kadrow 2006, 63–64, fig. 1.

¹⁴ Terekhina *et al.* 2022; Kadrow, Zakościelna 2022, fig. 14.

¹⁵ Kaczanowska 1985, 176–181, chart 5; Zakościelna 1996, 86–87.

¹⁶ Bandriwski 2004, fig. 7.

¹⁷ Kadrow 1988, fig. 1; Zakościelna, Gurba 1997, fig. 1.

¹⁸ Pozihov'skij, Samoylúk 2008.

¹⁹ Bardec'kij *et al.* 2020.

²⁰ Kadrow *et al.* 2021, 167–169, fig. 11; Golański, Kadrow 2022, 480; Kadrow *et al.* 2022, 27–29, fig. 22; Zastawny 2022, 168–169, fig. 10.

²¹ Kalicz, Raczky 1987a, 28–30.

²² Kadrow 1990, 70, fig. 11; Kadrow 1996, fig. 17.

²³ Kalicz, Raczky 1987a, 27.

²⁴ Žaki 1962; Kamińska 1973; Kadrow 1988; 1996; Kadrow, Zakościelna 2000.

²⁵ Cf. Voinea 2005.

²⁶ E.g. Bognár-Kutzián 1972.

²⁷ Kalicz, Raczky 1987a, 27; 1987b, 116.

²⁸ Włodarczak 2017, 103, figs 2, 7, 9.

²⁹ Dębiec, Pelisiak 2008, 136–139, figs. 5–6; Zastawny 2022, figs. 9–10.

³⁰ Wilk 2018, 492.

Modlnica Group, under the influence of the Ludanice, Balaton, and Bodrogheresztúr cultural units.

Covering pottery with white paint

At the beginning of this subsection, we would like to state that we are interested only in paints of a specific composition and a particular application technique. The white paint used for colouring the LVC vessels discovered in Wąwolnica was made of chalk mixed with organic adhesives (hen egg whites and beeswax) and applied on already-fired vessels.³¹ The paint covering the vessel from Ornatowice contained vegetable oils or animal fats which served as organic adhesives.³²

Applying white paint with organic admixtures on already fired vessels was the only method of colouring pottery used by the population of the LVC (Fig. 2). The same is true of the youngest phases of the Herpály and Csőszhalom-Oborin I cultures in the drainage basin of the Tisza. White and red oil paints were used there at the end of the Neolithic. The same colours were predominant during the older stage of the Herpály III Phase (stratum 7 and the earlier part of stratum 6 from the tell in Herpály) as well as in the Csőszhalom-Čičarovce Phase, which is dated to the same time.

Only white paint was used in the younger period of the Herpály III Phase (top of Stratum 6) and in the Csőszhalom-Oborin I phase.³³ It was used to create the following patterns: rhombus, triangle, oblique check, checkerboard, and meander, the last of which saw the most widespread use in the upper part of stratum 6. Stratum 5 of the tell in Herpály contained artefacts from the Proto-Tiszapolgár Phase, but it lacked white-painted pottery³⁴ – it was substituted with pottery ornamented with conical knobs, handles, and pits or deep strokes forming double parallel rows.³⁵ As we mentioned before, the latter ornament became characteristic for the Tiszapolgár Culture.³⁶ Colouring pottery with oil paint completely ceased to be used in territories located by the Tisza River already ca. 4500 BC. This means that it could not have been the inspiration for using white paint by the LVC population due to the considerable temporal hiatus between the two cultures.

In the period corresponding to the late phases of the Herpály and Csőszhalom cultures, i.e. in the classical phase (Ib) of the MC, white and red mineral paints were only sporadically used.³⁷ A large, pear-shaped beaker – whose external surface is covered with red oil paint and whose shoulder is marked with a narrow horizontal band of white oil paint – should be probably associated with the context of the same phase (Ib) of the MC.³⁸

Uncertain, modest traces of colouring pottery with red and black mineral paints were recorded in materials from the Wzgórze Zawichojskie, Sandomierz, dated to the late (Rzeszów) phase of the MC.³⁹ We do not know a single example of using white oil paint during this period, which corresponds to the times of the Tiszapolgár Culture.

In other cultures, this method of painting vessels was used only sporadically. This can be said, for example, about the Drăgușeni Group of the CTCC (from the younger period of the A3–A4/BI phase), dated to ca. 4300–4050 BC.⁴⁰ Sites attributed to this culture are located by the Upper and Middle Dniester and Upper Prut (Fig. 1).⁴¹ They were nearest to the south-eastern range of the MC in the Rzeszów Phase (drainage basin of the Upper Styr and Horyn in Volhynia).⁴² This distance did not exceed 200 kilometres. Hence, the aforementioned sites might have been the source of know-how pertaining to manufacturing of the white-painted pottery used by the LVC people.

Until recently, it was widely believed that CTCC vessels were painted before they were fired. In 1999, Natalia Podvigina and her team detected organic adhesives (egg whites, beeswax) in paints, especially when the painted motifs were composed of several layers.⁴³ The bottom layers of paint – which were thin – did not contain mineral adhesives. This means that they were applied to the vessels before firing. The thicker paint layers from the surface sometimes contained such adhesives, thus they must have been administered after firing. The firing of the pottery probably consisted of two stages. In the second stage, vessels were fired at low temperatures in order not to damage the organic adhesives, which gave the surface layer of paint a characteristic ‘oily’ look.⁴⁴ Similar results for pottery discovered at several CTCC settlements (Nezvisko, Polivaniv Yar, Vladimirovka, Nemyriv,

³¹ Starkova, Zakościelna 2018, 80.

³² Gurba, Jasiński 1963, 362.

³³ Kalicz, Raczky 1987a, 26, 30.

³⁴ Kalicz, Raczky 1987b, 108, 111.

³⁵ Kalicz, Raczky 1987a, 27.

³⁶ Kalicz, Raczky 1987b, 116.

³⁷ Kadrow 2006, 67.

³⁸ Czerniak *et al.* 2007, fig. 4; Golański, Kadrow 2022, figs. 7, 11.

³⁹ Kowalewska-Marszałek 2017a, 53, fig. 5ab; 2017b, pls. II.45: 8 and II.46: 1.

⁴⁰ Lazarovici *et al.* 2009, 74, 108–110.

⁴¹ Palaguta 2007, fig. 89; 2016.

⁴² Cf. Kadrow 1988, fig. 1.

⁴³ Podvigina *et al.* 1999, 35–37.

⁴⁴ Podvigina *et al.* 1999, 35–37.

and Krynychki) were published by Kamila Kalinina and Elena Starkova.⁴⁵

Trough-like retouch, retouched blade daggers, warrior graves with daggers

Other essential elements of the cultural inventory associated with the LVC are trough-like retouch and blade daggers of Volhynian flint formed with this retouch. In the last decade, the discussed type of retouch has been defined several times in the archaeological literature.⁴⁶ Also, the questions related to the retouched blade daggers have been tackled.⁴⁷ Moreover, it has recently been discussed by the authors of the present article.⁴⁸ Large-scale research allowed us to draw conclusions that – besides the territory of the eastern Balkans, where trough-like retouch was used by the population of the Kodjadermen-Gumelnița-Karanovo VI Cultural Complex (hereafter: KGK VI) only to form a small number of bifacial points⁴⁹ – this method of shaping the edges of (mainly) retouched blade daggers and points appeared for the first time in the northern Pontic steppes, in the grave inventories of the Early Eneolithic Skelya Culture.⁵⁰

Across territories roughly corresponding to the range of the LVC, the trough-like retouch appeared in the CTCC context at settlements associated with the transitory stage between A/AB and A/BI (ca. 4500 BC), by the Middle Dniester, where it was used to shape triangular points, and later – since the end of Phase BI – also retouched blades.⁵¹ During the BI/BII phases, it was present in the drainage basin of the Southern Bug,⁵² in the interfluvial zone of the Dniester and Prut⁵³ as well as in the interfluvial zone of the Prut and Siret.⁵⁴ In the BII and C phases, it was already the most common technique of shaping tools across the whole range of the discussed cultural complex.⁵⁵ The CTCC inventories lack classical retouched blade daggers and single specimens of similar

forms were discovered only in a small number of graves dating to Phase CII (Krasnyj Hutor and Sofievka).⁵⁶

The trough-like retouch recorded on artefacts from settlements attributed to the late (Rzeszów) stage of the MC – but only across its eastern territories, between the Upper Styr and Horyn – is a result of contacts between this culture and the CTCC. It was used to form retouched blades of different types, but never for retouched blade daggers or triangular points.⁵⁷

The population of the LVC adopted the use of trough-like retouch through the intermediary of the MC communities from the Rzeszów Phase. This technique was most universally used in the flint production of the LVC. It was employed to shape end scrapers, truncations, massive points of piercers, triangular points, and – especially – various types of retouched blades.⁵⁸ Retouched blades with trough-like retouch have been discovered across the entire range of the LVC – in materials dated to different phases of its development – and are made of various flint varieties. They come from all of the researched settlements, but they are usually fragmented, most often reshaped into other tool types.⁵⁹ The most impressive, completely preserved and elaborately formed retouched blade daggers – almost always made of the Volhynian flint – represent a modest number of finds discovered in graves of adult, mature, and elderly men (as well as in one female grave).⁶⁰ They are unusual burials, whose inventories include different types of artefacts made of various raw materials. They are also composed of other socially esteemed artefacts associated with the male gender: copper or bone daggers, copper axes and chisels, battle axes made of deer antlers, and macrolithic Volhynian flint blades.⁶¹

Retouched blade daggers were discovered in important, conspicuous places near the buried dead – mainly next to the head or on the ribcage (Książnice 2, Grave 5;⁶² Gródek 1C, Grave 2/1987 – Fig. 3)⁶³ and, in one case, near the waist (Złota Grodzisko II, Grave 101⁶⁴).

⁴⁵ Kalinina, Starkova 2012, 387–388.

⁴⁶ Libera, Zakościelna 2013, 228; Zakościelna, Libera 2014, 198.

⁴⁷ Zakościelna 2008; 2010, 164–166, 211–213.

⁴⁸ Kadrow, Zakościelna 2022.

⁴⁹ For example, Păunescu 1970, fig. 31: 2, 10, 12; Lichardus, Lichardus-Itten 1995, 234–237, fig. 3; Manolakis 2005, pls. 85: 4, 9; 108: 2, 119: 5, 142: 1–3, 9–10.

⁵⁰ Skakun 2008, fig. 7; Rassamakin 1999; 2004a, 93–95, figs. 76, 77; 2004b, pls. 194; 195; 252–254; 191.

⁵¹ Popova 2003, fig. 13; Radomskij 2018, figs. 70: 2, 7, 8, 11, 12.

⁵² Zaec, Ryžov 1992, figs. 55: 2, 7, 14, 18; 55: 3, 13, 17; 57: 6, 11–17, 19, 20; 58: 3, 7–9, 11–16.

⁵³ Sorokin 1991, 27; figs. 6: 7, 11, 16; 12: 8, 10; 16: 1–3, 5–8.

⁵⁴ Marinescu-Bilcu, Bolomey 2000, figs. 33; 38: 9, 17, 22; 40: 6, 7, 16, 19; 43; 44: 1–12.

⁵⁵ Černyš 1982a, 207; Konoply 1990b, 22–24, fig. 5; 1990c, fig. 7; Egnovatova 1993, 16–17; Kadrow *et al.* 2003, figs. 40: 1–5, 7, 12; 42: 8, 11, 12; 43: 1, 3–5, 10, 11; 47: 6, 8, 9; Terekhina *et al.* 2022, figs. 2: 2; 3: 4.

⁵⁶ Budziszewski 1995, figs. 3: c; 4: a, b.

⁵⁷ Konoply 1990a, 9–10; Zakościelna 1996, 93, pls. LI–LV.

⁵⁸ Zakościelna 1996, 56, 60–70, 92, 93; Libera, Zakościelna 2013, 219.

⁵⁹ Zakościelna 1996, 63–66.

⁶⁰ Zakościelna 2008, 583–586.

⁶¹ Zakościelna 2010, 183–189, tab. 47.

⁶² Wilk 2006, fig. 5.

⁶³ Zakościelna 2008, 583; 2010, pls. IX, IXb: A.

⁶⁴ Sałacińska, Zakościelna 2007, fig. 18, 19; Mączyński, Zakościelna 2017a, figs. 2–3.

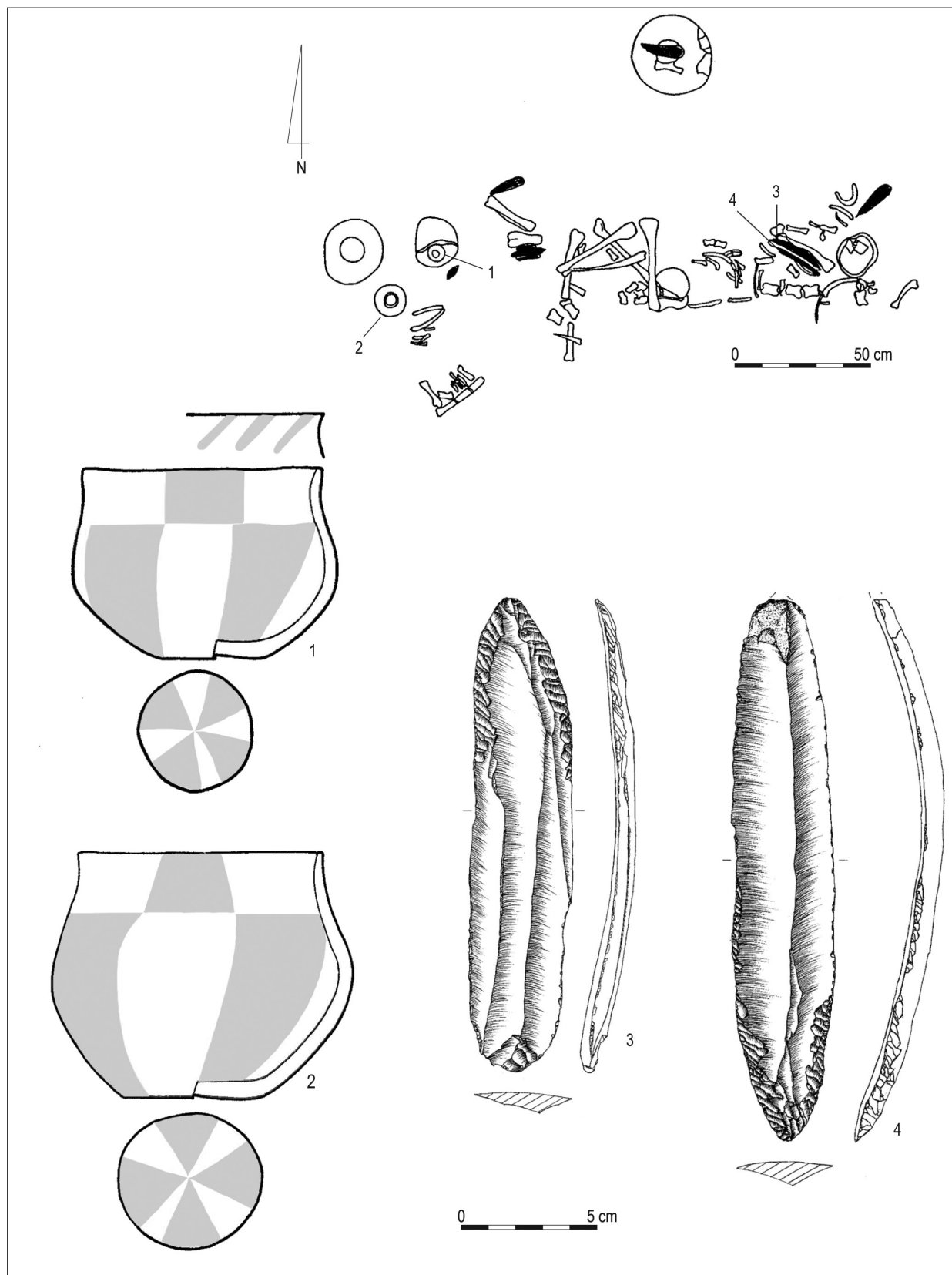


Fig. 3. Gródek, site 1C, grave 2/1987. Buried adult man with two retouched blade daggers on his chest (according to Zakościelna 2010, with changes). Graphic design by M. Juran.

The location of such artefacts on the ribcage is especially telling. It indicates that – equipped with handles and probably kept in sheaths – the blade daggers were carried on the chest. The discussed tools were prestigious items and manifested their owners' high social position.⁶⁵

Among the discovered LVC graves, 10 burials contained bodies of men – mainly adults and mature individuals – placed there with retouched blade daggers or macrolithic blades (Tab. 1). Particularly noteworthy in this group are two well-preserved graves containing retouched blade daggers located in the most 'classical' po-

sition. In Grave 5 from the cemetery in Książnice 2, the discovered retouched blade dagger – with the tip pointing downwards – was placed on the ribs of the buried man, under the left humerus.⁶⁶ The grave contained also a copper axe, three vessels, and 11 other flint artefacts carried by the man in a pouch by the belt.⁶⁷ The man buried in Grave 2/1987 from Gródek 1C had two retouched blade daggers on his chest (Fig. 3). Beside them, there were also seven flint artefacts located in different parts of the grave pit (two shorter retouched blades, five macrolithic blades), five vessels, and a bone "needle".⁶⁸

Table 1. Male graves of the Skelya Culture and the LVC with the retouched blade daggers (the administrative data of the Ukrainian localities are based on the resolution of the Supreme Council of Ukraine / On the creation and liquidation of districts / <https://www.rada.gov.ua/news/Novyny/196122.html>, published on the 20th of July 2020 – access date: 10th of March 2023).

Skelya Culture				
No.	Locality	Rayon, oblast (district, voivodship)	Placement in relation to the buried individual	Literature
1.	Aksaj "Muhin II" Burial Mound 5, Grave 9	aksayskiy ray., rostovskaya obl.	retouched blade dagger made of obsidian and a flint blade on the stomach of the buried individual	Rassamakin 2004b, 86–87, pl 291: 1, 10
2.	Oleksandriya, Graves 18–19	kupyanskiy ray., khar'kovskaya obl.	retouched blade dagger and a long blade between the right clavicle and the skull of Skeleton 18	Rassamakin 2004b, 64, pl. 194: 1–3
	Oleksandriya, Grave 20		retouched blade dagger along the right arm	Rassamakin 2004b, 64, pl. 194: 6–7
	Oleksandriya, Graves 23–24		retouched blade dagger on the right arm of Skeleton 23	Rassamakin 2004b, 65, pl. 195: 1–2
3.	Oleksandrivsk, Burial Mound 1, Grave 46	luganskiy ray., luganskaya oblast'	retouched blade dagger by the right arm (?)	Rassamakin 2004b, 67, pl. 203: 1, 3
4.	Chapli, Grave 3a	dneprovskiy ray., dnepropetrovskaya obl.	retouched blade dagger along the right arm	Rassamakin 2004b, 79, pl. 248: 2
5.	Igran' (Staraya Igran'), Grave 8/1946	novomoskovskiy ray., dnepropetrovskaya obl.	retouched blade dagger	Rassamakin 2004b, pl. 253: 7
	Igran' (Staraya Igran'), Grave 10/1946		retouched blade dagger by the waist	Rassamakin 2004b, tabl. 254: 1–2
	Igran' (Staraya Igran'), Grave 11/1946		two retouched blade daggers: one on the pelvis and the other by the right arm	Rassamakin 2004b, 80, pl. 252: 1–3
	Igran' (Staraya Igran'), Grave 2/1986		two retouched blade daggers: on the right side and near the pelvis	Rassamakin 2004b, pl. 257: 2–3

⁶⁵ Zakościelna 2008, 542; 2010, 164–167; Mączyński, Zakościelna 2017b, 347–349.

⁶⁶ Wilk 2006, fig. 5; Zakościelna 2006b, figs. 1–6.

⁶⁷ Wilk 2006, figs. 7–8.

⁶⁸ Zakościelna 2010, 249–251, pls. IX–IXb: a.

No.	Locality	Rayon, oblast (district, voivodship)	Placement in relation to the buried individual	Literature
6.	Yaama, Burial Mound 1, Graves 5–6 – double	bakhmutskiy ray., donetskaya obl.	retouched blade dagger by the knees of Skeleton 6; fragment of a retouched blade dagger with the trough-like retouch on the left side of Skeleton 5	Rassamakin 2004b, 70, pl. 223: 2–3
7.	Kut, Burial Mound 8, Grave 7	krivorozhskiy ray., dnepropetrovskaya obl.	retouched blade dagger along the spine, slightly above the pelvis	Rassamakin 2004b, 73, pl. 232: 4–5
8.	Lugansk, Burial Mound 1, Grave 2 (triple)	luganskiy ray., luganskaya oblast'	<u>Skeleton 1</u> – retouched blade dagger on the chest, two long blades by the skull, one by the left elbow; <u>Skeleton 2</u> – on the right side of the skull, eight macroliths, including a retouched blade dagger; on the right side of the skull, a long blade and a retouched blade dagger; in each hand, one long blade; under the left ilium, an end- scraper, fragment of a blade, two flint axes, two stone axes; <u>Skeleton 3</u> – long blade in the right hand	Rassamakin 2004b, 69–70, pl. 217–220; Skakun 2008, Fig. 5: 5–7, Fig. 7: 3–5.
9.	Orlivs'ke	volnovskiy ray., donetskaya obl.	retouched blade dagger and a long blade, axe, two blades	Rassamakin 2004b, 158, pl. 478: 5
10.	Petro Svistunove	zaporozhskiy ray., zaporozhskaya obl.	three retouched blade daggers	Rassamakin 2004b, 73– 75; pl. 243: 3, 5, 244: 2
KL-W				
11.	Gozdów 1, Grave 1	Hrubieszów District Lublin Voivodship	retouched blade dagger on the chest (?)	Zakościelna 2010, 245–246, pl. VIa: A-1
12.	Gródek 1C, Grave 2/1987	Hrubieszów District Lublin Voivodship	two retouched blade daggers on the chest	Zakościelna 2010, 249–250, pl. IXa: 9–10
	Gródek 1C, Grave VI		retouched blade dagger in a vessel by the head	Zakościelna 2010, 255–256, pl. XIVa: 5
13.	Książnice, Grave 5	Busko District, Świętokrzyskie Voivodship	retouched blade dagger on the chest,	Wilk 2006, Fig. 5, Fig. 9: P
	Książnice, Grave 15		retouched blade dagger by the hip	Wilk, Kufel-Diakowska 2016, Fig. 5
14.	Moniatyczne Kolonia, Grave 2	Hrubieszów District Lublin Voivodship	retouched blade dagger, unknown location in relations to the skeleton	Zakościelna 2010, 279–280, pl. XLIVa: 23
15.	Sitaniec Wolica, Grave 1	Zamość District, Lublin Voivodship	retouched blade dagger by the head (?)	Zakościelna 2010, 286–287, pl. L: 6
16.	Strzyżów 26, Grave 4	Hrubieszów District Lublin Voivodship	retouched blade dagger by the head	Zakościelna 2010, 298–300, pl. LXIV
17.	Tyszowce 3, Grave 1	Tomaszów District, Lublin Voivodship	retouched blade dagger by the hip (?)	Zakościelna 2010, 302–303, pl. LXX
18.	Złota, Grodzisko II, Grave 101	Sandomierz District, Świętokrzyskie Voivodship	retouched blade dagger by the hip	Zakościelna 2010, 308, pl. LXXV: 3

In several graves, the places where retouched blade daggers were found were occupied by macrolithic blades (Gródek 1A, Grave 2; Strzyżów 1A, Grave 1⁶⁹).

The importance of macrolithic flint artefacts as items attesting to the social position of their owners is particularly well-evidenced by Grave 1 from the cemetery in Strzyżów 26, which contained remains of a man buried with a long blade and a copper dagger (the only such specimen discovered in a LVC grave!) reshaped into a pendant on his chest.⁷⁰

Graves with retouched blade daggers within the range of the LVC are located between the Bug and Wieprz rivers. Only the cemeteries in Złota 'Grodzisko II' and Książnice 2 are located slightly to the west of the Vistula River (Fig. 4). They are mainly dated to the late phase. The only two burial features attributed to the classical phase – both located near settlements – are Grave 1 from Strzyżów 1A and Grave 2/1987 from Gródek 1C. They also contained vessel sets typical of this phase, especially the feature from Gródek 1C – three cups decorated with a white paint (Fig. 3).

Hypothesis on the formation of the LVC in Volhynia

Retouched blades formed with the trough-like retouch – serving as prestigious daggers – were elements of inventories attributed to two cultures: the Skelya Culture and the LVC⁷¹ (Fig. 4). The former developed between 4550 and 4100/4000 BC⁷² or between 4750 (?) and 4100 (?) BC.⁷³ The LVC in the Lesser Poland Upland is dated to 4030–3830 BC.⁷⁴ It is also worth noting that there is no evidence for using the discussed type of daggers or any signs of social hierarchisation in the late (Rzeszów) stage of the MC (4400–4200 BC).

Chronological relations between the two aforementioned cultures indicate that the idea of flint daggers spread from the Skelya Culture to the LVC. This must have taken place in 4100 BC at the latest. Most probably, this process of transmission took place somewhat earlier, before the Skelya Culture ceased to exist. At that time (before 4100 BC), the LVC must have contained at least some rudiments of social elites – adult male warriors – which might be the reason for (and explanation of) the adaptation of prestigious flint daggers. The aforementioned transmission must have taken the form of direct

contact because we do not know any possible intermediaries. For sure, this role was not played by the CTCC communities from the A and BI phases, because there are no known examples of making or using the discussed type of daggers by these people – although they often formed their artefacts with the trough-like retouch.

The region of the late MC and LVC by the Upper Stry and Horyn was the closest one to the area of the Skelya Culture (Fig. 4). The territories of both cultures were located over 500 kilometres apart, but this does not have to mean that direct contacts were impossible to establish. We must remember that the elites of the Skelya Culture participated on a daily basis in the system of exchange of prestigious foodstuffs with even more distant production centres associated with the Varna Culture. They also interacted – but to a considerably lesser degree – with the population of the Pre-Maikop Period from the foreland of the Caucasus and with the Khvalynsk Culture by the Lower Volga River.⁷⁵

The idea of the retouched blade dagger and its meaning as a prestigious tool did not come into being in the LVC. It was neither borrowed from the tradition of the Rzeszów Phase of the MC (like the macrolithisation of the flint industry and the trough-like retouch) nor resulted from contacts with the CTCC (white oil paint used for ornamenting vessels). As mentioned before, the retouched blade daggers attributable to the Eneolithic of the south-eastern, eastern, and central Europe occur only in the funerary inventories of the Skelya Culture and the LVC, whose elites needed different prestige goods to demonstrate their social position. The processes of social diversification and the formation of elites in the Skelya Culture resulted from influences from the KGK VI Cultural Complex, whose artisans produced various prestigious goods (including macrolithic blades), and the CTCC A3–A4 and BI, which served as intermediaries in the spread of the idea of such artefacts to the steppe populations.⁷⁶ On the other hand, the retouched blade daggers formed with the trough-like retouch are an 'invention' of the Skelya Culture – the idea of this artefact type must have come to the LVC in the interfluvial zone of the Stry and Horyn directly from the territories of this culture because we cannot find it in the inventories of the CTCC and the Rzeszów Phase of the MC.⁷⁷

The local Drăgușeni-Jura⁷⁸ Group, sometimes referred to as the Drăgușeni-Druța Type (Fig. 1),⁷⁹ was

⁶⁹ Zakościelna 2010, 247, pl. VII: 1, 296, pl. LXI.

⁷⁰ Zakościelna 2008, fig. 5B: 1, 2; 2010, pl. LXI: 1, 2.

⁷¹ Cf. Kadrow, Zakościelna 2022, 160–166, figs. 3–5.

⁷² Rassamakin 1999, 129.

⁷³ Rassamakin 2004a, 180–182.

⁷⁴ Wilk 2018, 492.

⁷⁵ Rassamakin 1999, 111, fig. 3.42.

⁷⁶ Rassamakin 1999, fig. 3.49.1.

⁷⁷ Kadrow, Zakościelna 2022, 179–182.

⁷⁸ Lazarovici *et al.* 2009, 74–75, 108–110.

⁷⁹ Palaguta 2007, fig. 89.

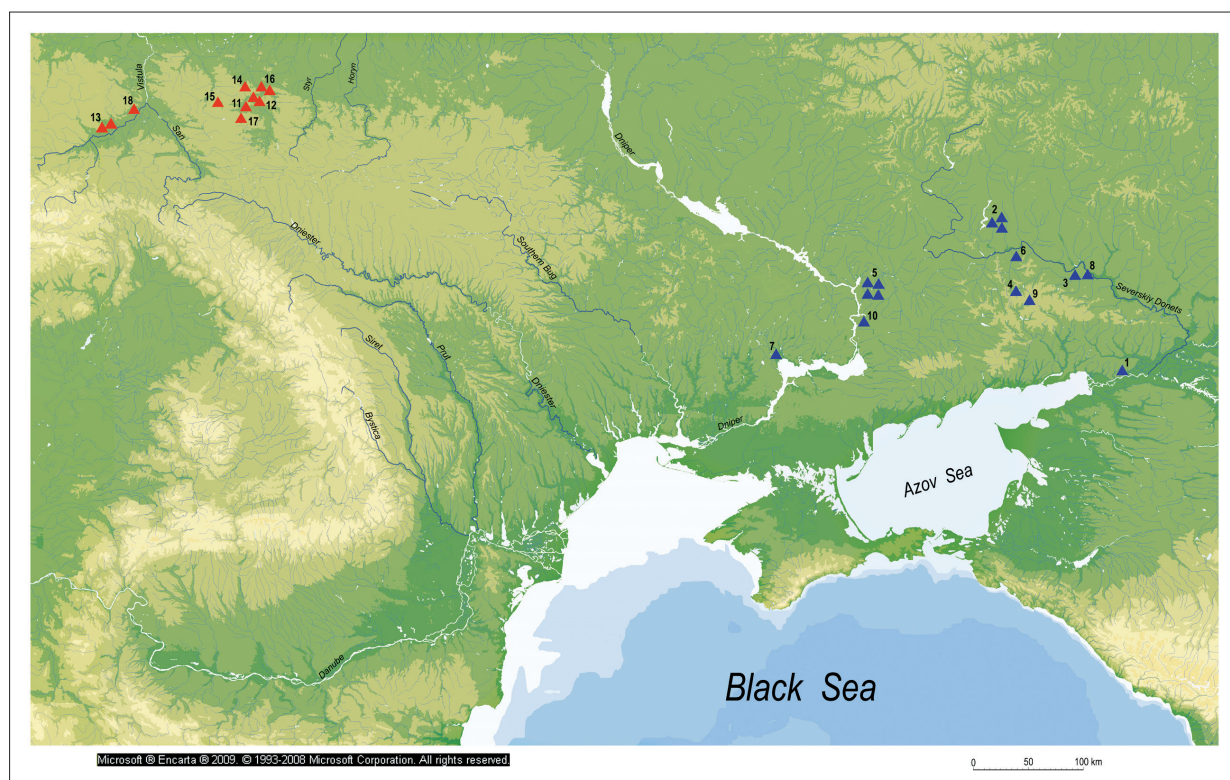


Fig. 4. Male graves of the Skelya culture and the LVC containing retouched blade daggers (according to Rassamakin 2004a, 2004b; Zakościelna 2010). Graphic design by E. Starkova.

located by the Upper and Middle Dniester and Upper Prut, ca. 200 kilometres to the south of the drainage basin of the Upper Styr and Horyn. Its area was probably the zone from which the population of the LVC – forming at that time on the late MC substrate – borrowed the technology of decorating previously fired vessels with white oil paint (Fig. 2; completely neglecting the decorative motifs as well as the morphological and micromorphological elements of pottery attributed to the environment of the Drăgușeni Group). The checkerboard motif, which was the predominant decorative pattern present on the LVC vessels, was probably the original contribution of this culture. In the discussed cultural group, dated to the CTCC A3–4/BI phases (4300–4050 BC), we can see certain signs of dynamic stylistic transformations in pottery, which were harbingers of the subsequent phase (Cucuteni AB/Trypolye BII).⁸⁰

The north-western margin of the Drăgușeni Group (Nezvisko II type),⁸¹ by the Upper Dniester, was occupied by a cluster of CTCC sites (created at the end of

Phase BI and during the BI/BII phases). Pottery with features corresponding to the Polgar style was discovered.⁸² Such features were also recorded at other sites of the Drăgușeni Group located more to the east.⁸³ As we can see, the settlement agglomeration of the borderland between the Upper and Middle Dniester (Drăgușeni Group) became the main centre of cultural changes (e.g., in pottery stylistics) at the end of the 5th millennium BC. It was ahead of the other peripheral groups of the CTCC in developmental processes by more than 100 years.⁸⁴ It also had intensive contacts with foreign cultural environments, for example with the drainage basin of the Tisza and – probably – that of the Upper Styr and Horyn in Volhynia, where the communities of the late phase of the MC exploited Volhynian flint – mainly for their own needs as well as for the population of the Tiszapolgár Culture.

The above-presented data identifies the territories and cultures which can be linked with the origin of important aspects characteristic of the LVC. They also

⁸⁰ Lazarovici *et al.* 2009, 74.

⁸¹ According to Palaguta 2007, fig. 89.

⁸² Kruc, Ryžov 1997, figs. 1, 3–4.

⁸³ Palaguta, Starkova 2018, fig. 2.

⁸⁴ Harper 2021, fig. 3.

suggest the latest possible time when these aspects were adopted by this culture. The flint daggers (Fig. 4) probably originated in the Skelya Culture (4100 BC at the latest). The trough-like retouch is also associated with this culture, but it reached the LVC through the intermediary of the Late MC. Colouring pottery with white oil paint was selected – not later than 4100/4050 BC – from a wide range of different painting technologies used during the younger phase of the Drăgușeni Group within the CTCC (A4). The poor state of research on the Volhynian territories makes it impossible to determine the contours of the region where the aforementioned adaptations took place and where the mechanisms of the LVC origin formed. Most probably, this region is confined within the extent of the drainage basin of the Upper Styr and Horyn (Fig. 1) – inhabited by communities linked with the late phase of the MC and open for contacts with the Tiszapolgár Culture (by “exporting” Volhynian flint, borrowing ornaments in the form of deep strokes on pottery, and the tradition of distinctly profiling bowls and vases). At the beginning of the CTCC BII/AB (from ca. 4100 BC onwards), also the Trypillian “influences” penetrated this territory (e.g., Holyshiv, Bodaki, Ostrog-Zeman and Rivne, Stepova Street).

The heterogenisation (mixing) of cultures – whose best example is pottery discovered in the grave from Rivne, Stepova Street, with features typical of the Polgar, Late Malice, and Trypillia cultures⁸⁵ – must have taken place as early as before 4100 BC, but it probably occurred gradually since ca. 4200 BC.

Contrary to beliefs rooted in culture-historical archaeology, the phenomena of culture merging and the resultant creation of cultural hybrids should not be considered as aberrations.⁸⁶ Modern cultural scholarship questions the validity of defining cultures as pure, homogenous units with clear-cut borders.⁸⁷

In times of crises, hierarchical relations are replaced by horizontal network structures. These are the times when the phenomena of multiculturalism or polyculturalism, heterogenisation, and multi-ethnicity come into being.⁸⁸ Hybrids abolish cultural borders, greatly contribute to the formation of new entities, and foster the creation of different cultures.⁸⁹

The above-presented image of a crisis in the drainage basin of the Upper Styr and Horyn in Volhynia is corroborated by analyses and reconstructions of broader demographic and environmental changes in south-east-

ern Europe. Climatic changes on a great scale – and lasting for prolonged periods – provoked different reactions from people inhabiting various regions.

For example, between 4500 and 4000 BC, we can observe the continuation of the demographic decline of the Gumelnița Culture, which led to its collapse ca. 4000 BC. The deepening crisis of this culture was accompanied by the demographic and territorial expansion (lasting for several centuries) of the CTCC population during Phase A/BI.⁹⁰ At the end of the 5th millennium BC, the main route of population shifts and migrations was directed eastwards, to the drainage basin of the Sieniucha River (between the Upper Southern Bug and Middle Dnieper), which led to the creation of gigantic settlements in the first half of the 4th millennium BC.⁹¹

In the shadow of the above-described important events, between 4200 and 4100 BC, a new entity – the LVC – started to develop in Volhynia, in the environment of the late phase of the MC, which was subjected to the processes of cultural heterogenisation. Only the flint dagger – borrowed from the steppe Skelya Culture and mediating the idea of a hierarchical social structure – could overcome the disintegration of the MC and combine the features of this old entity in the new, now Eneolithic, culture – the LVC.

We use the term “Eneolithisation” according to the definition by Evžen Neustupný, for whom the main aspect of this phenomenon was the patriarchalisation of the social life and a considerable reinforcement of the role of men.⁹² Some males (representatives of elites) might have used prestigious goods – made of different materials, not only copper – to legitimise their new social status. When the LVC started to develop in the drainage basin of the Upper Styr and Horyn, only the retouched blade daggers made of the Volhynian flint could have played this role.

If the above-presented assumption is confirmed, it will mean that the LVC emerged as a result of two independent currents of Eneolithisation: western, based on copper metallurgy (already corroborated by S. Wilk) and eastern – based on the production of flint daggers (which is postulated in this paper).

Verification/falsification of the hypothesis

We came to a conclusion that the superb reconstruction of the Eneolithisation of the Lesser Poland

⁸⁵ Bardets`kyy *et al.* 2020.

⁸⁶ Kadrow *et al.* 2021, 156–157.

⁸⁷ Barker 2005.

⁸⁸ Maffesoli 2008.

⁸⁹ Barker 2005.

⁹⁰ Harper 2019, fig. 3.

⁹¹ Diachenko 2019, 74–76.

⁹² Neustupný 2008, 11; Kadrow 2015, 248–249.

Upland by S. Wilk omits several important cultural aspects. According to us, the anomalies which require explanation are: colouring pottery with white oil paint and the manufacture of retouched blade daggers formed with the trough-like retouch. These questions became our research problems. In order to solve them, we formulated two pertinent assumptions, which are part of the main hypothesis on the more complex process of Eneolithisation of the territory spreading from the Dłubnia River in the west to the Horyn in the east, which was influenced by at least two independent cultural currents. The above-presented problem is linked to the question of absolute chronology.

The value of our hypotheses can be estimated through a field research project, which is supposed to result in finding graves located in the drainage basin of the Upper Styr and Horyn and containing flint daggers as well as pottery decorated with white paint, whose radiocarbon dates are earlier than 4100 BC.

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