

THE WESTERN BORDER AREA OF THE TRIPOLYE CULTURE

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CONTENTS

EDITORS' FOREWORD	5
Mikhailo Y. Videiko, STUDYING WESTERN CONTEXT OF THE TRIPOLYE CULTURE: HISTORY AND SOME PERSPECTIVES	7
Mikhailo Y. Videiko, TRIPOLYE AND THE CULTURES OF CENTRAL EUROPE: FACTS AND CHARACTER OF INTERACTIONS: 4200–2750 BC	13
THE AREAS AND FORMS OF CONTACT OF THE TRIPOLYE CULTURE WITH THE CULTURAL ENVIRONMENTS OF THE VISTULA AND DANUBE DRAINAGES	69
Taras Tkachuk, THE KOSHYLIVTSY GROUP AS SYNTHESIS OF THE TRIPOLYE AND THE POLGAR TRADITIONS	69
Vladimir A. Kruts, Sergey M. Ryzhov, TRIPOLYE CULTURE IN VOLHYNIA (GORODSK-VOLHYNIAN GROUP)	86
Olena V. Tsvek, THE EASTERN TRIPOLYE CULTURE AND ITS CONTACTS WITH THE ENEOLITHIC TRIBES OF EUROPE	111
Tamara G. Movsha, THE TRIPOLYE-CUCUTENI AND THE LENGYEL-POLGAR CULTURES	133
Viktor I. Klochko, Vyacheslav I. Manichev, Viktor N. Kvasnitsa, Sergey A. Kozak, Larisa V. Demchenko, Mikhail P. Sokhatskiy, ISSUES CONCERNING TRIPOLYE METALLURGY AND THE VIRGIN COPPER OF VOLHYNIA	168
THE TERRITORY NEIGHBORING THE TRIPOLYE CULTURE TO THE WEST. UPDATING OF THE SYSTEM OF TAXONOMY OF BAND NAD 'PARA-BAND' GROUPS OF THE VISTULA BASIN	187
Sławomir Kadrow, Anna Zakościelna, AN OUTLINE OF THE EVOLUTION OF DANUBIAN CULTURES IN MAŁOPOLSKA AND WESTERN UKRAINE	187
TRIPOLYE INSPIRATIONS IN THE DEVELOPMENT OF THE CULTURAL ENVIRONMENTS OF THE BALTIC CATCHMENT AREA	256
Janusz Budziszewski, FLINT WORKING OF THE SOUTH-EASTERN GROUP OF THE FUNNEL BEAKER CULTURE: EXEMPLARY RECEPTION OF CHALCOLITHIC SOCIO-ECONOMIC PATTERNS OF THE PONTIC ZONE	256

Aleksander Kośko, Jerzy J. Langer, Marzena Szmyt, PAINTED POTTERY AS A SYMPTOM OF TRIPOLYE "INFLUENCE" IN THE CIRCLE OF NEOLITHIC VISTULA CULTURES	282
References	289
List of Authors	319

Editor's Foreword

The 'western borderland' of the Tripolye culture, appearing in the title of this volume of the 'Baltic-Pontic Studies', refers to the circle of neighbouring cultural systems of the Upper Tisza and Vistula drainages. As neighbours of the Tripolye culture such groups are discussed as Lengyel-Polgár, Funnel Beaker and, albeit to a much narrower extent, the Globular Amphora (cf. B-PS vol. 8) and the Corded Ware cultures. The papers discuss the reception of 'western' traditions by Tripolye communities as well as the 'western borderland' mentioned in the title.

Defined in this way, these questions have been only cursorily treated in the literature. The consequences of accumulated omissions in the study of the cultural surroundings of 'Tripolye' have been felt by us when we worked on this issue. Thus, we submit a greatly limited work as far as its subject matter is concerned hoping that it will open a sequence of necessary studies. Such studies should, in the first place, focus on the co-ordination of the 'languages' of taxonomy and then they should investigate different aspects of the mechanisms of the outlined processes of the 'cultural contact'.

Sławomir Kadrow, Anna Zakościelna

AN OUTLINE OF THE EVOLUTION OF DANUBIAN CULTURES IN MAŁOPOLSKA AND WESTERN UKRAINE*

STATE OF RESEARCH

The stage of fundamental research into the taxonomy and chronology of the Neolithic Danube cultures in Poland has been summed up already several times since the 1970s [Kamieńska, Kozłowski 1970, 1990; Kulczycka-Leciejewiczowa 1979]. Divided into the drainages of the Vistula and Oder rivers, the descriptions included all cultural phenomena of the southern origin from the Early and Middle Neolithic of the Polish lands (Fig. 1). The rise of the post-linear cultures was viewed as a new wave of Near and Balcan Eastern influences. It was then that such cultures as Gumelnița, Cucuteni-Tripolye, Polgár and Lengyel emerged, while gradual transformations of the western portion of the Linear Band Pottery culture (LBPC) led to the rise of the Linear-Stroke Pottery culture (LSPC).

In Małopolska, multidirectional influences on the groups of the late phase LBPC, primarily Lengyel but also Polgár ones, resulted in the rise of a complex of cultural groups referred to as the 'Lengyel-Polgár circle'. Only a slight influence on their emergence was exerted by the Linear-Stroke Pottery culture [Kulczycka-Leciejewiczowa 1979:99-100]. In the case of the Samborzec group, Lengyel influences were more strongly marked, whereas the Malice group was under stronger Tisza influences. For both groups, Linear-Stroke Pottery culture influences were less important. The source of these influences was identical in both cases, i.e. the late groups of the Linear Band Pottery culture. Owing to the presence of red-paint ornamentation in the Samborzec group, it was synchronised with Lengyel I and LSPC III, while the Malice group, because of its

* The paper was inspired by the need to argue with positions held by scholars studying the 'western borderland of the Tripolye culture' and revealing a lack of a clear taxonomic interpretation of linear and post-linear groups of the Vistula drainage [editor's comment].

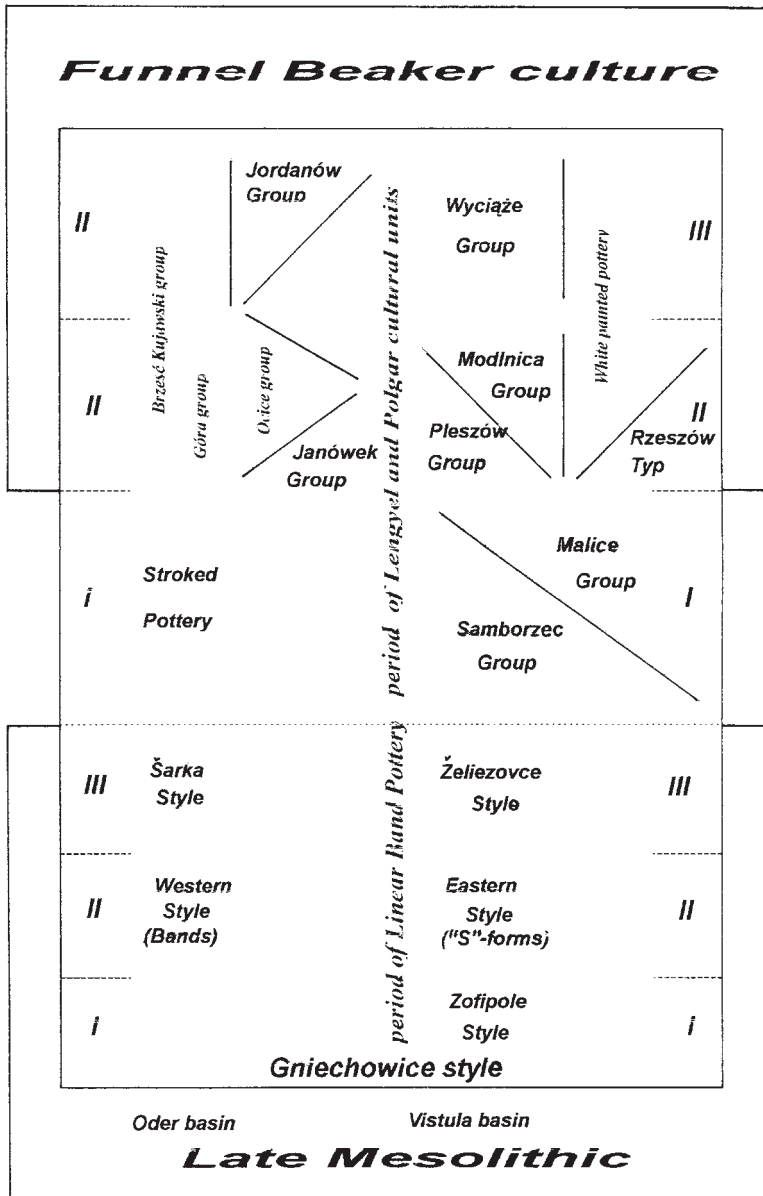


Fig. 1. Taxonomy and chronology of Danube cultural units in Poland (after Kulczycka-Leciejewiczowa 1979).

characteristic white-paint pottery ornamentation, was synchronised with Lengyel II and LSPC IV [Kulczycka-Leciejewiczowa 1979:102].

An alternative approach suggests a cultural and settlement hiatus in western Małopolska between the decline of the LBPC and the beginning of the Samborzec-Opatów group. Consequently, the origins of this group are sought outside Małopolska (specifically in the borderland between Moravia and western Slovakia) assuming that it appeared on the Upper Vistula as a result of migration. What is stressed is the fact that local roots of the cultural unit cannot be found [Kaczanowska 1990:75-83]. A similar view has been also expressed in respect of the Malice group/culture. Its syncretic character has been emphasised by observing that it incorporated elements of the LSPC, 'Lengyel-like' ones and others coming from the Tisza valley [Kaczanowska 1996:20]. At the same time emphasis was laid on great difficulties in establishing the type of cultural relationship linking the Malice culture to the last mentioned area [Kaczanowska 1996:25]. Taking the Malice group to be later than the Samborzec-Opatów group, while lacking any arguments in favour of linking the former to the local cultural environment (i.e. late LBPC groups), implicitly suggests that its roots should be searched outside Małopolska. The most probable place of origin of this group seems to be the borderland between Moravia and Upper Silesia [Kozłowski 1988:48-49].

There is no argument over the participation of the western Małopolska Pleszów and Modlnica groups in the Lengyel circle [Kulczycka-Leciejewiczowa 1979:112-115; Kozłowski 1989:183-186; Wojciechowski 1989:171-176], nor is there any controversy about the fact that the Rzeszów group, located more to the east, as well as Wężeńców-type complexes, the Złotniki-Wyciąże group and the Lublin-Volhynia culture belonged to the Polgár circle [Kulczycka-Leciejewiczowa 1979:116-126; Kozłowski 1989:192-198]. There is no argument, either, concerning the chronological position of the above-named cultural units (Fig. 1).

Ukrainian researchers commonly identify all the so-called Danubian cultural groups of western origin with the Lengyel culture. At times, all the materials known from western Ukraine are included in the 'Lengyel culture' without even making an attempt to distinguish smaller regional or temporal units within the culture [Konopla 1982]. More frequently, however, such materials have been classified into smaller cultural units. Thus, the distinction of Hoszcza-Werbkowice type [Zakharuk 1971:214] was made, known also as the Werbkowice-Kostyanets culture, contrasting it with the Zimne-Złota culture. The latter was identified as older [Peleshchyshyn 1974:112-115; 1985:269]. Later on, materials from Golyshev were taken to be transitional, linking the two above-mentioned units of the Lengyel culture [Peleshchyshyn 1989:12-25]. Occasionally, the temporal sequence of Werbkowice-Kostyanets and Zimne-Złota units was reversed. The former was treated as being older than the Zimne-Złota culture [Konopla 1990]. Without giving up the practice of referring to all the discussed phenomena as the Lengyel culture, some Ukrainian researchers began using Polish nomenclature of respective cultural units. Consequently, such names as Malice culture and Lublin-Volhynia culture appeared [Konopla 1997; 1999].

THEORETICAL FOUNDATIONS OF A NEW OUTLINE OF THE EVOLUTION OF
DANUBIAN CULTURES NORTH OF THE CARPATHIANS

Presented in this paper, a new approach to the taxonomy and chronology of Danubian cultures in Małopolska and western Ukraine was inspired by new hypotheses of cultural development published in recent years and a number of new discoveries that shed new light on several crucial moments in the development of the discussed cultural groups.

The analysis of the character and chronology of LBPC settlement in the territories of eastern outskirts of Poland and in the Ukraine [Kozłowski 1985] led to an important conclusion. It turned out that the territory was settled mainly in the 'music note' phase. In the beginning of the *Želiezovce* phase, in the region of Rzeszów, a disruption occurred which severed links between the development centre of the eastern branch of the LBPC, located in south-western Slovakia, and the said territories. As a result they were cut off from *Želiezovce* influences and continued the 'music note' development stage also in later periods yielding at the same time to ever stronger influences coming from the circle of Eastern Linear cultures [Kozłowski 1985:69]. By subjecting certain pottery assemblages of 'music note' character (e.g. Kormanice, Kotovanie) to a detailed analysis, certain traits were revealed in them indicating that they were contemporaneous with the *Želiezovce* phase and Bükk culture. The cited examples fit into a wider context. So far, no sites related to the final period of LBPC development, known as *Želiezovce* phase III, have been discovered in Małopolska. Stylistically the youngest assemblages of this culture, linked to *Želiezovce* phase IIb, are unearthed only near Kraków [Godłowska 1982:153]. While materials from a slightly older period are observable also on the loess soils of Sandomierz and Rzeszów [Kamieńska 1964; Kadrow 1990:63, Fig. 9]. In the valley of the San River, in the Lublin region and in the western part of the Volhynia Upland one can observe scarce traces linked, at best, to the beginning of the *Želiezovce* phase [subphase I - cf. Kozłowski 1985:55-60]. In the territories located farther east discoveries are made only of sites stylistically associated with the 'music note' phase and sporadically older (Fig. 2).

It has turned out that with time successive areas located north and north-east of the arch of the Carpathians settled by LBPC populations gradually lost their ties with the most vital centre of this culture in south-western Slovakia. The farthest areas of settlement, located in the Dniester drainage and in Volhynia lost the ties already towards the end of the 'music note' phase. The western part of Małopolska was cut off from the mentioned influences with the end of *Želiezovce* phase IIb. The observed phenomena set a temporal-spatial pattern (Fig. 2, 3). The more the zone of influence of

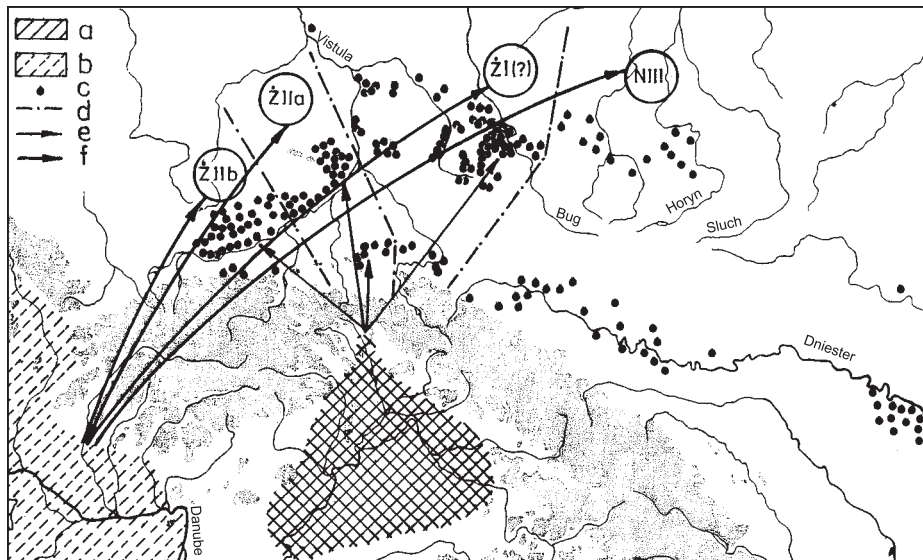


Fig. 2. The influence range of the core of the eastern province of LBPC in south-western Slovakia in different development stages of the culture (from the decline of the 'music note phase' [NIII] until the middle stage of the *Żeliezovce* phase [ŽIIb] in Małopolska and western Ukraine. a - circle of eastern linear cultures; b - Linear Band Pottery culture in SW Slovakia and Moravia; c - Linear Band Pottery culture sites; d - borders between cultural areas; e, f - major directions of influences.

the centre in south western Slovakia shrank the stronger was the impact of Eastern Linear cultures in the form of the higher incidence of imported obsidian [Brzowski 1986, map II; Ścibior 1992]. It accounted for as much as 30 percent of the raw material of stone inventories [e.g. Rzeszów-Piastów estate, feature complex no. 96 - cf. Kadrow 1990:47; 1990b, Fig. 14]. Another proof of mounting influence from that direction is increased import of the pottery of the Bükk culture [about 15 percent in pit no. 40 at Rzeszów-Piastów estate, cf. Kadrow 1990b:55], Samosz group [complex of features no. 80, Rzeszów site, Piastów estate; - cf. Kadrow 1990:63, Fig. 14] and the Szarvas-Érpart type [Świerszczów Kolonia, site 28 - cf. Zakościelna 1988:9, Fig. 2] and numerous examples of imports of diverse cultural groups at Nowa Huta sites [Godłowska 1982]. At the same time, the share of Jurassic flint was decreasing systematically in successive development phases of LBPC populations (from about 70 at the beginning of the 'music note' phase to approx. 40 percent at the end of the *Żeliezovce* phase at Rzeszów-Piastów estate; cf. Kadrow 1993:389) being a measure of the waning influence of the western centres of this culture on the areas lying farther east.

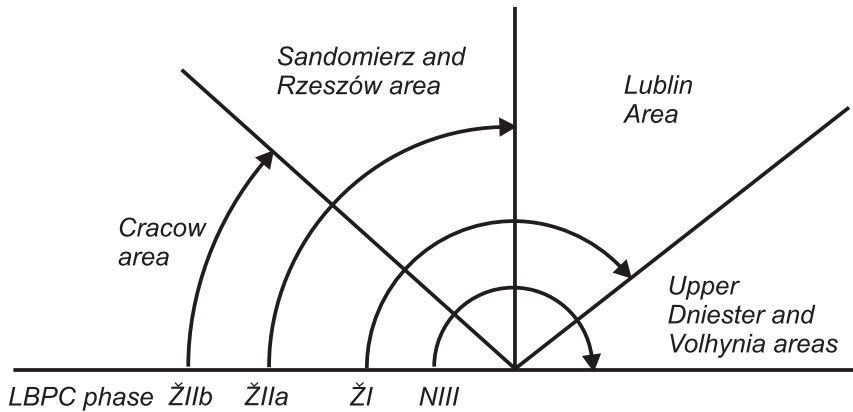


Fig. 3. Model of the influence range of the core of the eastern province of LBPC in south-western Slovakia in different development stages of the culture (from the decline of the 'music note phase' [NIII] until the middle stage of the *Želiezovce* phase [ŽIIB]).

In the light of the above facts, different rates of the stylistic development of pottery in various areas, including long arrests in some of them, seem to be uncontroversial. Besides, the development occasionally progressed in many different directions, which is beyond argument as well. This is especially clear in the case of the population groups inhabiting the Dniester drainage and Volhynia who were attached to the principles of pottery production typical of the 'music note' phase until the end of the LBPC. The most important consequence of ascertaining the mechanism of delaying or arresting stylistic-typological transformations of pottery should be the rejection of a possibility of making any sensible pronouncements on the chronology of settlement of a territory, including the questions of settlement continuity and gaps, solely on the basis of ascertaining continuity or a so-called taxonomic gap (stylistic and typological). This conclusion agrees with a pithy assertion of Lech Czerniak that '...the existence of a *taxonomic gap* between the materials of the LBPC and LLPC [Late Linear Pottery culture in Kujawy] may be potentially disproved, but never confirmed' [Czerniak 1996:74].

A considerable contribution into a new understanding of the cultural situation in the area in question is made by the theory of the Malice culture (not group!) considered a unit having a separate taxonomic position. It is the third independent cultural unit in the post-linear landscape next to the Lengyel culture originating with the *Želiezovce* group and the Linear-Stroked Pottery culture that emerged from the western province of the LBPC [Kaczanowska, Kamińska, Kozłowski 1986:117-118; Kozłowski 1986:304; Kozłowski 1988:48-49; Kozłowski 1996:154].

A REVIEW OF DANUBIAN CULTURAL UNITS IN MAŁOPOLSKA AND
WESTERN UKRAINE

1. Linear Band Pottery culture (Fig. 4, 5)

The LBPC settlement in the area of interest to us here belongs to its so-called eastern province. The settlement encompasses western and Sandomierz loess highlands, the belt of Carpathian Foothill loess soils, the Lublin and Volhynia uplands, Upper Dniester drainage and Moldavia (Fig. 4). The centre that created its stylistic image was located in south-western Slovakia and western Małopolska. LBPC populations settled different regions of Małopolska already in its oldest period known as the ‘pre-music note’ phase (I). It corresponds to the complexes of the so-called Flomborn phase in Rhineland [Richter 1969], ‘ačkova’ phase in Bohemia and Moravia [Jira 1911] and four ‘pre-music note’ horizons of the oldest linear pottery in south-western Slovakia [Pavúk 1980]. The phase is divided into two subphases: (a) Gniechowice and (b) Zofipole. As they have been already exhaustively characterised [Kulczycka-Leciejewiczowa 1983, 1987, 1988], we shall give here only the most typical examples of the settlement of those times and some recently discovered sites. The most numerous materials from that period come from the loess soils of western Małopolska and the vicinity of Sandomierz [Kamieńska 1964; Kulczycka-Leciejewiczowa 1983, 1987:293-295]. The results of recent excavations enlarge the catalogue of the oldest LBPC traces by sites located in Wieliczka Foothills (Fig. 5; cf. Kukułka 1997:Tab. III), Rzeszów Piedmont [Kadrow 1990:Fig. 16:a-d, f-h; 1997:Fig. 8:a, d, f] and Volhynia [Uzarowiczowa 1964; Buszewicz 1990:Fig. 3:4].

The whole territory under discussion is interspersed with numerous sites yielding materials dated to the ‘music note phase’ of the LBPC. In some locations (e.g. Rzeszów-Piastów estate) it was possible to distinguish within it chronological subphases such as (a) early — NI, classic — NII and (c) late — NIII [cf. e.g. Kadrow 1990:60-62, Fig. 5-7, 28], which are consistent with the development rhythm of the LBPC in south-western Slovakia [Pavúk 1969]. In other locations, e.g. Kraków-Nowa Huta, site 62, the phase could be divided into an older and younger ‘music note’ subphases (Mogiła; cf. Godłowska 1991, 1992:24-36). It is with this phase that a vast majority of materials from Volhynia and the Upper Dniester drainage are connected [Zakharuk, Telegin 1985].

In the Żeliezovce phase, one can observe a process of gradual waning of the influence of the centre in south-western Slovakia, which has already been mentioned above (Fig. 2, 3). The process is manifested by a total absence of Żeliezovce materials east of the Bug and San rivers and a limited occurrence of pottery from the beginning of the classic subphase (ZIIa) in the areas west of Sandomierz and Łańcut. Artifacts from the next subphase (ZIIb) are found only in the region of Kraków [Godłowska 1982:153] not counting occasional examples from Sandomierz-Kruków [Michalak-Ścibior, Taras 1995:Fig.

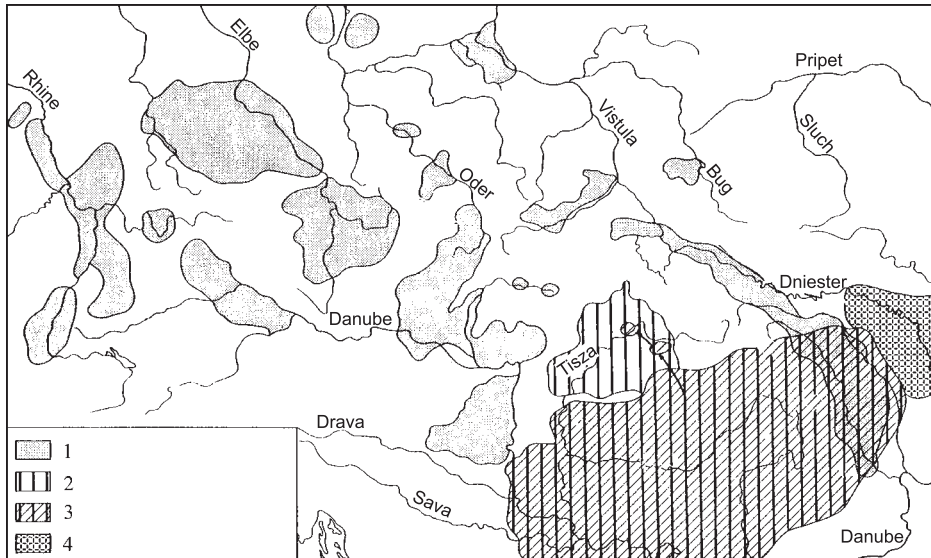


Fig. 4. The maximum range of LBPC (1) against the background of circle of eastern linear cultures (2), Körös culture settlement (3) and the Bug-Dniester culture (4) (after Kozłowski, Kozłowski 1977).

39:1, 4, 8], whereas phase ZIII is observable only in Slovakia. Similarly to the ‘music score’ phase, the assemblages of the *Želiezovce* phase can be divided in several cases into subphases [e.g. Nowa Huta settlement assemblage, cf. Godłowska 1982:152-153, Fig. 4; and on Rzeszów-Piastów estate, cf. Kadrow 1990:63, Fig. 8-9] identified earlier in south-western Slovakia [ZI, ZIIa, ZIIb, cf. Pavúk 1969].

2. Post-linear cultural units

Whereas the questions of taxonomy and chronology of the LBPC in Małopolska and western Ukraine fit easily into classic schemata [Kozłowski 1974; Kulczycka-Leciejewiczowa 1979; Godłowska 1982; 1992; Kadrow 1990], in the case of the post-linear period in the development of Danubian cultures we suggest several new solutions. In the light of the current state of research, we take as proven the different rate of stylistic development of pottery in different regions of the LBPC [cf. also Kozłowski 1985] and a very low probability of total depopulation of vast expanses of land for long periods postulated for the sole reason of want stylistic and typological links between the LBPC and the Samborzec-Opatów group or the Malice culture [cf. Kaczanowska 1990:Fig. 10]. Please observe that in the case of territories located east of the Bug and San rivers, the so-called taxonomic gap is defined by the end of the ‘music note’ phase of the LBPC and the beginning of the classic phase of the MC. Thus, in terms of absolute dates the depopulation period might have lasted as long as 200 years! Moreover, a considerable demographic potential of the LBPC population makes us believe that LBPC people had

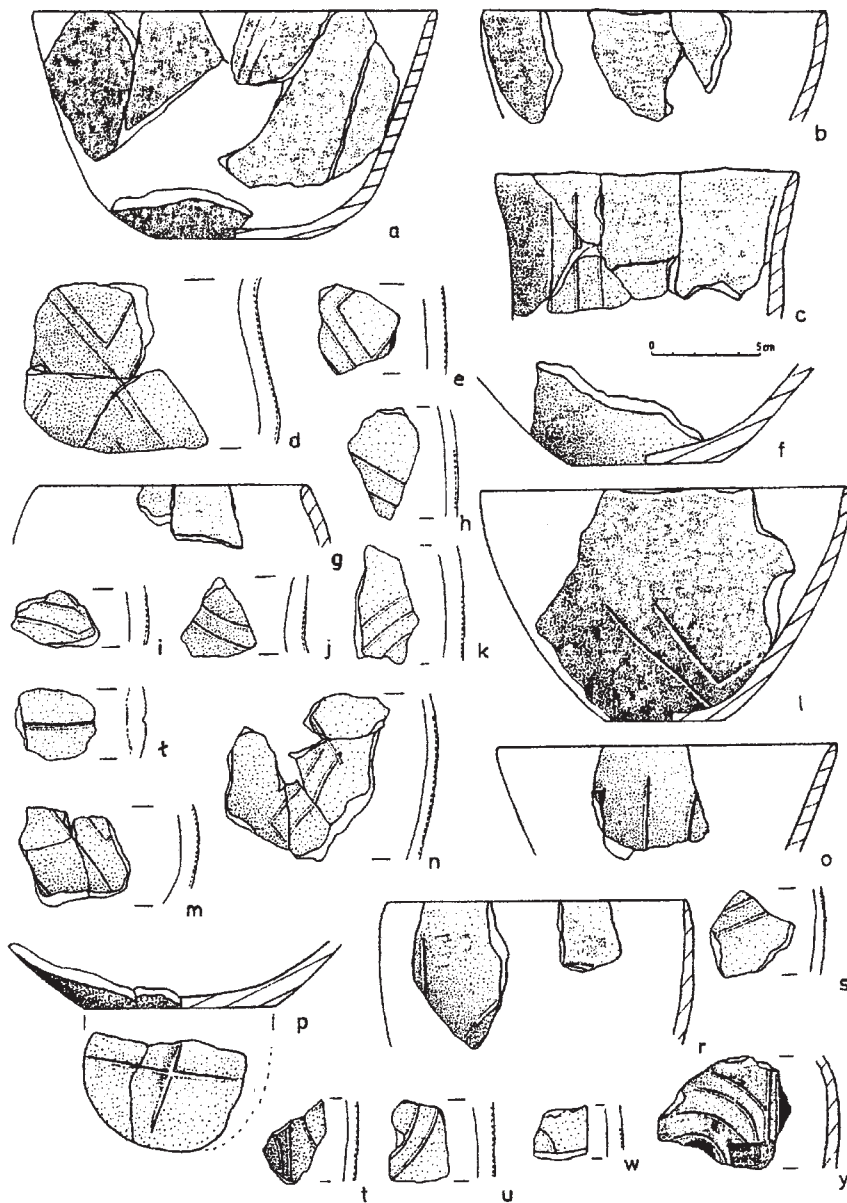


Fig. 5. LBPC pottery, phase I (Gniechowice) from Gwoździec (after Kukułka 1997).

a substantial share in the laying of foundations for a new cultural system. This solution was suggested after considering a cultural change in the Rzeszów settlement microregion [Kadrow 1990b:59-63].

Works published on the Samborzec-Opatów group, which was first distinguished by Zofia Podkowińska [1953:32-44] and then defined many times [Kozłowski 1966; Kamieńska 1967; Kamieńska, Kozłowski 1970; Kozłowski, Kozłowski 1977; Kaczanowska 1990; Kaczanowska, Kozłowski 1994], emphasised its division into two territorial subgroups: (a) Kraków and (b) Sandomierz ones. The Kraków subgroup is characterised by a high share of pear-shaped beakers and beakers on a hollow foot and a high frequency of a meandering, horizontally stretched ornament and angular patterns. While in the Sandomierz subgroup, vessels with bulging necks and thick walls are frequent, with the dominant ornament being horizontal bands [Kaczanowska 1990:87-93; Kaczanowska, Kozłowski 1994:85-88]. In the Kraków subgroup flint industry relied on Jurassic material whereas in the Sandomierz subgroup chocolate flint was used [Kaczanowska 1990:93].

In the Samborzec-Opatów group, Lengyel and stroked elements are visible. Among the former are amphorae with globular bellies and cylindrical necks, beakers on a hollow foot and red-paint ornaments as well as incised ones. Elements taken from the LSPC include biconical beakers and the idea, technique and several motifs of stroked ornamentation [Kaczanowska, Kozłowski 1994:92-94]. Important for the interpretation of the differences between the Kraków and Sandomierz subgroups was the processing of materials from site 20 in Rzeszów [Kadrow 1990a]. Next to stroked elements in the form of biconical beakers and stroked ornamentation, characteristic of phase III of the Bohemian LSPC [Zápotocká 1970:6], vessels with bulging necks, typical only of Samborzec-Opatów group, are recorded here [Kadrow 1990a:Fig. 2, 3]. However, there are absolutely no elements that are believed to be typically Lengyel.

Considerable differences in the adaptation of Lengyel elements between the Kraków and Sandomierz subgroups of the Samborzec-Opatów group and on site 20 in Rzeszów make us consider them as separate but contemporaneous cultural units. Their contemporaneity is decided by patterns of stroked ornaments that may be synchronised with phase III of LSPC. In the Kraków subgroup (Fig. 6), the Lengyel influences are the most pronounced (painted ornaments and appropriate vessel forms), which — as it has already been mentioned — are totally absent at site 20 in Rzeszów. An intermediate position between the two is occupied by the assemblages of the Sandomierz subgroup. Thus, legitimately, as part of the Lengyel culture can be considered only the Kraków subgroup. The Rzeszów assemblage (Fig. 7), because of its clear affinities with the classic phase of the Malice culture (biconical beakers with a slightly flared rim and a shoulder marked only with a group of bosses and a chevron motif made using the pricking technique and with generally richer ornamentation of pottery), facing a lack of Lengyel connections, may be believed to be a representative of the oldest phase of the Malice culture — Ia [Kadrow 1990a:99-102]. The transitory and mixed character of the Sandomierz subgroup

[cf. also Kaczanowska 1990:93] does not justify its inclusion in either the Lengyel or the Malice culture [different positions: Kaczanowska 1990; Michalak-Ścibior 1996:47]. The situation thus outlined does not fit into any of the existing schemata of cultural taxonomy. Below, we shall propose other solutions in this respect.

2a. Lengyel culture — (in the cultural taxonomy hitherto used) Kraków subgroup of the Samborzec-Opatów group (Fig. 6).

The inventories of this cultural unit include three groups of pottery: (a) vessels decorated with pricks, (b) thin-wall vessels with painted ornaments and (c) the so-called crudely made pottery. Pottery forms are dominated by biconical forms (44.6%) and beakers on a hollow foot (20.5%). Quite frequent are Lengyel-like, small amphorae (6.3%). Among the ornament patterns the most popular are a horizontally stretched, powrotny meander (52.5%) and various angular motifs (41.2%). Also characteristic is a relatively high share of pottery made of plastic mass leaned with a large amount of sand, which might be related to salt production [Kaczanowska 1990:87, 93; Kaczanowska, Kozłowski 1994:85-88].

Flint industry was almost entirely based on Jurassic material. What was used was single-platform cores with the striking surface located on the narrower side. Neither their striking platforms nor the striking surface were subjected to overly elaborate initial treatment. The tools used include scrapers, truncated pieces, retouched blades and perforators [Kaczanowska, Kozłowski 1994:90-91].

The Kraków subgroup was contemporaneous with phase Ia of the Lengyel culture because of the presence of ornament patterns incised and painted with a red paint and with phase II of Herpály culture because of the use patterns painted with a black paint [Kaczanowska, Kozłowski 1994:97]. The majority of prick ornaments (angular motifs and meanders) have their counterparts in phase IVa of the LSPC in Bohemia. Some of them (bands) show also affinities with phase III of the said culture. Chronologically, it corresponds to phase Ia of the Malice culture.

2b. Early Malice-Lengyel mixed group — (in the cultural taxonomy hitherto used) the Sandomierz subgroup of the Samborzec-Opatów group (Fig. 7).

Up till now, attention has been drawn to the Lengyel character of this subgroup with a strong participation of Malice elements [Kaczanowska 1990:93] or to its early Malice quality but drawing attention to evidently Lengyel elements [Michalak-Ścibior 1996:47]. Occasionally, Lengyel-like small amphorae and beakers on a hollow foot are recorded here. These vessels as a rule are decorated with a painted ornament. Slightly less numerous, biconical beakers usually decorated with pricks account for 36.4% of vessels. Moreover, they have sharper profiles and their rims are slightly flared similarly to classic Malice assemblages. One can also find here many vessels with bulging necks and large vessels of the so-called crude manufacture. The flint industry is based on chocolate raw material. The technique of procuring semi-finished products and the tool structure show close affinities with the Kraków subgroup [Kaczanowska 1990:87-93; Kaczanowska, Kozłowski 1994:88-91].

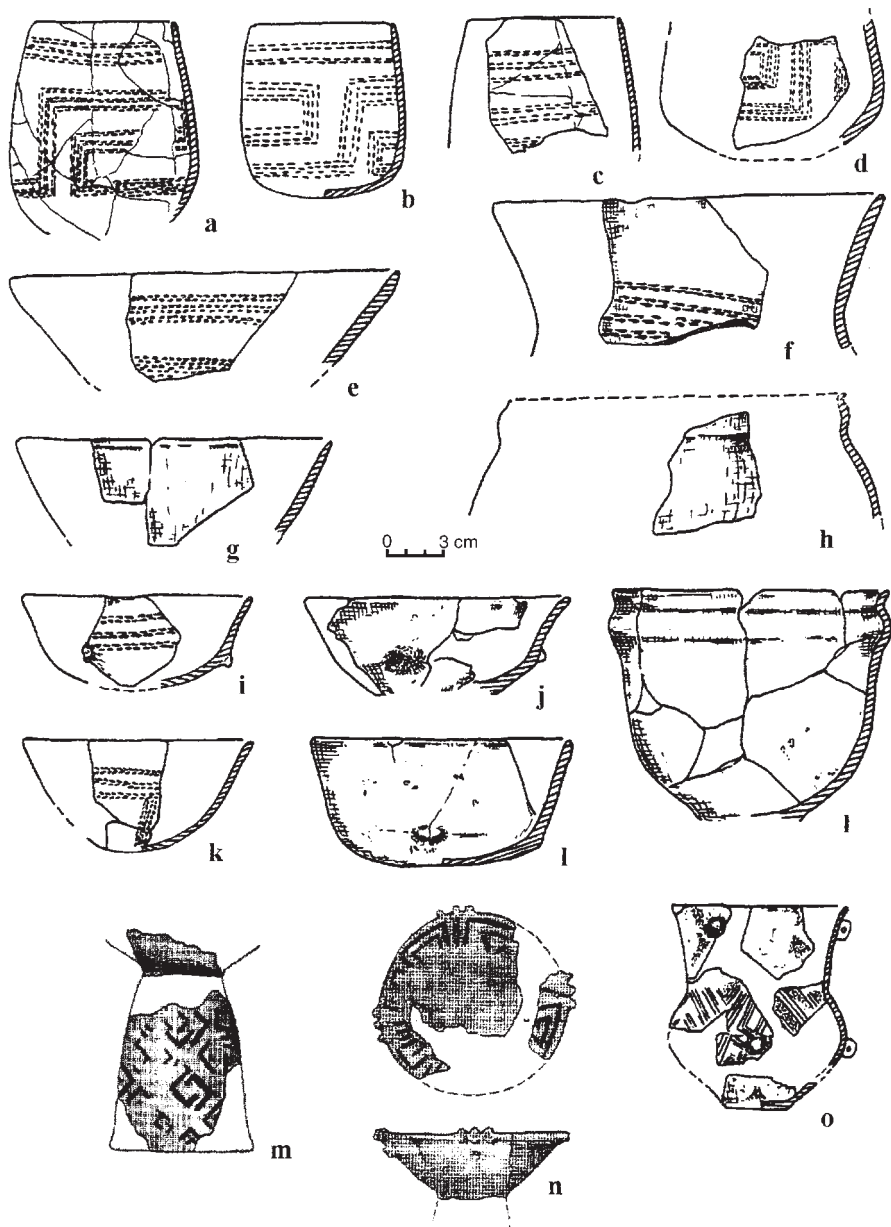


Fig. 6. Pottery of Kraków subgroup from Kraków-Nowa Huta-Pleszów (a-l, n-o) and Zofipole (m).

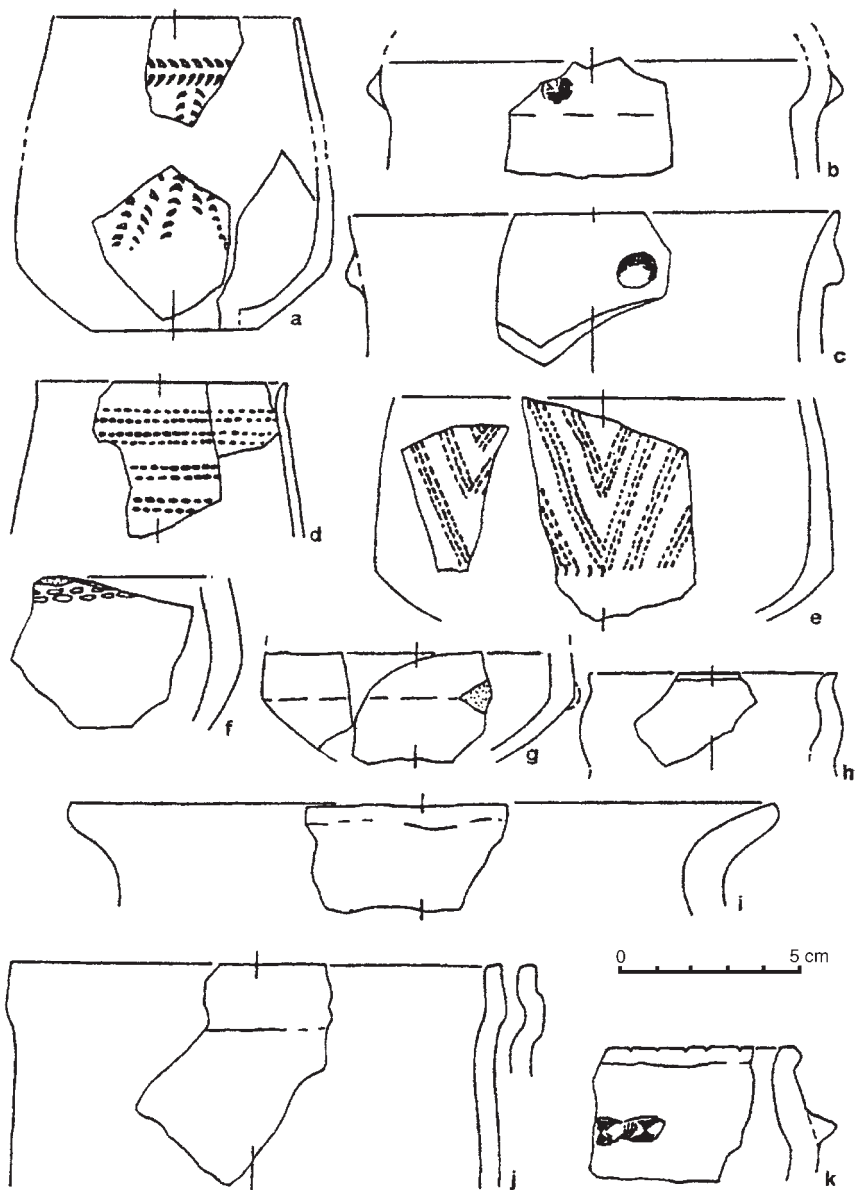


Fig. 7. Malice culture pottery, phase Ia, from Rzeszów, site 20.

The Lengyel elements observed in the Sandomierz subgroup allow us to synchronise it with Lengyel Ia phase. Frequently encountered, the motif of prick bands links it more strongly, however, to phase III of the LSPC in Bohemia. Thus, it seems that its beginnings should be dated to the time slightly earlier than the rise of the Kraków subgroup, while its lifetime should be entirely synchronised with phase Ia of the Malice culture.

2c. Malice culture — phase Ia — early (Fig. 8).

The description of this phase relies on the inventory of site 20 in Rzeszów [Kadrow 1990a]. The most numerous group is made up of the pottery of the so-called crude manufacture sometimes decorated with appliqué bosses. The second largest group is formed of vessels with a bulging neck. There is considerably less thin-wall pottery decorated with pricks arranged in bands and angles. These forms bear typical Malice traits. Biconical beakers have sharper profiles, while belly shoulders are sometimes accented with bosses. The necks of these vessels are slightly flared in a typically Malice manner. Absolutely no pottery of clear Lengyel connections can be found. Nor any painted pottery has been recorded yet. On record, there are, however, occurrences of tub-like vessels so characteristic of the classic phase of the MC. A modest assemblage of flint artifacts does not differ much, in terms of either raw material (chocolate flint) or technology and tool structure, from the assemblages of the Sandomierz subgroup.

Bands of pricks and simple angular motifs find their closest equivalents in phase III of the LSPC in Bohemia. Numerous vessels with a bulging neck make it possible to synchronise phase Ia of the MC with the Sandomierz subgroup. This, in turn, justifies dating it contemporaneously with the Sandomierz subgroup and somewhat earlier than the Kraków subgroup. Another reason for such dating is the direct succession of the Żeliezovce IIa phase by the early Malice settlement in the region of Rzeszów, whereas the Kraków subgroup in the same region follows only the Żeliezovce IIb phase of the LBPC (Fig. 9). Besides site 20 in Rzeszów, this phase also comprises part of the materials from site 2 in Ćmielów [Michalak-Ścibior 1994].

2c. Malice culture — phase Ib — classic (Fig. 10)

The phase under discussion has been identified until recently with the whole of Malice culture (group) that was distinguished by Janusz Krzysztof Kozłowski [1966] and Jadwiga Kamieńska [1973] primarily on the basis of materials from the eponymous site in Malice [Kamieńska 1959, 1972].

The description of the classic phase is supplemented by the discussions of materials of this culture from the vicinity of Rzeszów [Kadrow 1990], Nowa Huta [Kaczanowska 1996] and from the Lublin and Volhynia uplands [Zakościelna, Gurba 1997].

The domination of pottery of the so-called crude manufacture (also known as ‘kitchen pottery’), whose ceramic mass was rarefied with broken pottery, is readily observable. Rare painted pottery (up to 3%) is recorded only in areas where traces of the Lengyel culture were observed earlier, i.e. in the vicinity of Kraków [Kaczanowska 1996:9] and occasionally around Sandomierz. The designs are painted in red and white paint. Slightly more frequent is ceramics decorated with stroked ornament made with a multi-toothed

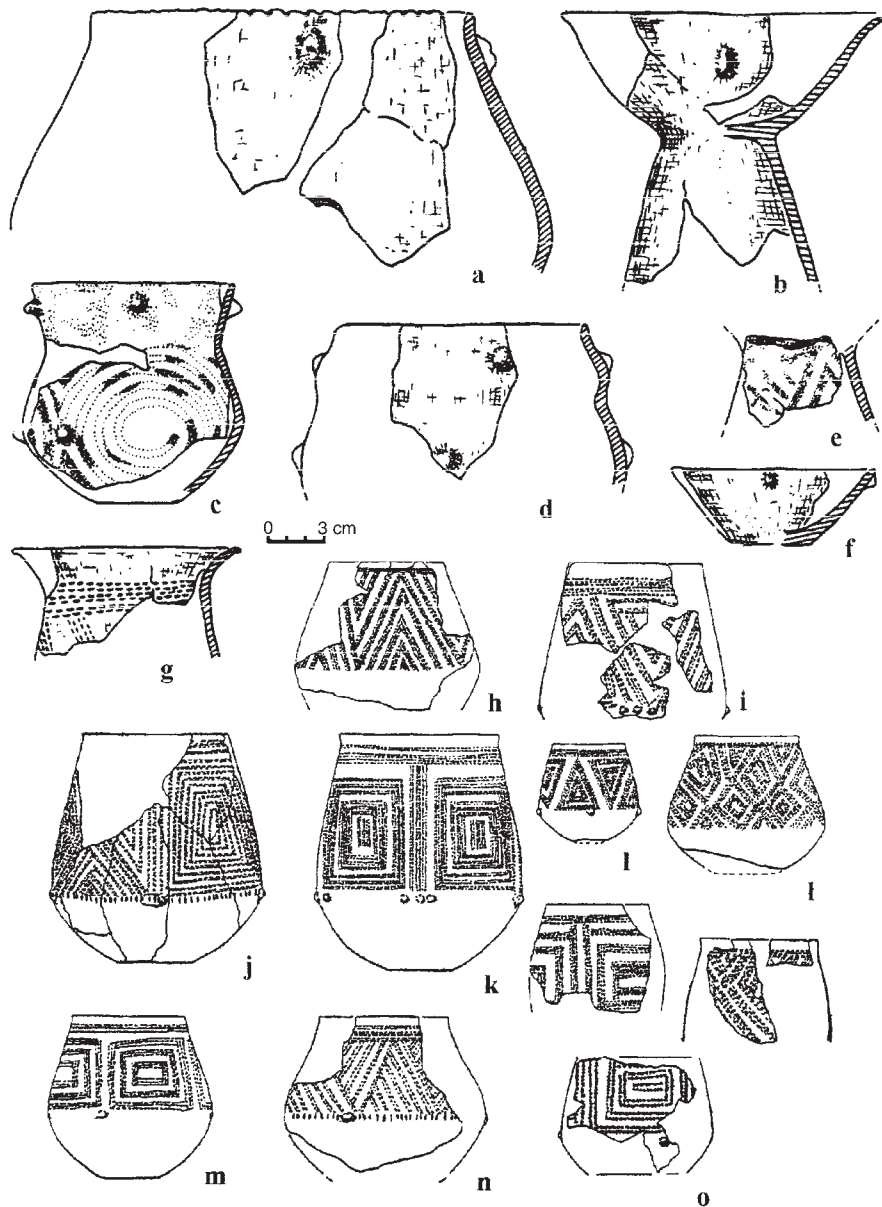


Fig. 8. Pottery of Sandomierz subgroup from Samborzec (a-g) and Ćmielów (h-o).

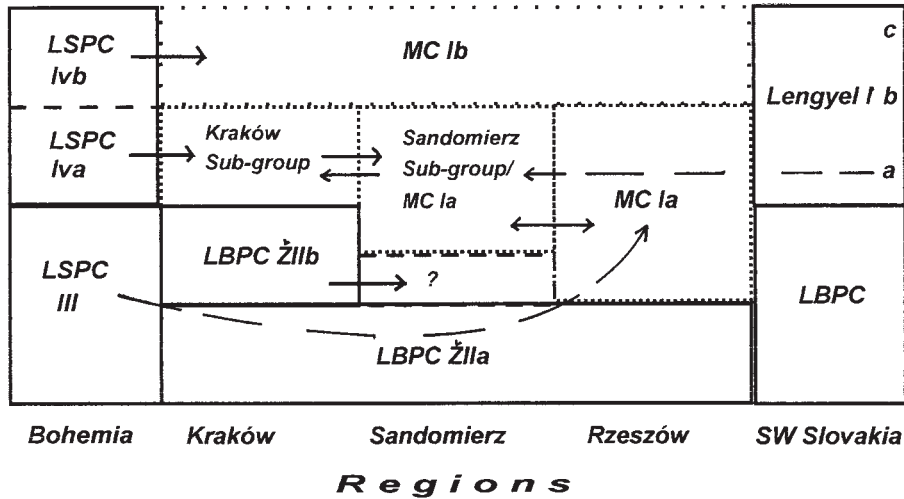


Fig. 9. Chronological relationships between Kraków and Sandomierz subgroups and the oldest phase of the Malice culture against the relative chronology of the LSPC and Lengyel culture.

tool [Kozłowski, Kozłowski 1977:280]. This manner of decoration was used chiefly on biconical beakers, which had sharper profiles and slightly flared rims. Belly shoulders were quite frequently accented with small bosses. Among stroked motifs, a meander is lacking. The pricks were made on a thin layer of slip, which was easily damaged. Besides there are also rectangular or tub-like vessels, very typical of the MC, as well as vessels known from other cultural units, e.g. bowl-like ones, small amphorae, vessels on a hollow foot or a pedestal and large bulbous vessels [Kamieńska 1973].

The flint industry of settlement clusters in the vicinities of Sandomierz and Rzeszów relied on chocolate flint [e.g. Kadrow 1990:Fig. 26a; 1990a], whereas in the vicinity of Kraków, Jurassic material continued to dominate [Kozłowski, Kozłowski 1977:280-282]. On the Nałęczów Plateau [Zakościelna, Gurba 1997:202], near Sandomierz [Michalak-Ścibior 1994:77-79] and Rzeszów [Kadrow 1990:Fig. 26a] a certain role was played by the import of obsidian.

In its classic phase (Ib), the MC expanded virtually in all directions (Fig. 10). From the Sandomierz-Kraków centre it spread to western Małopolska that had been occupied earlier by the Kraków subgroup and further to the south-west, to Upper Silesia and northern Moravia [Košťurík 1996], to eastern Slovakia [Vizdal 1973] and to Transcarpathian Ukraine [Kaczanowska, Kamieńska, Kozłowski 1986], to the north to Kujawy [Czerniak 1980] and to the east to Volhynia and to the Upper Dniester region [Zakościelna, Gurba 1997:201-202]. Especially interesting are new reports on the classic Malice settlement in Volhynia, because of later rather intensive settlement of this culture representing the

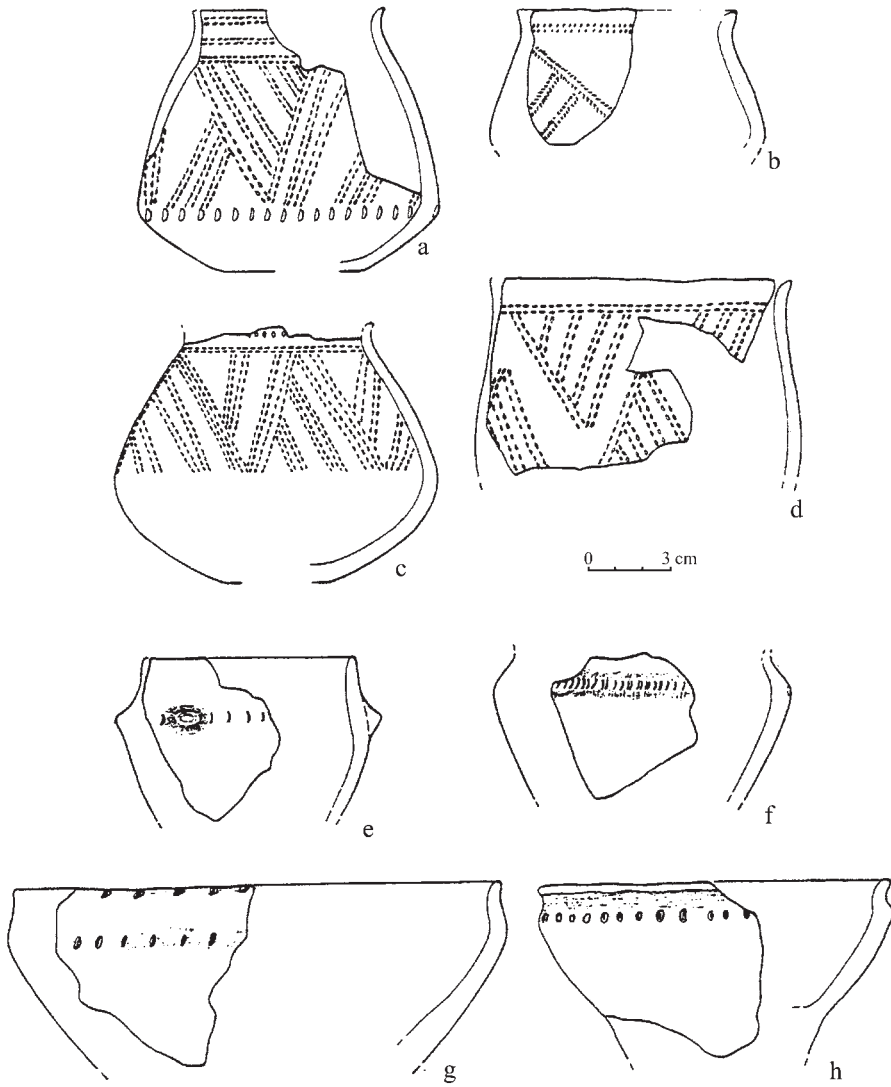


Fig. 10. Malice culture pottery, phase Ib, from Las Stocki.

next phase, i.e. the Rzeszów phase (MCIIa). Among the Volhynia sites of phase Ib of the MC, one can name Strzyżów [Podkowińska 1960:47, tab. I:2, 4), Łuck and Myszków [Cynkałowski 1961:31] as well as Komarno on the Upper Dniester [Zakościelna, Gurba 1997:Fig. 1].

The relationships of the MC with the Tisza drainage are very difficult to determine [Kaczanowska 1996:25]. Only affinities with the LSPC allow us to establish the contemporaneity of the classic phase assemblages of the MC and phase IVb of the LSPC [Kaczanowska 1996:25].

2c. Malice culture — phase Ic — late classic (Fig. 11)

The late classic phase of the MC was distinguished on the basis of the ceramics inventories from pits 108 and 109 at site Rzeszów-Piastów estate [Kadrow 1990:70, Fig. 11]. The distinctive trait of this phase is a clear simplification of stroked ornaments. The pricks were made almost exclusively with a single tool of a round cross-section. Decorative designs become considerably disorganised. Vessel forms continue to include basic classes known from the previous phase. The same can be said of the general division of pottery into fine and the so-called crudely made one. A new development is an ornament made of deep, single pricks and small round dents which were arranged into simple ornaments (lines accenting the shoulder of the belly or separating the neck from the belly). Apart from the vicinity of Rzeszów, sites of this phase of the MC occur on the Nałęczów Plateau (part of the inventories from Las Stocki; cf. Zakościelna 1984), in the Sandomierz settlement cluster [Michalak-Ścibior 1996:48; Michalak-Ścibior, Taras 1995] and on Kraków loess soils [Kadrow 1996:51].

Due to the clear isolationism of MC groups of this period, it is very difficult to place them on the relative chronology scale. Being 'decline' in character in relation to the classic phase, the MC groups are believed to follow this very phase. Given the chronological position of the MC classic and Rzeszów phases, it is acceptable to believe that 'late classic complexes' should fill the temporal gap between the end of the classic phase and the point in time marking the boundary between the Neolithic and Eneolithic, which is difficult to determine in Poland.

2c. Malice culture — phase IIa — early period of the Rzeszów phase (Fig. 12).

The 'Rzeszów type' of pottery was distinguished by Andrzej Żaki [1962:199, Fig. 2] and it was first described as part of the Malice culture by Jadwiga Kamieńska [1973:100-103]. The division of 'Rzeszów' materials into two subphases was made later [Kadrow 1988, 1996]. A distinctive trait of the older section is the absence of 'Rzeszów' ornamentation, namely 'hanging chevrons' or grapes made of deep pricks. The section corresponds to a cultural unit from the Lublin and Volhynia uplands known under several names. Among them are Hoszcza-Werbkowice [Zakharuk 1971:214] or Werbkowice-Kostyanets [Peleshchysyn 1974:112-115, 1985:269].

The most characteristic vessel forms include moulded bowls with incised shoulders, arc-profiled bowls, deep vase-shaped vessels and small goblets. Significant as a distinctive, phase-marking trait is the conspicuous moulding of vessels (mainly bowls)

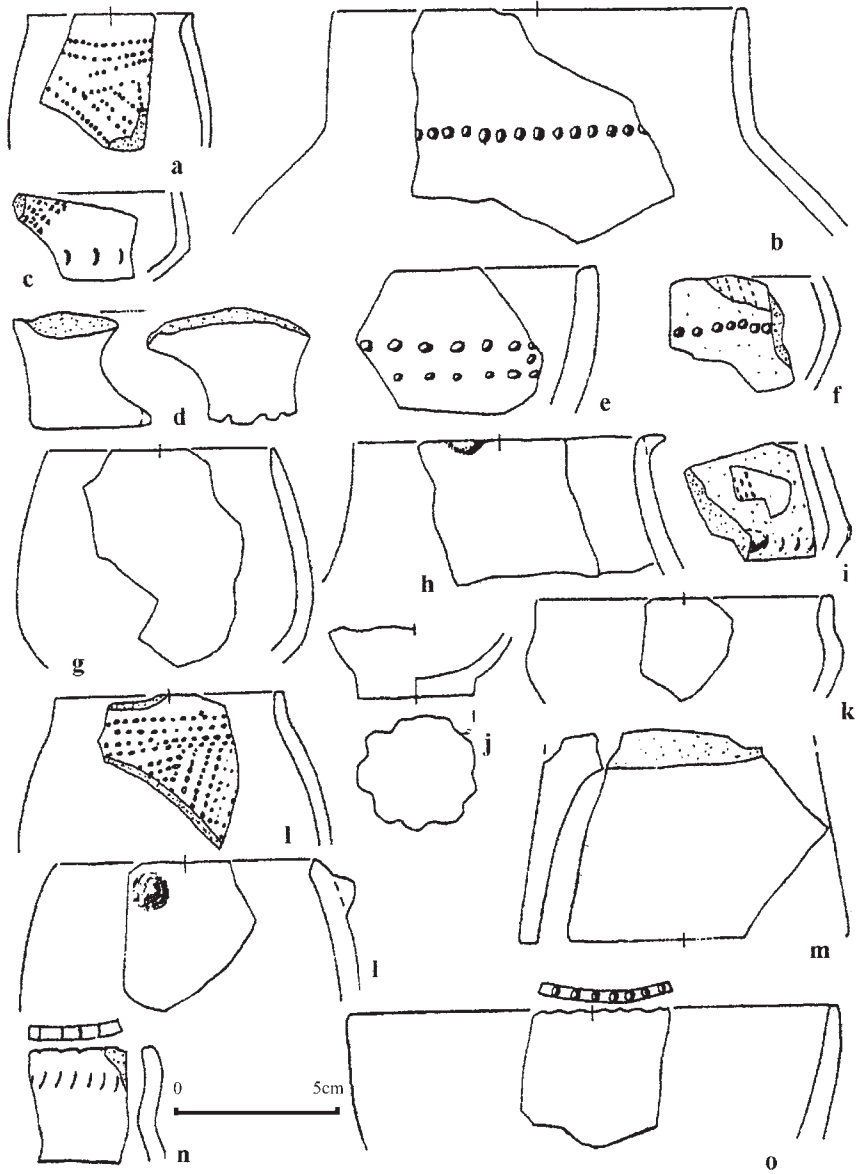


Fig. 11. Malice culture pottery, phase Ic, from Rzeszów, site 16.

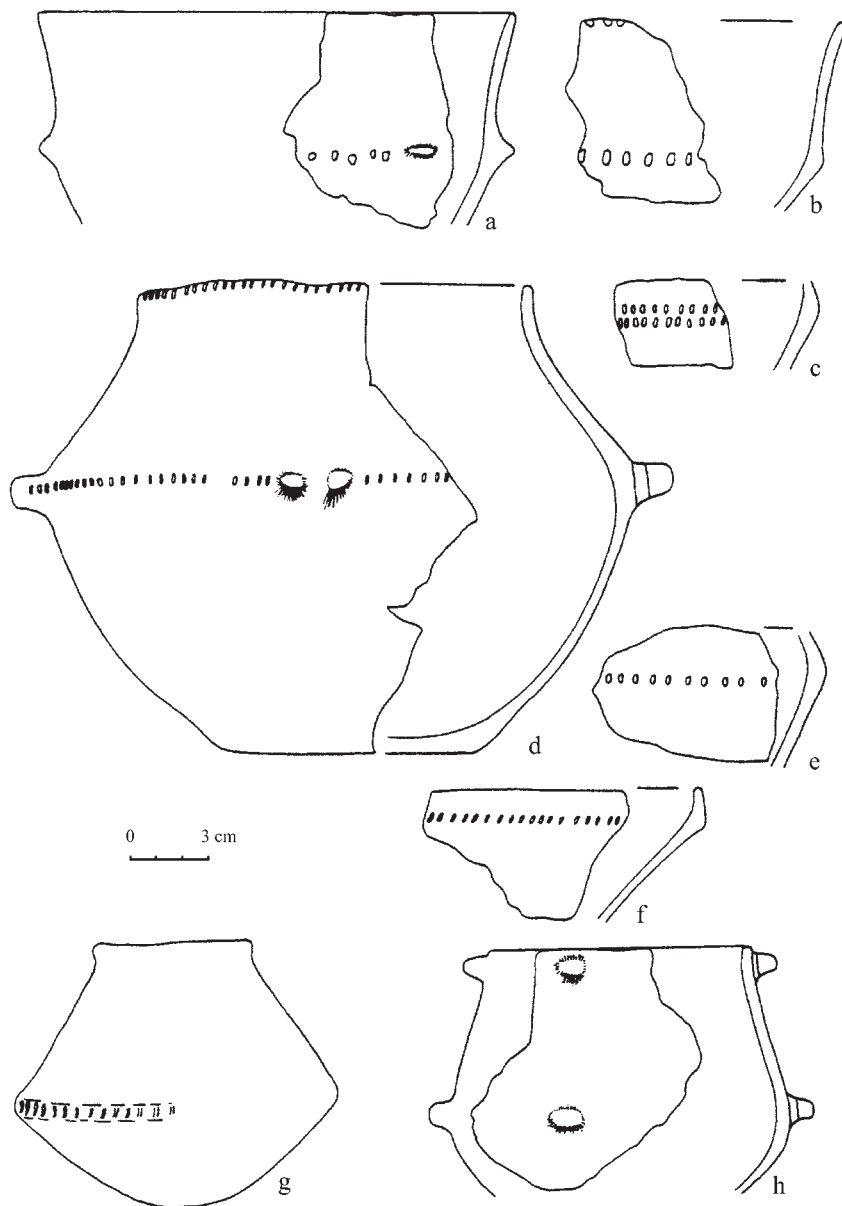


Fig. 12. Malice culture pottery, phase IIa, from Werbkowice.

combined with the custom of emphasising it with a row of incisions or impressions of a round stamp as well as a total absence of typical stroked ornaments.

MC sites of the early Rzeszów phase were recorded on the Lublin, Volhynia, and Sandomierz-Opatów uplands and on Rzeszów-Przemyśl loess soils [Kadrow 1997, Fig. 1; Zakościelna, Gurba 1997:Fig. 1]. Among better documented complexes of this phase are Rzeszów, Lisia Góra [Kadrow 1988:Fig. 5], Werbkowice [Komorowski 1958], Klementowice [Uzarowiczowa 1975], and Kostyanets [Chernysh 1982:Tab. XCIV; Peleshchysyn 1997], Listvyn [Peleshchysyn 1997] as well as such sites as Yaroslavichi, Lyshch and Ostrov in Volhynia that were only mentioned in passing [Konopla 1990].

The MC complexes representing phase IIa (early Rzeszów) must have stemmed from the late classic MC as a result of processes similar to those that gave rise to the Rössen culture and the LLPC (Brześć Kujawski type) in Kujawy. These could have been adaptation processes improving the living conditions on a more diverse terrain than in the case of earlier MC phases when contacts with traditional cultural centres (south-western Slovakia, Tisza drainage, Bohemian Basin) were broken off.

Certain traits of the pottery of the phase under discussion allow us to synchronise it with the proto-Tiszapolgár phase and phase A of the Tiszapolgár culture [Kadrow 1988:22]. These are semicircular, flat bosses arranged in horizontal rows under lip rims that can be found an early Rzeszów assemblage on the site in Rzeszów-Piastów estate, in pit no. 16 [Moskwa 1964, Fig. 19]. Similar ornaments occur on the ceramics of the proto-Tiszapolgár phase [Šiška 1968:Fig. 5:7, 6:5, 9] and in materials of phase A of the Tiszapolgár culture [Šiška 1968:Fig. 9:5-12]. Equally early may be the motifs of a double zigzag made of single, deep impressions that was recorded at the site in Rzeszów, Piastów estate, pit no. 16 [Moskwa 1964:Fig. 19] and in Majdan Nowy, pit 3, [Bronicki, Kadrow 1988:Fig. 9:10]. Analogous ornamentation motifs are recorded in the Tisza drainage as early as the proto-Tiszapolgár phase [Šiška 1968:76, 109].

The above-mentioned elements and the fact that the early Rzeszów phase of the MC (IIa) immediately followed the late classic phase (Ic) make it highly probable that the discussed phase was synchronous with the beginnings of the Tiszapolgár culture. In the opinion of Ida Bognár-Kutzián [1972:193], they should not have lasted too long. The problem is to find the upper limit of the said phase. Contrary to appearances, it does not end with the inception of the classic period of the Rzeszów phase of the MC (IIb), which is very reliably synchronised with phase B of the Tiszapolgár culture [Kadrow 1996:68]. In frequently repeated opinions by Ukrainian scholars [e.g. Peleshchysyn 1974:112-115, 1985:269], maintaining that the complexes of the said phase (i.e. MC IIa) are younger than the Lublin-Volhynia culture, there is a grain of truth. The complexes of the classic period of the Rzeszów phase (MC IIb) in the late Malice environment are recorded only near Rzeszów in the form of the so-called 'Rzeszów type'. Besides, its elements are observable in various strange cultural contexts [e.g. Lublin-Volhynia culture, Modlnica group, Ocice group and LLPC; cf. Kadrow 1996:Fig. 1]. They are concentrated only in certain cultural centres characterised by openness to inter-regional contacts. It seems that

in other (non-central) areas occupied by the MC, the early Rzeszów pottery style (phase MC IIa) continued to prevail. This issue shall be discussed below, as well.

2c. Malice culture — phase IIB — classic period of the Rzeszów phase (Fig. 13, 14).

The vessel forms of this phase are closely related to the preceding phase, i.e. MC IIa. A distinctive trait and a refinement of the pottery of this period is rich ornamentation at times in the form of circular, less frequently, triangular, deep pricks arranged in 'hanging chevrons', occasionally combined with incised patterns. This kind of ornamentation has strikingly close analogies in the assemblages of the Tiszaug group of the Tiszapolgár culture [Bognár-Kutzián 1972:Fig. 20:5, 8; Tab. LXXI-LXXIII]. Especially large accumulation of this type of pottery was recorded in the vicinity of Rzeszów, in the environment of the late MC [Kadrow 1988]. It is interesting that single ornaments of this type are discovered in various cultural contexts, which is mentioned above (Fig. 14). The common denominator of assemblages containing pottery decorated after the fashion of 'classic Rzeszów' is their contemporaneity with phase B of the Tiszapolgár culture [Kadrow 1996:68]. Owing to the presence of the described ornamentation, for instance, in the assemblages of the classic phase of the Lublin-Volhynia culture, it can be synchronised with phase MC IIB or with phase IIIa of the LLPC in the Chełmno Land [Kukawka 1996].

Dated to such a late period, the MC in the vicinity of Rzeszów blocked, as it seems, the expansion of the Lublin-Volhynia culture into these territories.

3. Lublin-Volhynia culture (L-VC) — phase I — pre-classic (Fig. 15, 16)

To describe the oldest (I) phase of the L-VC, we can rely only on materials from Golyshiv. This is an assemblage of vessels found during the excavations of a small cemetery (7 graves) and a settlement [Peleshchyshyn 1998]. They can be divided into two groups: one with links to MC Ic/MC IIa including vessels moulded where the neck passes into the belly (Fig. 15), some of them clearly biconical (Fig. 15) and displaying a corrugated ornament on their rims and incisions on the greatest protrusion of the belly, which at times is accentuated by ceratoid bosses placed there (Fig. 16). The other group comprises flower-pot-like vessels with four tapered beads on their rims, a bowl of a bowl-like profile (Fig. 16), a pear-shaped goblet with a clearly marked, long neck and a deep bowl (bucket?) with a single, rectangular bead at the rim decorated with two rows of white-paint triangles arranged in the chessboard fashion with their apexes pointing upwards. All these forms are typical of L-VC. Acknowledging all the reservations relating to the scarcity of information, we tend to believe that co-occurrence of elements showing affinities with MC Ic and those typical of the LV-C may determine the oldest horizon of the formation of the LV-C, the very moment when the Malice substratum is overlaid by impulses from the Tiszapolgár-Csóshalom-Oborin [Kadrow 1997a:276].

The above-mentioned stylistic traits of pottery quite clearly indicate its connections with the early Rzeszów phase (IIa) of the MC, possibly also with the decline of its late classic phase. This, in turn, means that it was contemporaneous also with phase A of the Tiszapolgár culture. The area where the oldest L-VC traits are found is limited to a

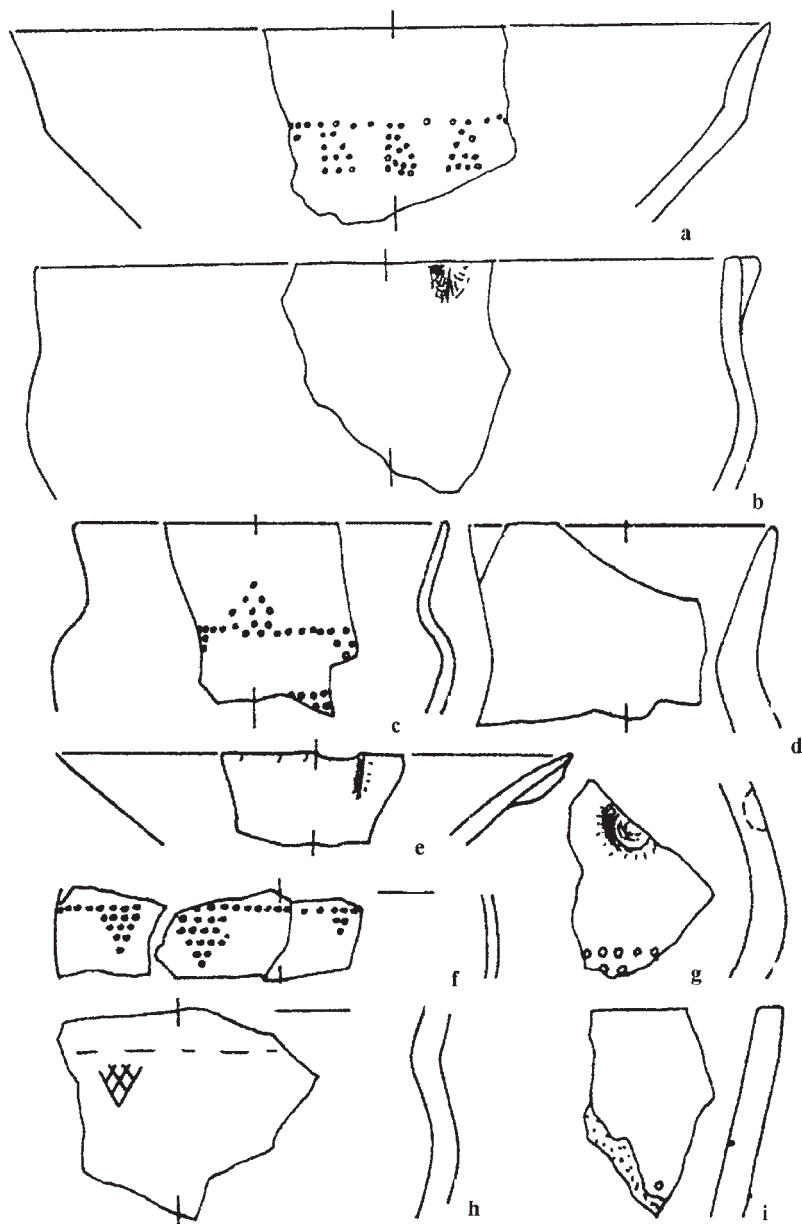


Fig. 13. Malice culture pottery, phase IIb, from Rzeszów, site 16.

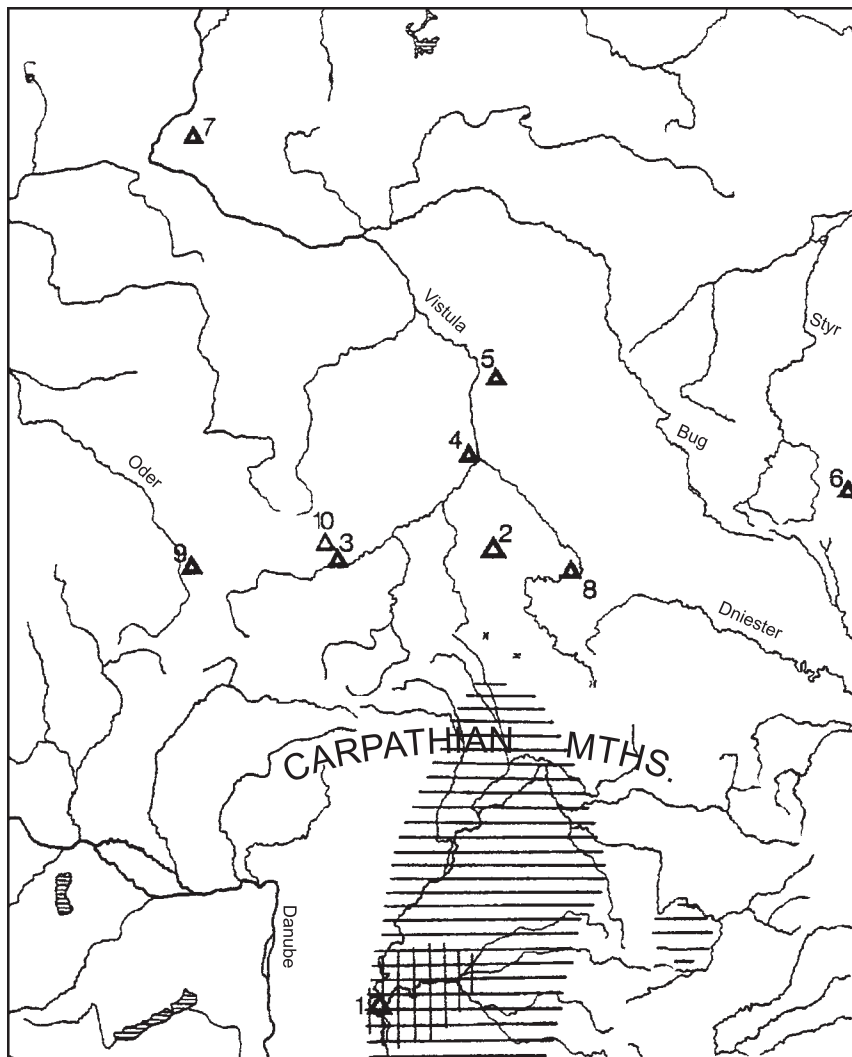


Fig. 14. Sites with elements of the Rzeszów phase against the range of the Tiszapolgár culture (horizontal lines) in its phase B (vertical lines - Tiszaug group): 1 - Tiszaug-Kisrőtpart, 2 - Rzeszów, sites 16, 23, 24; 3 - Kraków-Nowa Huta-Pleszów, sites 17-20; 4 - Złota, site Grodzisko II; 5 - Las Stocki; 6 - Khoriv; 7 - Boguszewo; 8 - Przemyśl-Budy; 9 - Ocice, 10 - Węzerów (Tiszapolgár culture site).

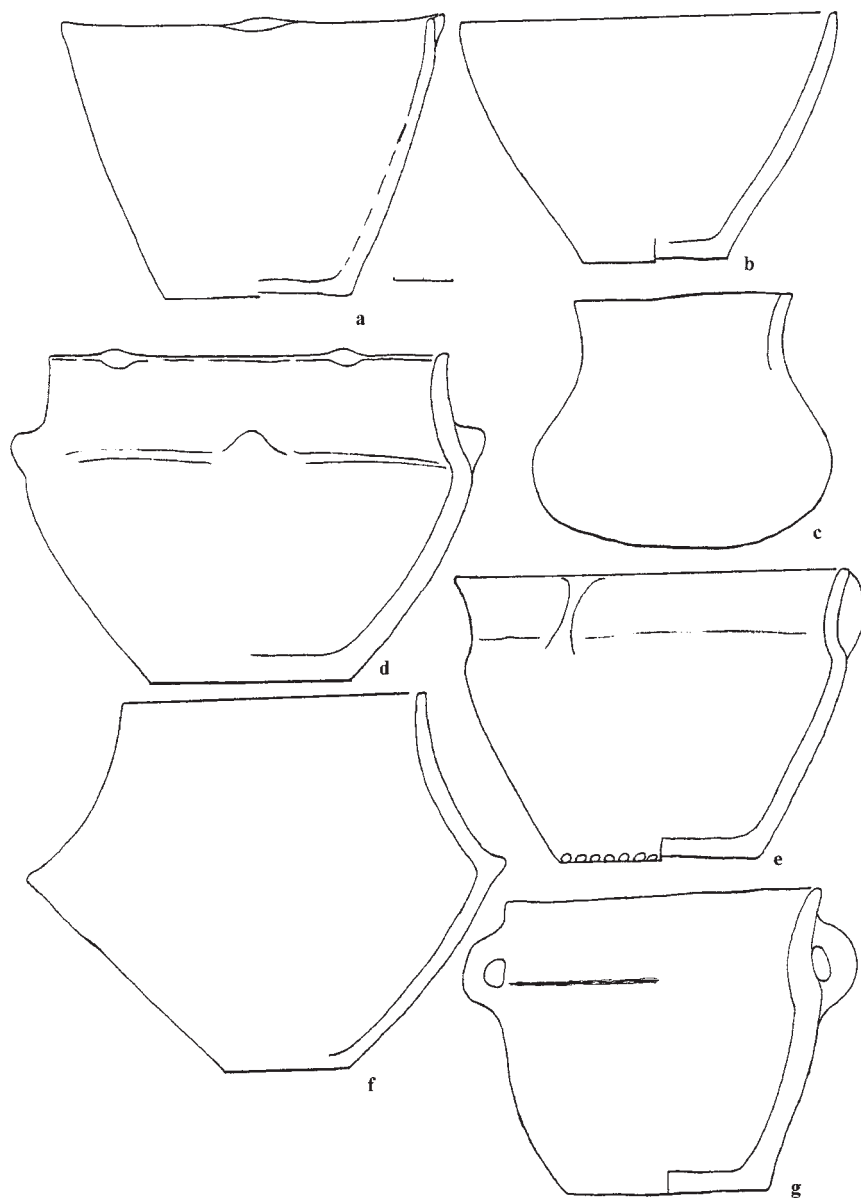


Fig. 15. Lublin-Volhynia culture pottery, phase I, from Golyshiv.

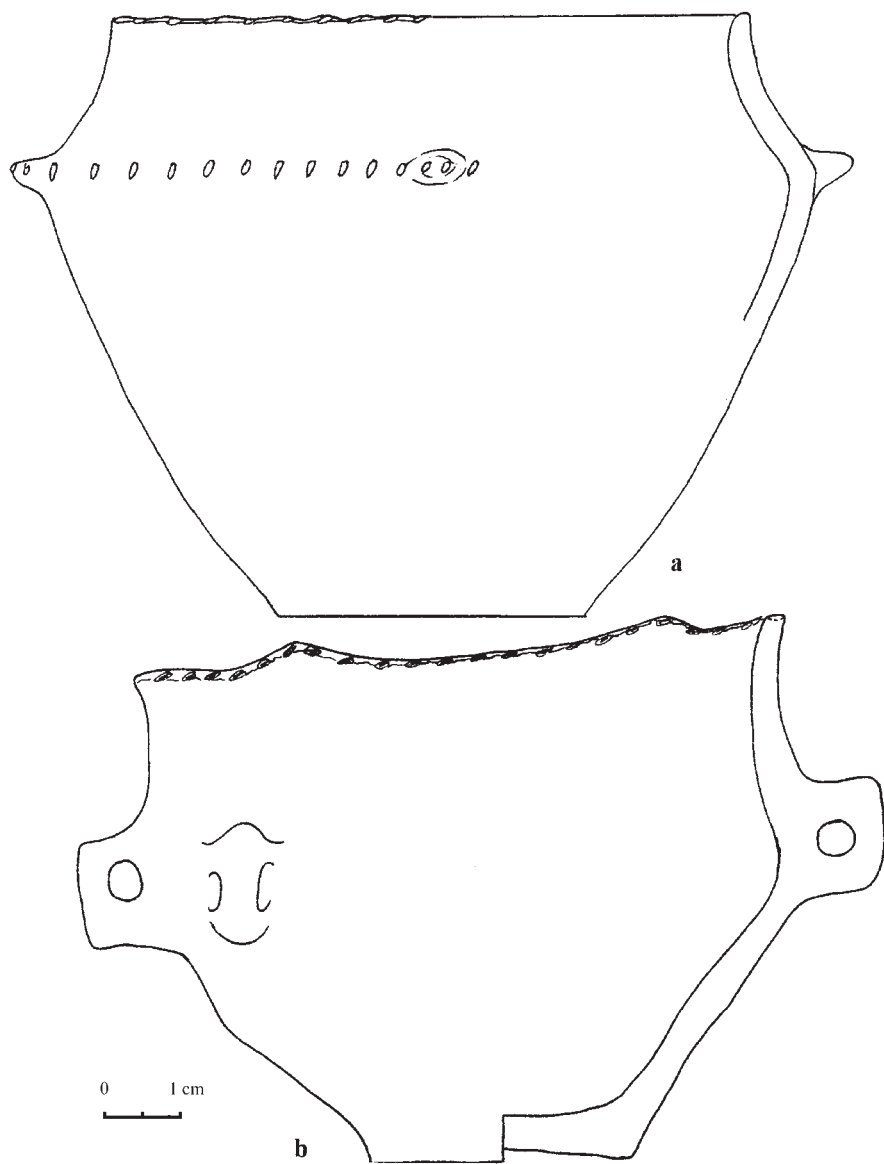


Fig. 16. Lublin-Volhynia culture pottery, phase I, from Golyshiv.

small region on the Styr River, close to easily accessible deposits of Volhynia flint and local outcrops of native copper situated between the Styr and Horyn rivers.

3. Lublin-Volhynia culture — phase II — classic (Fig. 17-23)

This phase is much better documented with materials originating in both settlements and cemeteries. At that time, the L-VC spread to the western part of the Volhynia Upland as far as the Wieprz River, the Nałęczów Plateau and the south-eastern part of the Sandomierz-Opatów Upland (Fig. 17).

Among the representative sites for this phase are Złota, ‘Stronghold’ I and II [Podkowińska 1953, 1960], Las Stocki, site 7 and Wąwolnica, site 6 [Zakościelna 1987, 1996], Strzyżów, a complex made up of an extensive settlement and a cemetery excavated in the late 1930s by Zofia Podkowińska [1960:39-60] and in the 1960s by Jerzy Głosik and Jan Gurba [1963:358-366, Gurba 1964:56-58, Kadrow 1989:5-33], as well as materials from a multi-cultural settlement on site 1C in Gródek Nadbużny [Gumiński 1989] and on site ‘Stronghold’ in Zimne [Peleshchyshyn 1964:18-27; Zakharuk 1971:216-219; Bronicki, Ochrimenko, Zakościelna 1998].

The most numerous group of vessels characteristic of this phase is made up of goblets differing considerably in terms of size and wall shapes. Generally, these are rather small vessels whose rim diameters vary from 4-5 to 10-12 cm. They usually have more or less strongly marked necks that pass into globular or pear-shaped bellies (Fig. 18e; 19h; 21a, b, d, h; 22b). Only on few sites did much larger goblets occur, with globular or conical bellies and long cylindrical necks (Strzyżów, site 2A, grave 4 — Gurba, Kutylowski 1970; Zimne — Peleshchyshyn 1985:270, Fig. 70:1, 4). It is this group of vessels that most frequently displays an ornament characteristic of L-VC, namely a design of white oil paint applied in a thick layer to the surface of vessels after firing. The goblets were decorated all over with geometrical patterns, primarily ‘hanging chevrons’ with their apexes pointing downwards separated by vertical or oblique bands. Frequently, there appears a chessboard-like combination of small and large triangles with short and long bands (Fig. 21d, h; 22b). The ornament converges radially at the bottom bend. Sometimes, the outer bottom surface bears the motif of a Greek cross [Strzyżów, site 1D — Kadrow 1989, Fig. 7:9, Las Stocki, site 7 — Zakościelna 1986] or several isosceles triangles with their apexes joined (Fig. 21h, j). An ornament painted with thin oblique lines or small triangles appears quite often on the inner surfaces of goblets, immediately under the rim (Fig. 21d; 22b; 23a).

Equally numerous are flower-pot-like vessels (in the shape of a half of a cask) whose walls next to the rim are parallel to the vessel axis or slightly bending inwards (Fig. 18a, b, g; 19b; 20a). Vessels of this group very often bear characteristic ornaments in the form of four bow-like or ceratoid beads symmetrically placed on the circumference of the rim. Sometimes these ornaments have the form of beads only slightly raising above the rim (Fig. 18a, b, g, etc.). From the inventories of only some sites we know of flowerpot vessels decorated with a stroked ornament arranged in triangular designs made up of three or over a dozen quite deep pricks. These ornaments are usually found close to the rim —

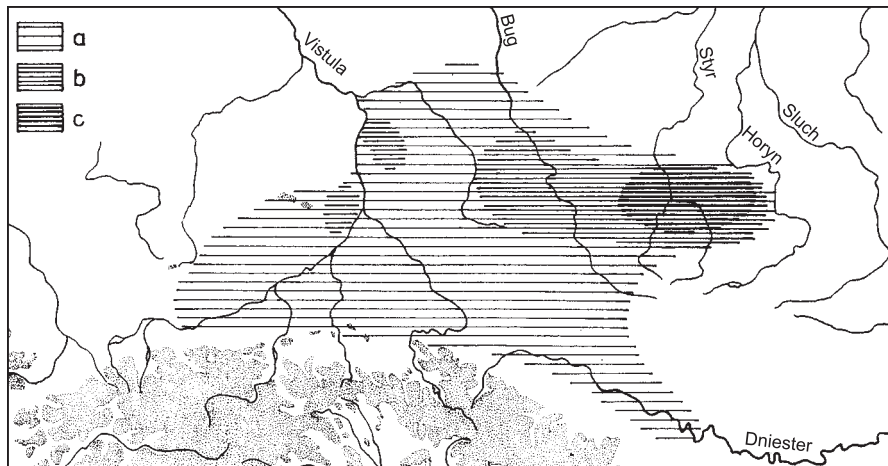


Fig. 17. The range of Lublin-Volhynia culture. a - phase III; b - phase II; c - phase I.

single or double triangles located only under a ceratoid bead of the rim (which may be stroked from above, Fig. 19b) or running around the vessel. They are also found close to the bottom — a double row of pricks along the bottom edge or ‘hanging chevrons’ with their apexes pointing downwards with a double row of pricks beneath them, along the bottom edge (Fig. 18a). In addition, these ornaments are found on the outer bottom surface — two triangles with their apexes touching (Fig. 20a). Only very rarely are the protruding, ceratoid beads on rims decorated with impressions of a rectangular stamp (Fig. 18g).

A numerous and diversified group of bowls comprises forms both of bowl-like and conical profiles (Fig. 21c, j), with the only ornament being ceratoid beads on rims (Fig. 18c). The latter, however, are much less frequent than in flowerpot vessels. Few are bowls with oval rims.

The majority of numerous S-shaped pots have their rims slightly turned outwards which smoothly pass into narrow necks and then into gently profiled bellies (Fig. 23e, 24f). In rare instances, a greater deflection of the rim is usually combined with a short neck (Fig. 22c). A substantial percentage of pots have a finger-nail ornament or corrugated rim edges (Fig. 22c; 24f) and frequently a corrugation immediately underneath the inner edge of the rim (Fig. 23b, e). Few S-shaped vessels have corrugated rims decorated with four symmetrical protuberances. We know of a single fragment of an S-shaped pot which was decorated where the neck meets the belly with a double band of minute pricks over which obliquely hangs a punctated rectangle (Fig. 18d).

A substantial share of the inventories is made up of amphorae of various types and other vessels fitted with handles: ceratoid, vertically perforated, usually placed on the

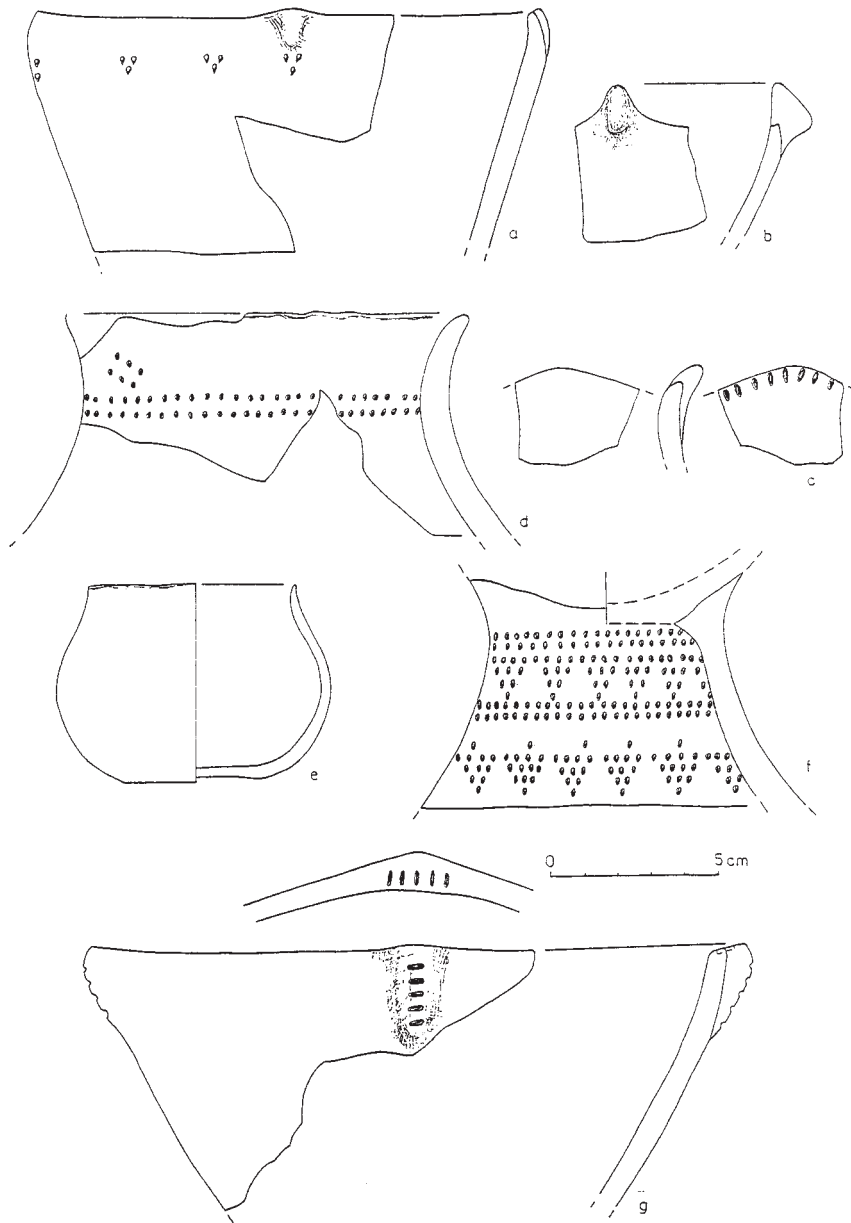


Fig. 18. Lublin-Volhynia culture pottery, phase II, from Las Stocki (pit 19).

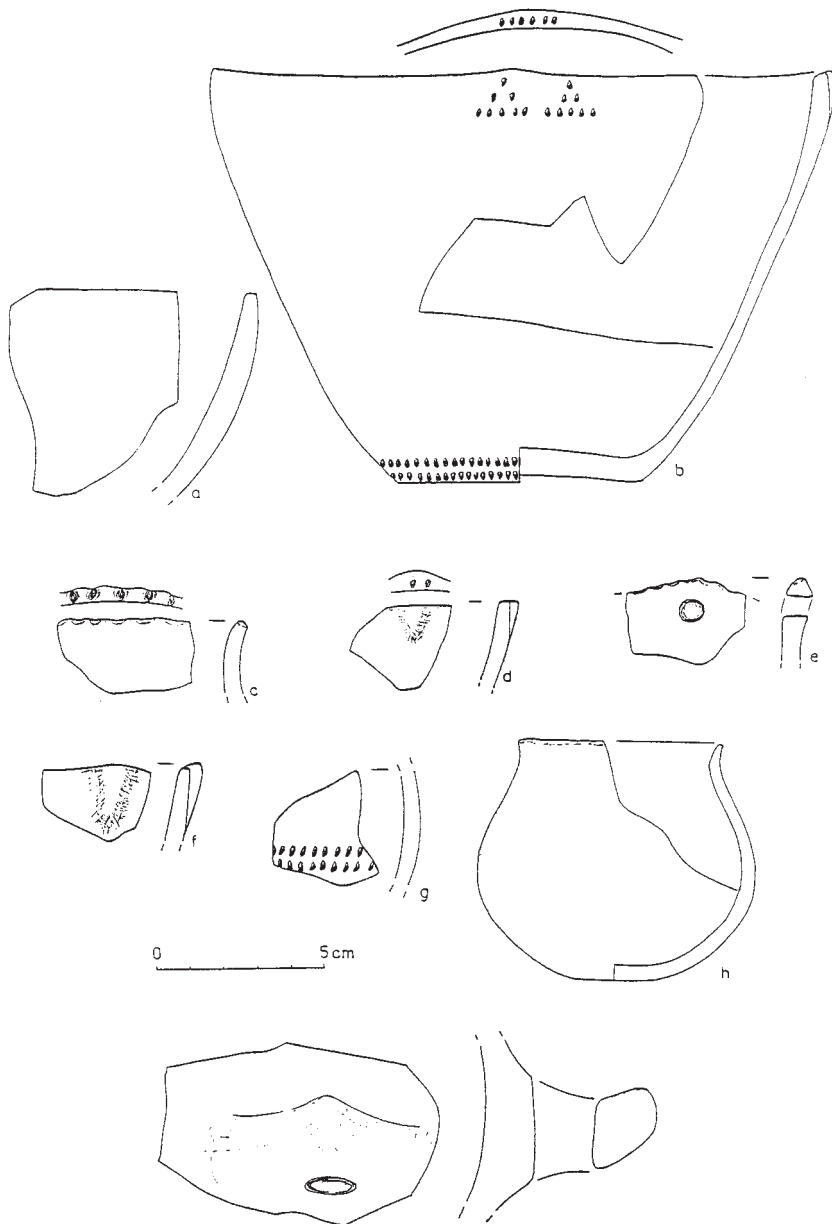


Fig. 19. Lublin-Volhynia culture pottery, phase II, from Las Stocki (pit 36).

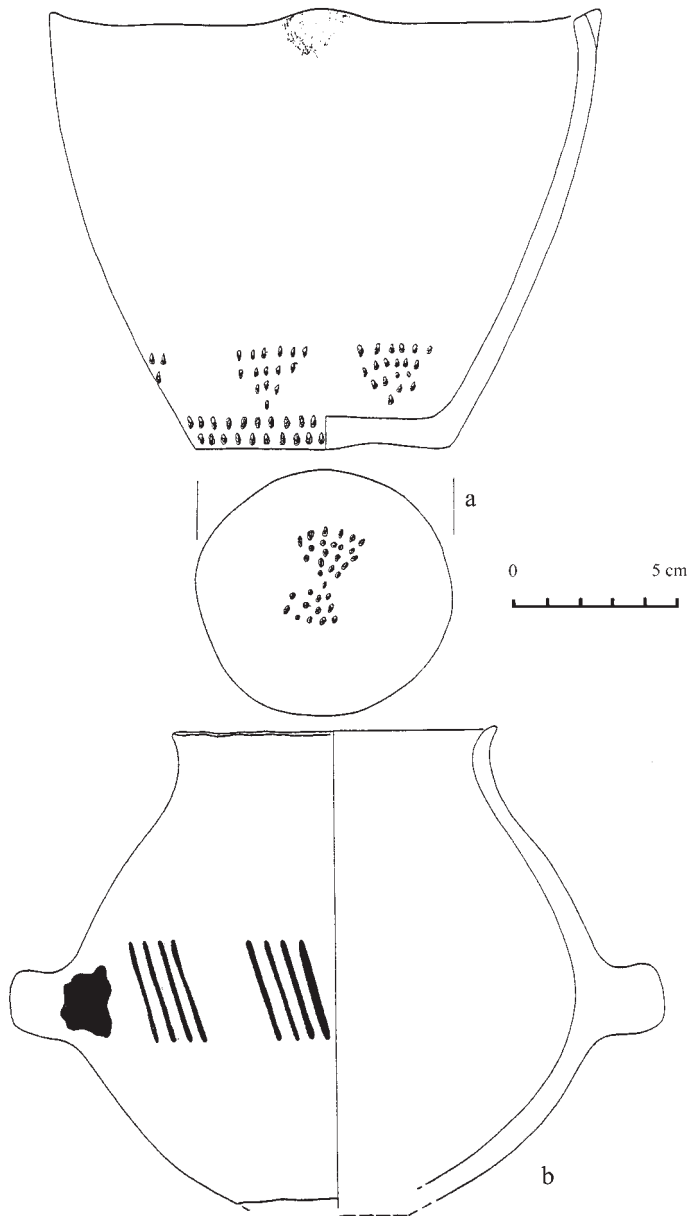


Fig. 20. Lublin-Volhynia culture pottery, phase II, from Las Stocki (pit 19).

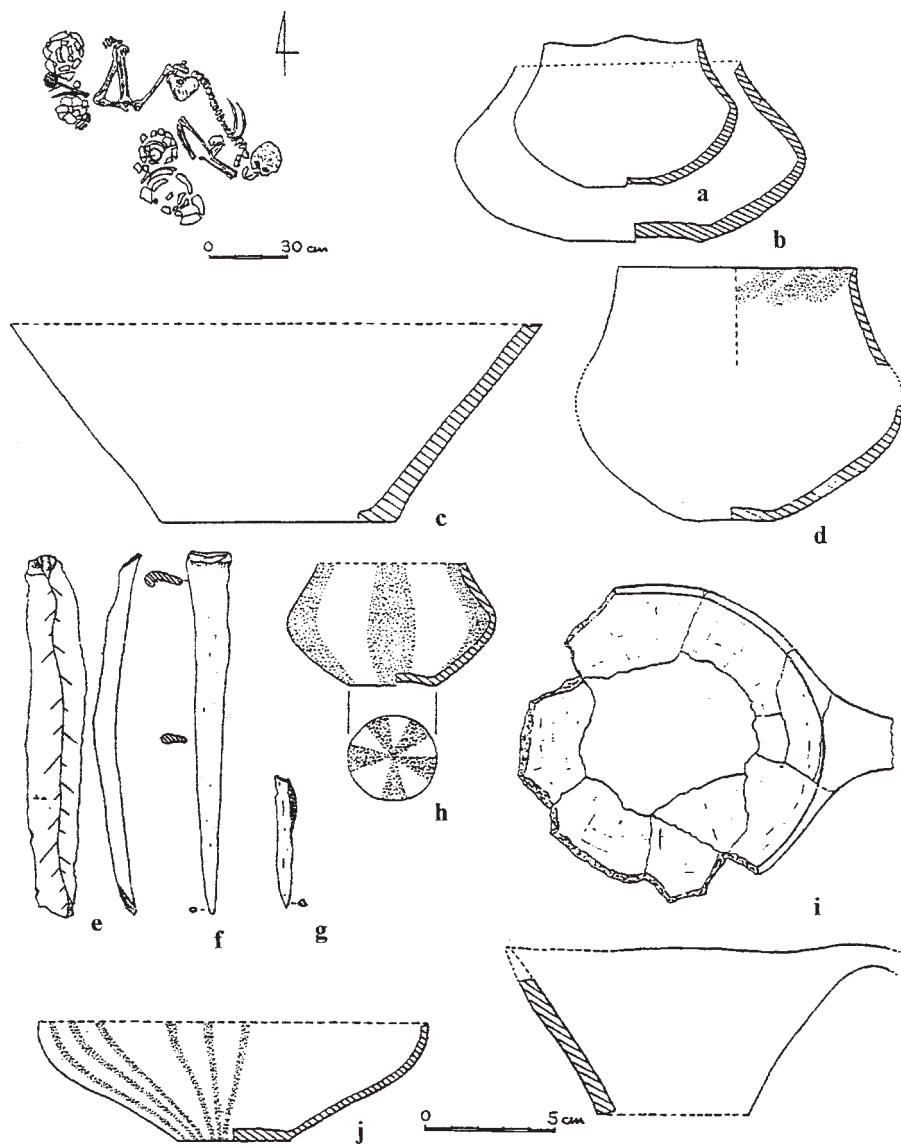


Fig. 21. Inventory of grave 5 from Strzyżów, site 2A (a-d, i-j - pottery, e - flint, f-g -bone).

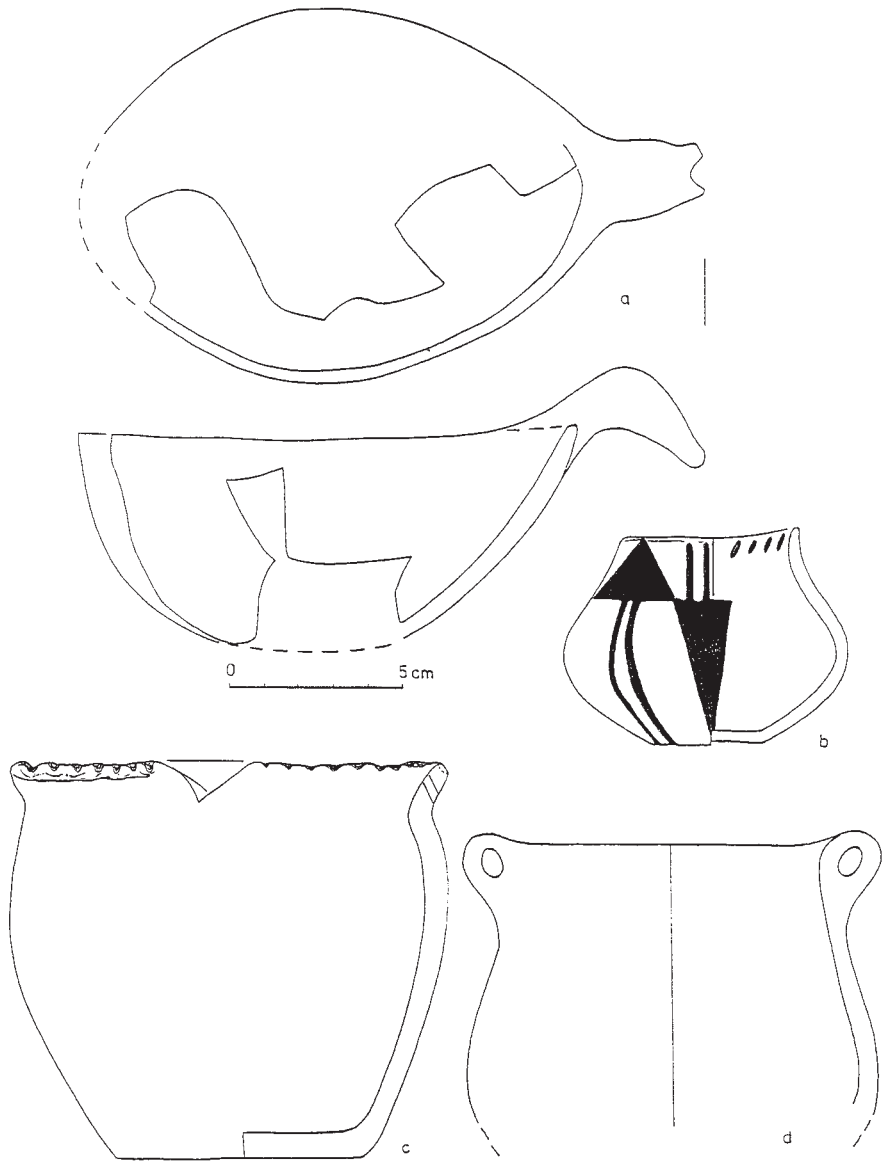


Fig. 22. Lublin-Volhynia culture pottery, phase II, from Las Stocki (pit 5).

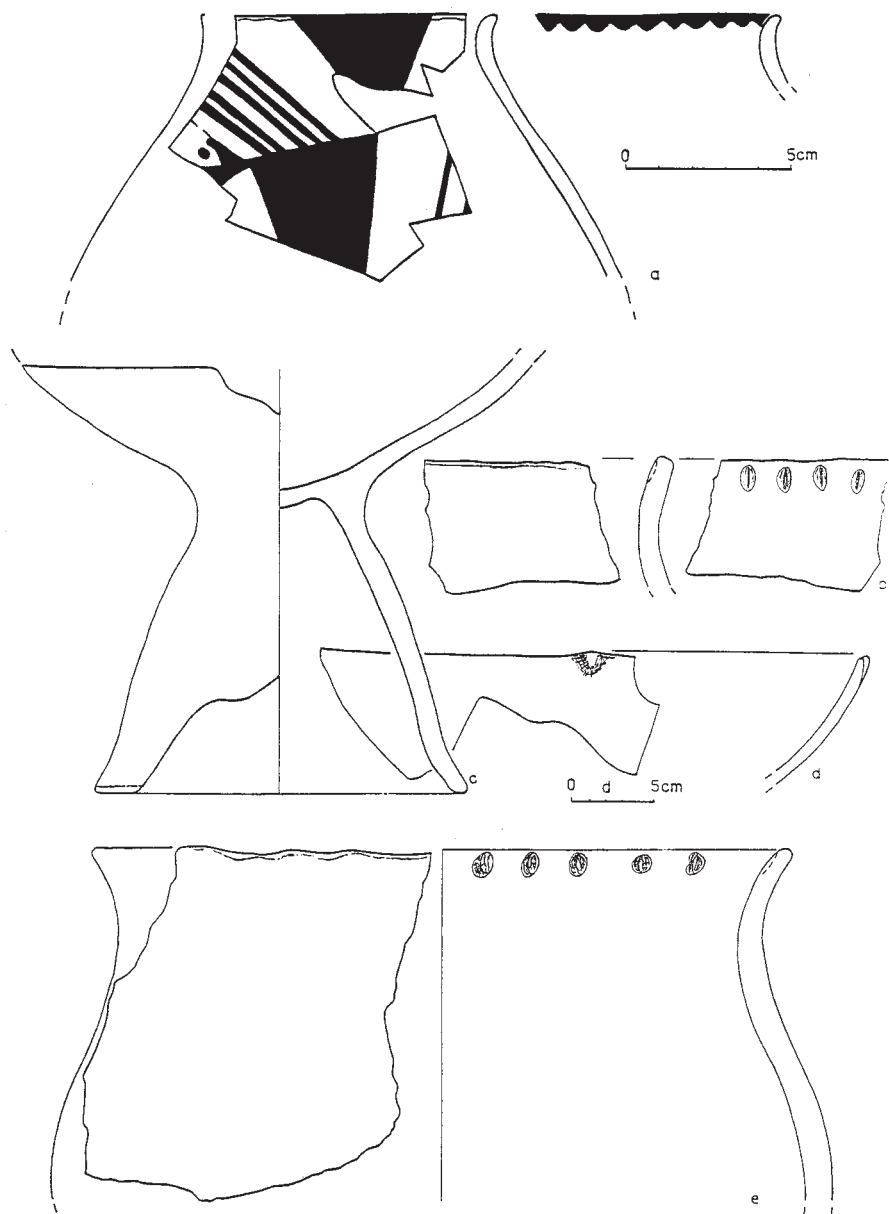


Fig. 23. Lublin-Volhynia culture pottery, phase II, from Wąwolnica (pit 2).

greatest protrusion of the belly of large biconical amphorae (Fig. 19i; 20b); horizontally perforated, ceratoid or semi-rectangular placed on the greatest protrusion of the belly; rounded, placed immediately underneath the rim sometimes occurring in combination with pairs of ceratoid bosses on the greatest protrusion of the belly (Fig. 24c). Attention must be drawn to the fact that already in this phase, there appeared small amphorae with two rounded handles raising above the rim edge (Fig. 22d). These vessels are often believed to be a younger element, related only to phase III of the L-VC. So late a chronology is justified only because of their long, slender necks, which makes them similar to typical Bodrogkeresztúr milk vessels.

The above described types constitute the most important vessels of this phase. Much less frequently occurring forms include beakers on hollow feet which are either gently shaped (Fig. 18f, 23c) or conical. Their bowls have bow-like profiles or they resemble a strongly flared truncated cone. The beakers on a hollow foot are sometimes painted with a white paint [Wąwolnica, site 6, pit 10, — Zakościelna 1981], decorated with a pricked ornament (Fig. 18f) or a corrugated strip in the upper portion of the foot. Equally rarely encountered are oval buckets with gently shaped walls (Fig. 22a) or conical ones (Fig. 21i).

It is at this time that first copper articles appeared in the L-VC. The finds of crucible fragments at Złota [Podkowińska 1953; Dziekoński 1962] and Las Stocki [Zakościelna 1984] testify to the beginnings of copper metallurgy.

A large number of radiocarbon dates and the overlapping of the traits of the classic Rzeszów phase of the MC on the materials of the classic complexes of the L-VC (e.g. Las Stocki, Złota) allow us to securely synchronise the life-time of this phase with phase B of the Tiszapolgár culture and, hence, with the classic Rzeszów phase of the MC (IIb). On the other hand, they are contemporaneous with phase BII of the Tripolye culture [Kadrow 1988:22-27].

3. Lublin-Volhynia culture — phase III — late (Fig. 25-35).

Within this phase, a possibility presents itself to distinguish to chronological horizons IIIa and IIIb. It is in this period that the L-VC reached its greatest territorial range occupying the loess soils of western Małopolska and Rzeszów area. In phase IIIb, it must have withdrawn from the central part of the Volhynia Upland, i.e. from the area of its birth.

For the purpose of describing horizon IIIa, we have over a dozen grave complexes from the Hrubieszów Basin [Gródek Nadbużny, site 1C - Kokowski, Zakościelna 1988:59-67] and Grzęda Hrodelska [Lasków — Gurba 1982:Pl. 281-282; Strzyżów, site 10, 26 — Zakościelna 1996a:175-179; 1997:11-15], however, we do not know of any settlements in this region corresponding to this horizon. Meanwhile, several settlements were excavated on the loess soils near Rzeszów [Łańcut, site 10 — Kadrow, Kłosińska 1989; Kosina — Kadrow 1992a]. The most significant qualitative changes are an almost total elimination of the goblet, which was the basic vessel type in phase II, and a disappearance of white paint ornaments. At the same time, long-necked amphorae with

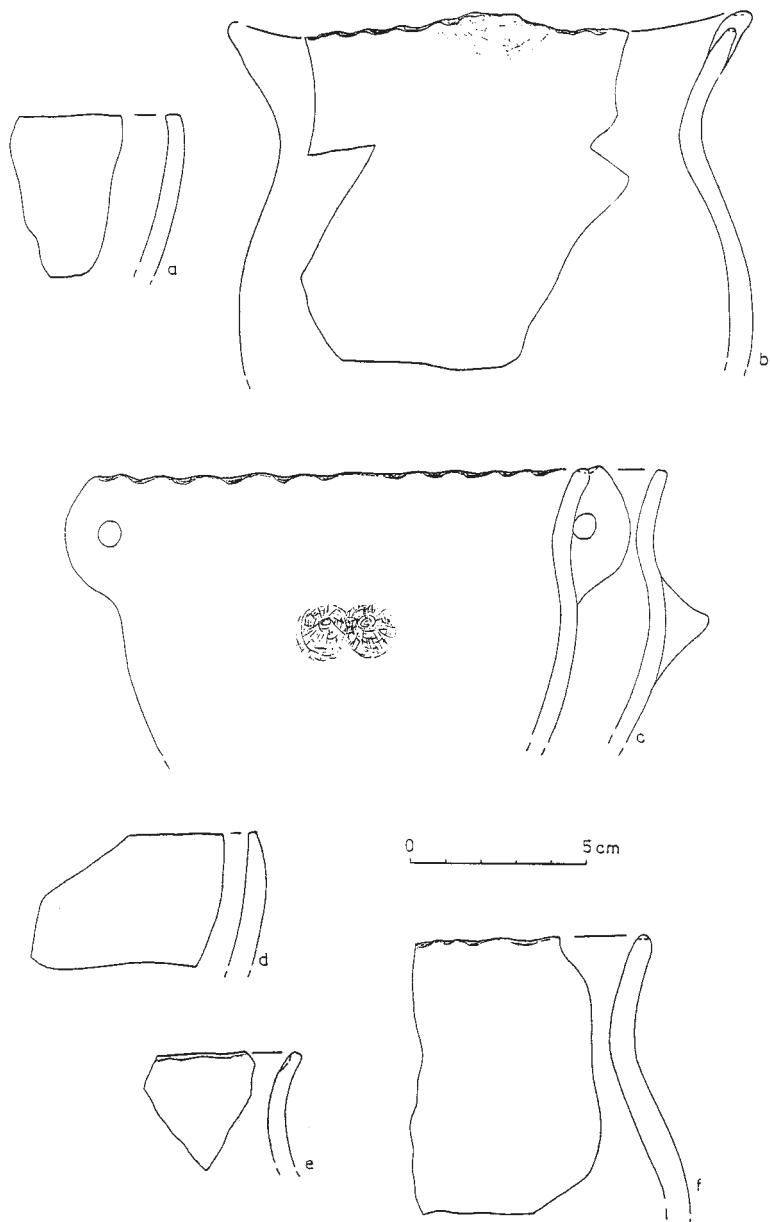


Fig. 24 Lublin-Volhynia culture pottery, phase II, from Las Stocki (pit 54).

rounded, horizontally perforated handles at the rim became more popular and a new, hitherto unknown vessel type appeared — a beaker with Baalberg affinities — with a long funnel-shaped neck and a low, biconical belly [Kokowski, Zakościelna 1988:Fig. 6d; Zakościelna 1996:Fig. 5c] or a gently shaped one (Fig. 25d). The rim edge of this type of vessel is occasionally decorated with four symmetrically placed ceratoid protrusions.

Goblets were recorded only in two grave assemblages, namely Strzyżów, site 10, grave 2, accompanied by small amphorae with handles rising above the rim [Zakościelna 1996a:185, Fig. 6d] and in grave no. 7 on site 26 in Strzyżów co-occurring with a Baalberg type beaker. The last mentioned goblet has an ornament painted in white paint in the form of oblique lines under the inner edge of the rim (Fig. 25b).

Judging from the analysed grave assemblages, the incidence of the remaining pottery types did not change. A substantial share of vessels continued to be made up of flowerpot vessels with ceratoid protrusions on their rims (Fig. 26b, e; 29b, c), S-shaped pots (Fig. 25c; 26d; 27c) and different kinds of bowls, while beakers on a hollow foot are as rare as in phase II. While analysing grave assemblages one may get an impression that phase III is characterised by a significant decrease in the share of decorated vessels. In the grave materials, no corrugation or rim edge incisions are found. However, they are found only in small numbers in the materials from the settlements of this phase (Fig. 30) [Kadrow, Kłosińska 1989; Gruszczynska 1992; Kadrow 1992a].

Of utmost importance for the description of this phase is an inventory from grave VI in Gródek Nadbużny (Fig. 28-29) consisting of a flowerpot vessel with a tulip-shaped rim, a bowl with straight walls, an amphora resembling a milk vessel with a long neck and handles protruding from the rim and a strongly protruding belly, a bulbous vessel with a short neck and a gently flared rim decorated with an oval boss on the greatest protrusion of the belly, and a cup with an imposing, rounded handle joining the rim to the greatest protrusion of the belly. The cup, in our opinion, shows Baden affinities (Fig. 29a). The last two mentioned vessels have a rich decoration painted in white paint, with only the triangle motif corresponding to the ornamentation designs known from phase II. The remaining motifs and arrangement of the ornament had not been known before.

Besides a large number of vessels, the graves of this phase contained rich and diverse grave-goods that included macrolithic flakes, retouched blades with fluted retouch (Fig. 28a), scrapers on retouched blades (Fig. 31c), burins (Fig. 32d), a trapezium (Fig. 31c) and triangular points (Fig. 25a; 32e) made of Volhynian flint (point from grave 3 in Strzyżów 26 — from chocolate flint). Grave-goods also comprised antler axes, bone awls (Fig. 32a, h), pendants made of wild boar tusks (Fig. 32f) and circular, flat beads made of shell [Zakościelna 1996a, Fig. 6f].

This phase is associated with the greatest number of copper artifacts known from L-VC. On site no. 26 in Strzyżów, out of seven discovered graves, six features either contained copper articles or showed traces of them in the form of greenish colouring of bones. Among the articles dominated copper coils of small diameters usually found next to female skulls (Fig. 32b, c). It is from Strzyżów, site 26, that the only copper

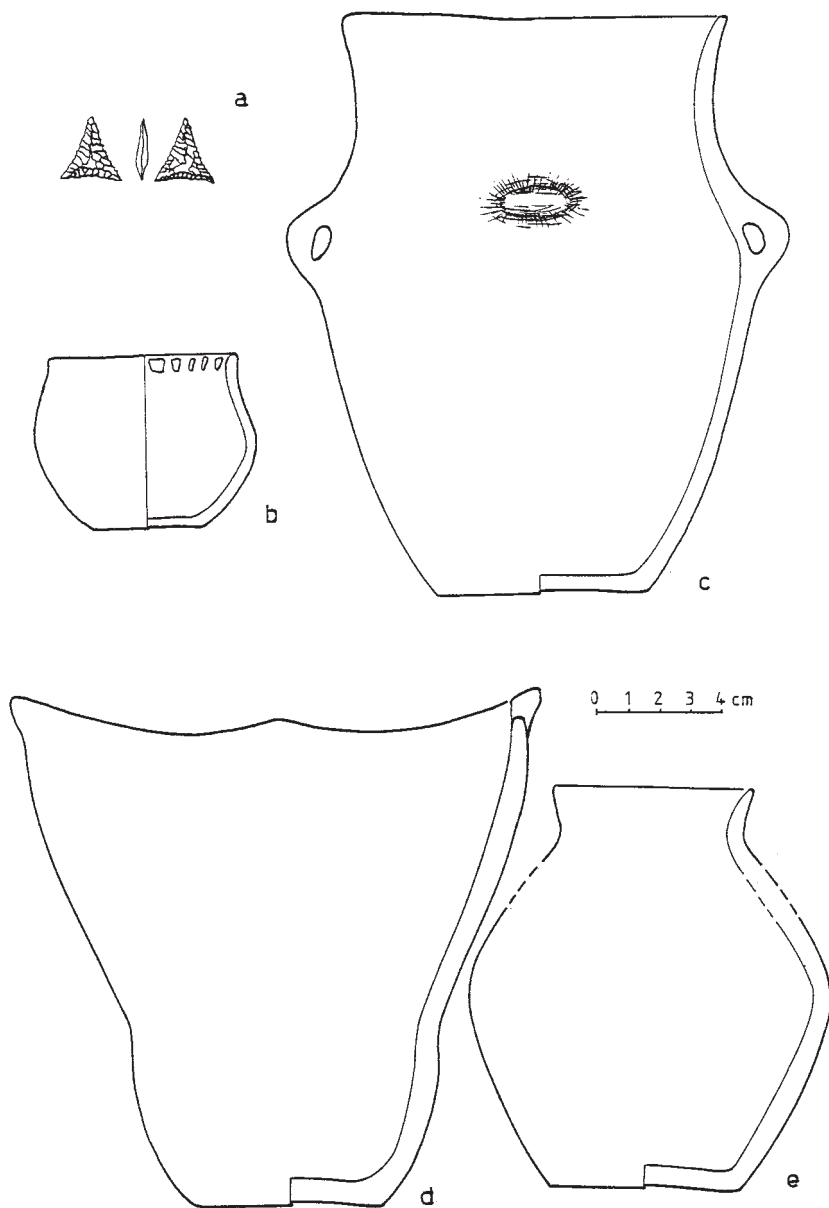


Fig. 25. Inventory of grave 7 from Strzyżów, site 26 (a - flint, b-e - pottery).

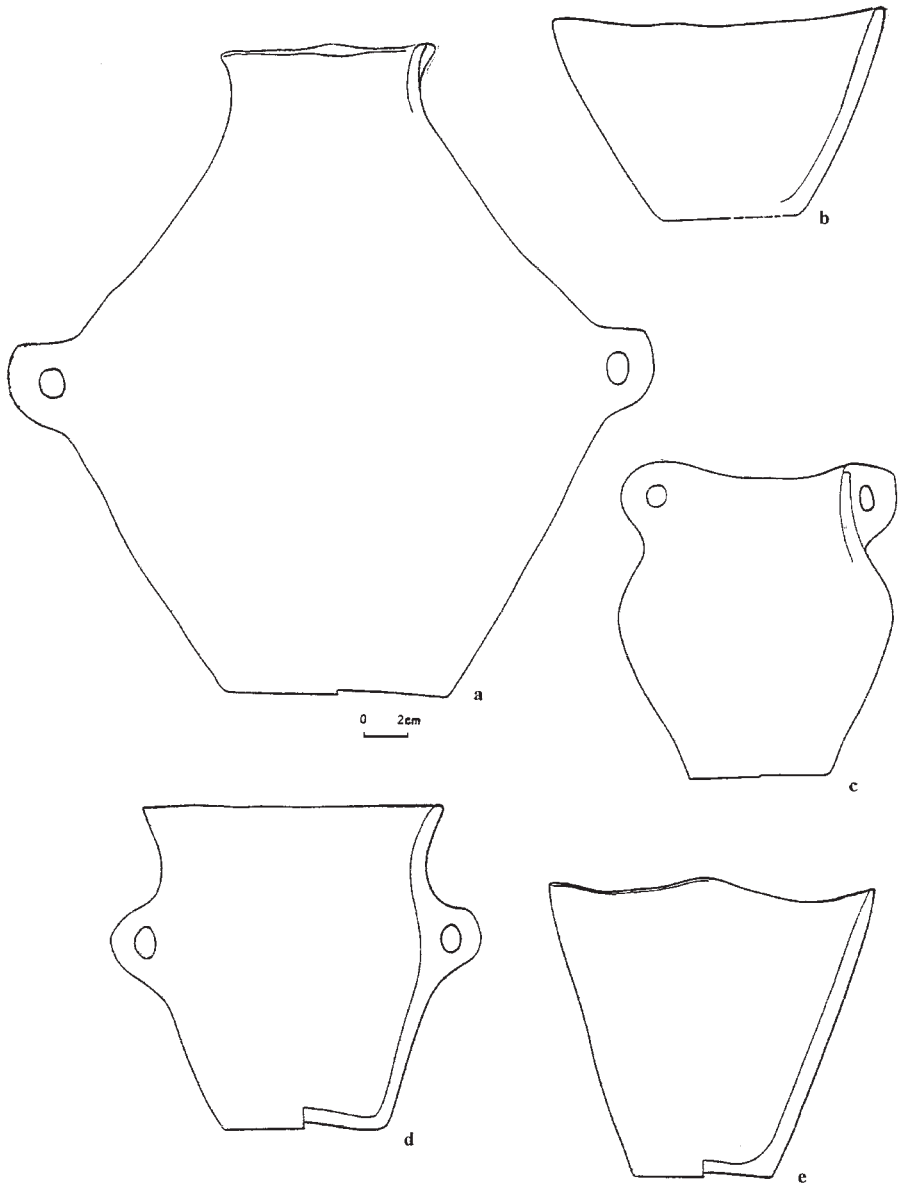


Fig. 26. Inventory of grave 2 from Strzyżów, site 26.

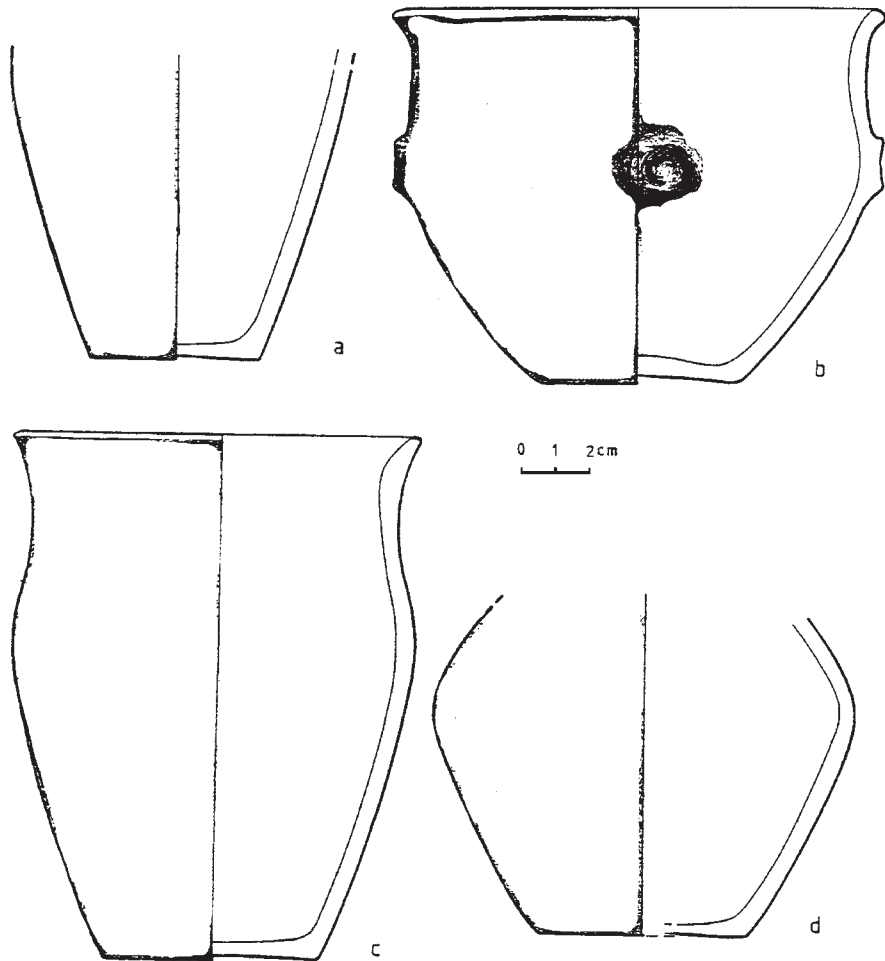


Fig. 27. Inventory of grave 4 from Strzyżów, site 26.

dagger found in a grave comes [analogous to a specimen from a grave of the Wyciąże-Złotniki group in Wyciąże — Kozłowski 1971]. By bending the base to form an eye, the dagger was made into a pendant (Fig. 33a). Its location in the grave — it lay on a man's cervical vertebra — suggests that it was used as a pendant. An identical dagger was found in a damaged grave in Lasków, next to which another grave was excavated where two vessels, with Baalberg connections, were discovered [Gurba 1982:Pl. 281-282]. The dagger finds from western Volhynia are supplemented by a specimen found on the surface

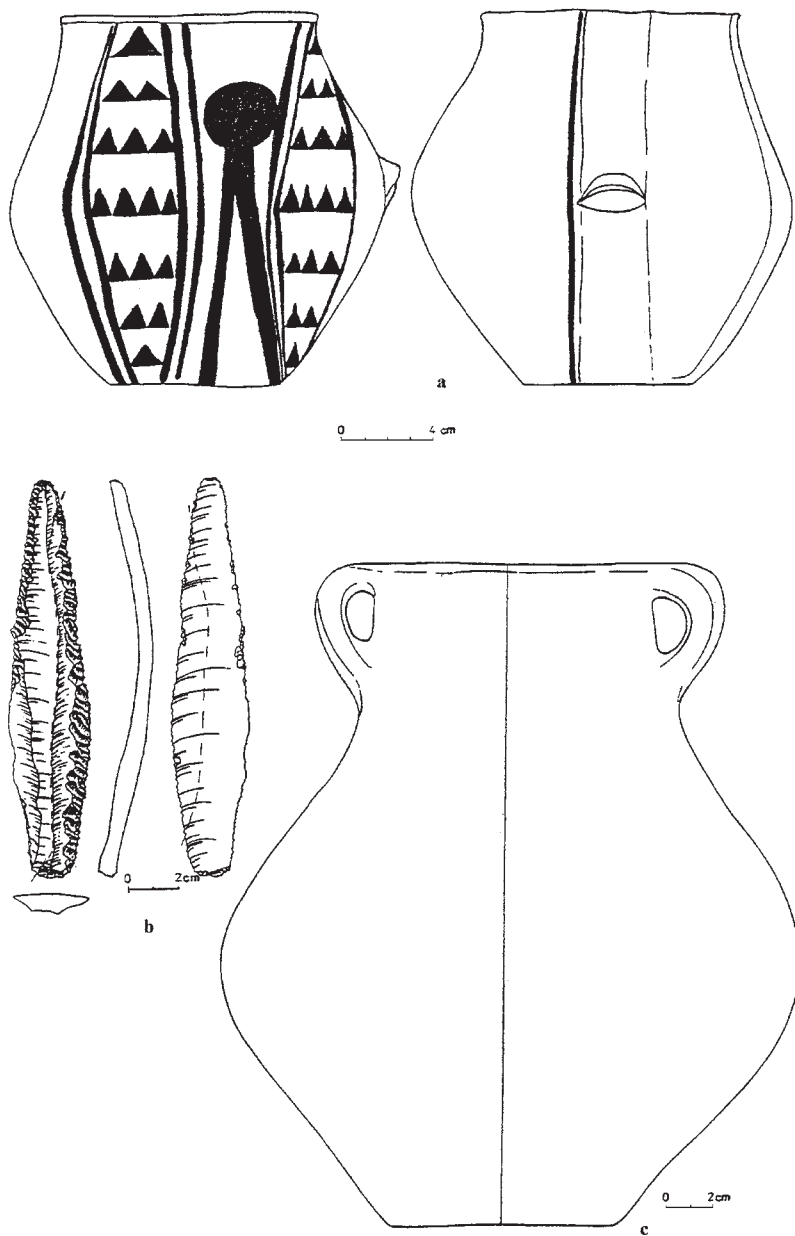


Fig. 28. Inventory of grave VI from Gródek Nadbużny, site 1C (a,c - pottery, b - flint).

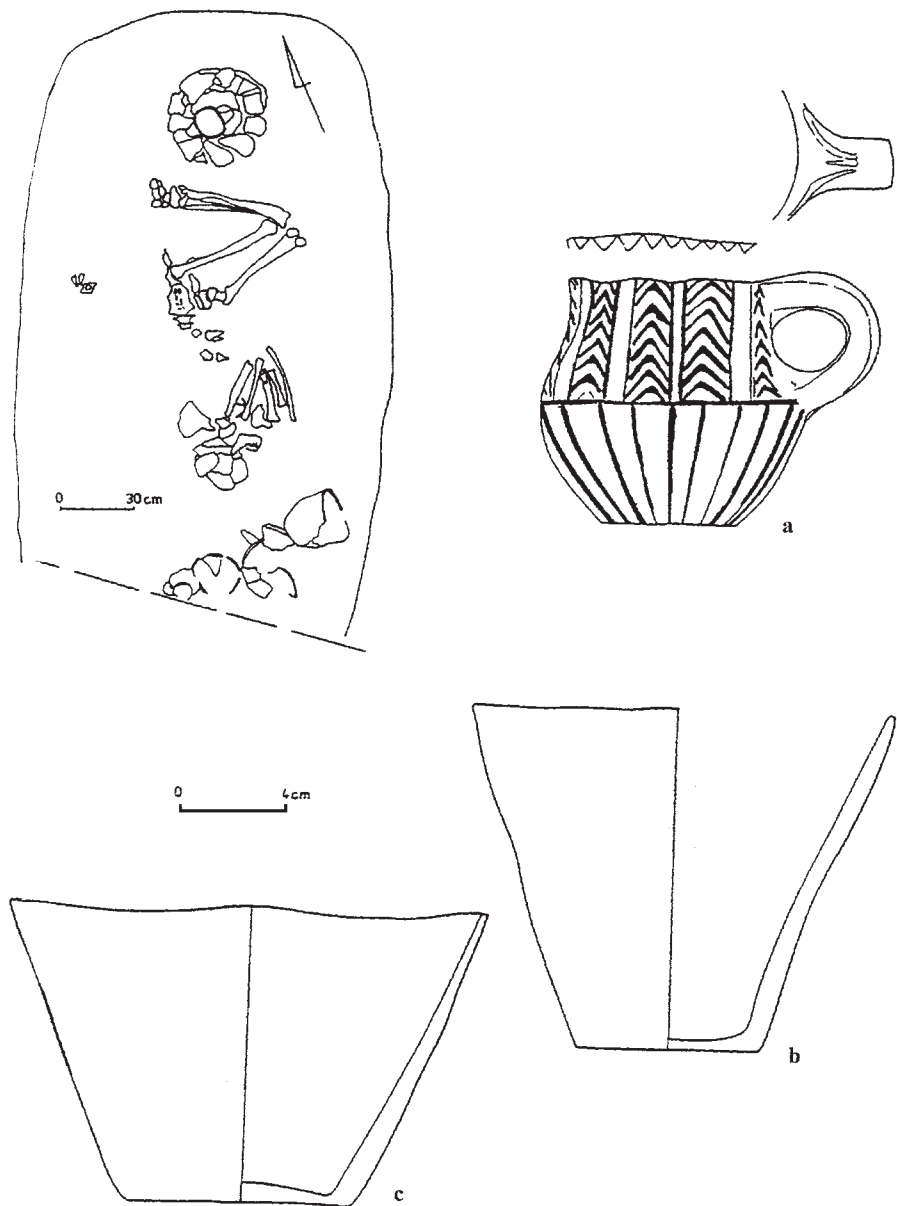


Fig. 29. Inventory and plan of grave VI from Gródek Nadbużny, site 1C.

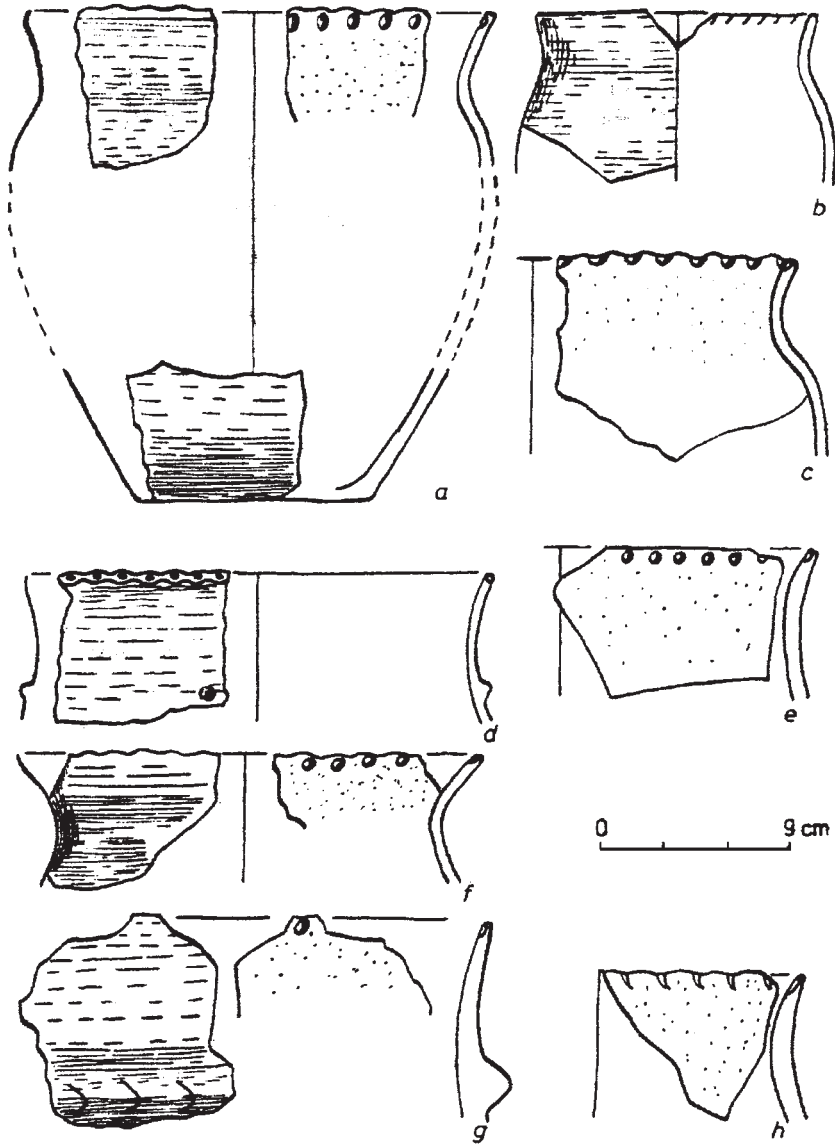


Fig. 30. Lublin-Volhynia culture pottery, phase III, from Łańcut.

in Stefankowice, which is slightly bigger than those described earlier but identical from the formal point of view.

A mention should also be made of two 'pince-nez' pendants (Fig. 34) found on the surface of site 12 in Janki Dolne, where a damaged L-VC grave was excavated [Zakościelna, Gurba 1996:10-11]. Known earlier primarily from the inventories of the Brześć Kujawski group [Czerniak 1980], such pendants show western — Lengyel — affinities [Stolhoff hoard, Silesia, cf. Matuschik 1996].

The horizon of L-VC IIIb is determined by materials from a site in Bronocice (Fig. 35) comprising remains of a fortified settlement and a grave located among household pits [Kruk, Milisauskas 1985]. The authors of the paper distinguished six groups of vessels each of them having several varieties. Besides their formal stylistic traits, the vessels differ also in the rate of occurrence. The basic set of vessels is made up of specimens of groups I, II, IV and V [Kruk, Milisauskas 1985:63, Fig. 25].

Group I consists of large, S-shaped vessels whose bellies have very gentle profiles smoothly passing into long, flared or cylindrical, necks. The vessels of this group are decorated with four ceratoid protrusions of rims and a corrugated ornament on the edge of the rim or underneath it, on the outer side. Some of them bear an incised ornament on the neck. Occasionally, there are two conical or ceratoid bosses located on the greatest protrusion of the belly. Vessels of one variety are characterised by wholly roughened surfaces [Kruk, Milisauskas 1985:60].

Group II comprises vessels of amphora proportions with bulbous bellies and slender and very slender necks that are either funnel-shaped or cylindrical. The amphorae are decorated with symmetrically placed ceratoid bosses or four ceratoid, vertically perforated handles placed on the greatest protrusion of the belly [Kruk, Milisauskas 1985:61, Fig. 23].

Group IV is the most numerous and diversified. It is made up of flowerpot vessels and conical or bow-profiled bowls decorated with four ceratoid protuberances on the rim (two most numerous varieties). Other varieties differ in proportions and size and are decorated with various combinations of corrugations and incisions of rim edges and outer surfaces underneath the rim [Kruk, Milisauskas 1985:61, Fig. 23].

To group V found their way beakers on a hollow, conical or slightly oval-shaped foot whose bowls, usually strongly flared, are decorated with ceratoid protuberances of the rim, while some feet are embellished with a corrugated or smooth strip in their upper portions [Kruk, Milisauskas 1985:61, Fig. 23].

The vessels of the above-named groups account for 90 per cent of all reconstructed forms in Bronocice. The share of remaining groups (III - bulbous vessels without necks with protuberances or bosses on rim edges; VI — small conical vessels decorated with a rim edge corrugation or bands of impressed dents underneath the rim) is very small indeed [Kruk, Milisauskas 1985:Tab. 11].

In some L-VC features, specifically in pit 15-C2, pottery related to the so-called Pit-Comb Pottery circle was found. This pottery is believed by some scholars to be a

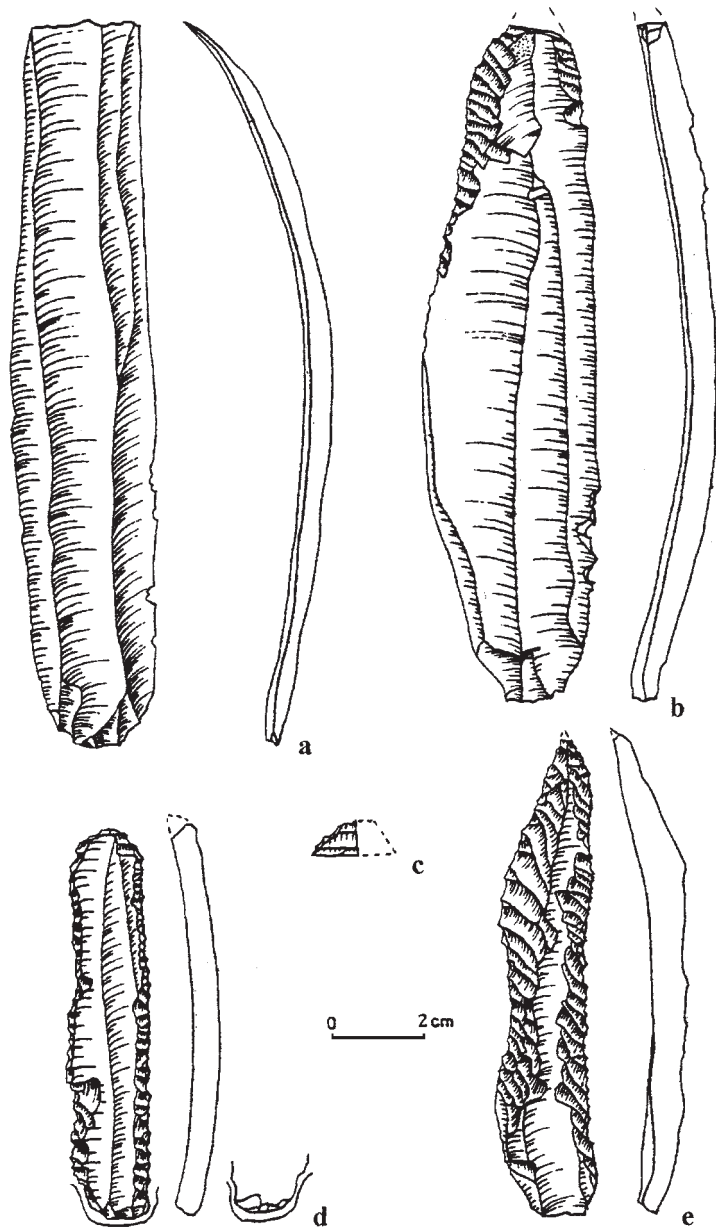


Fig. 31. Inventory of grave 1 from Strzyżów, site 26 (a-e - flint).

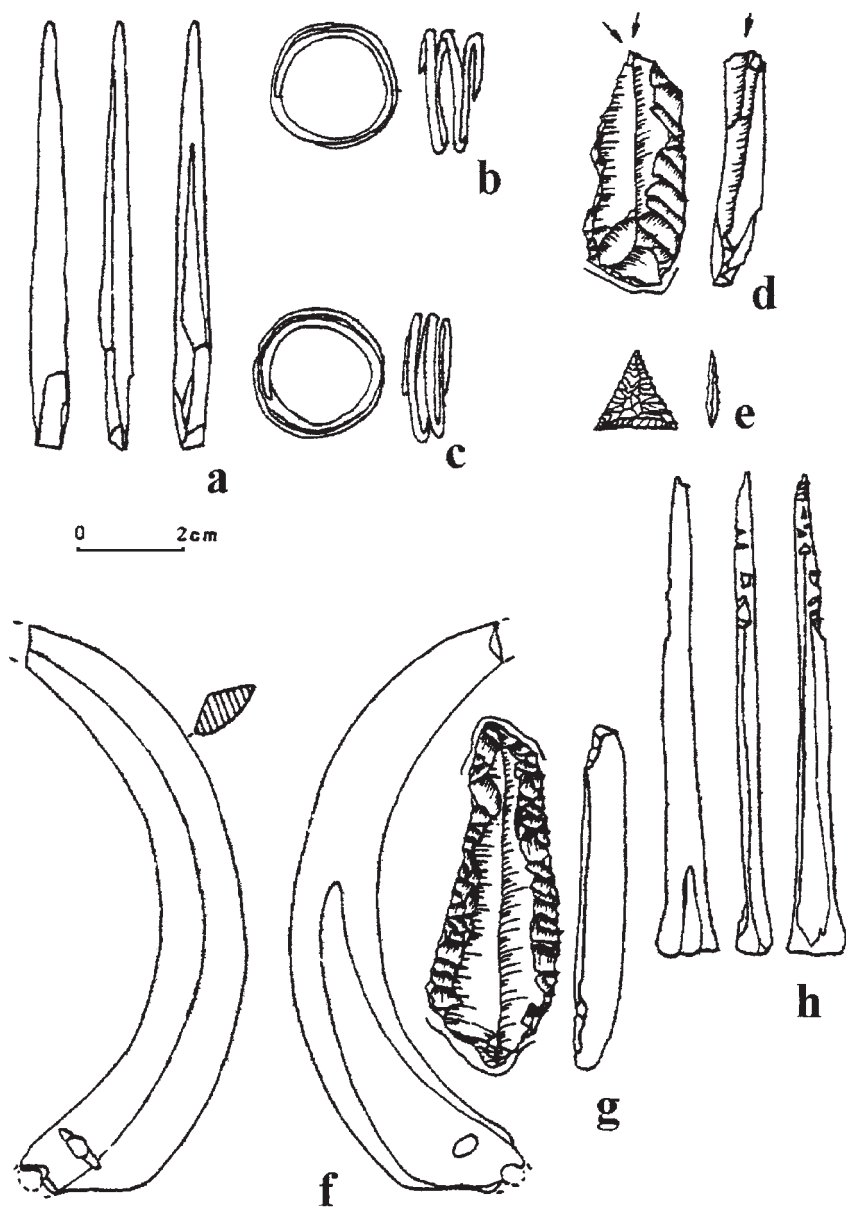


Fig. 32. Inventory of grave 2 from Strzyżów, site 26 (a,f,h - bone; b,c - copper; d,e,g - flint).

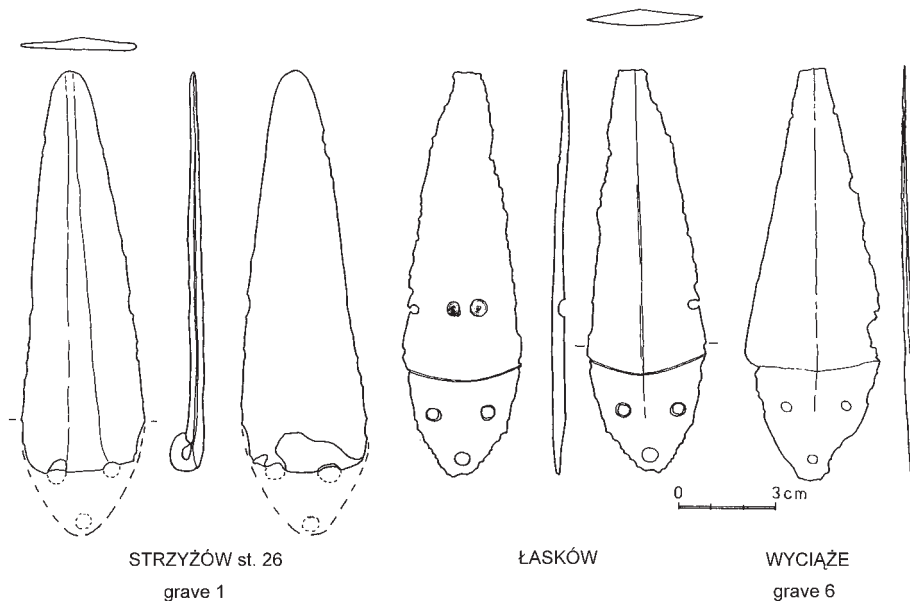


Fig. 33. Copper daggers.

reflection of direct contacts between the two cultural environments [Kruk, Milisauskas 1985:64-65, Tab. VI:11-12; VII:1, 7-8]. This claim is borne out by the find of a point with shaft in a L-VC grave at this site (Tab. XIII:29) and by other elements of the flint industry of this culture (low trapeziums and microburin technique) which seem to be of 'Pit-Comb' provenance as well [Zakościelna 1996:106].

The flint goods from the settlement in Bronocice are for the most part made from Jurassic material, however, with a considerable share of Volhynian flint (especially in the tool group) and a small share of chocolate flint [Kruk, Milisauskas 1985:67]. The technological structure of the assemblage (low share of cores and *débitage* and high share of flakes and tools) testifies to the non-production character of the settlement, where mainly semi-finished products, brought from the outside, were used [Zakościelna 1996:28:Tab. 3]. In terms of the share of individual tool types, the settlement is characterised by a high percentage of retouched blades (including retouched flakes), retouched chips and scrapers, a medium one of truncated pieces and a very low percentage of burins [Zakościelna 1996:75:Tab. 29]. The low percentage of burins is the most distinctive trait that sets Bronocice apart from other L-VC sites whose flint assemblages served to characterise the flint industry of this culture [Zakościelna 1996]. Taking into account the late chronology of the settlement in Bronocice, it cannot be ruled out that the tool composition of the

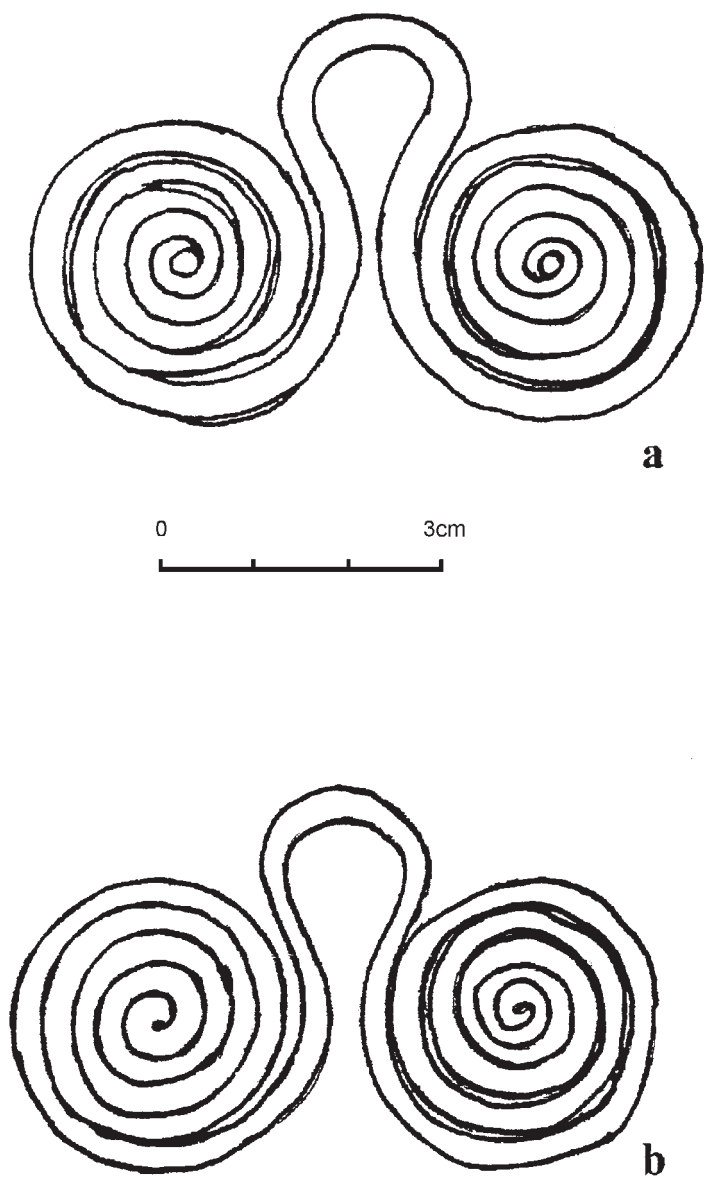


Fig. 34. Copper two-piece spiral pendants from Hrebenne.

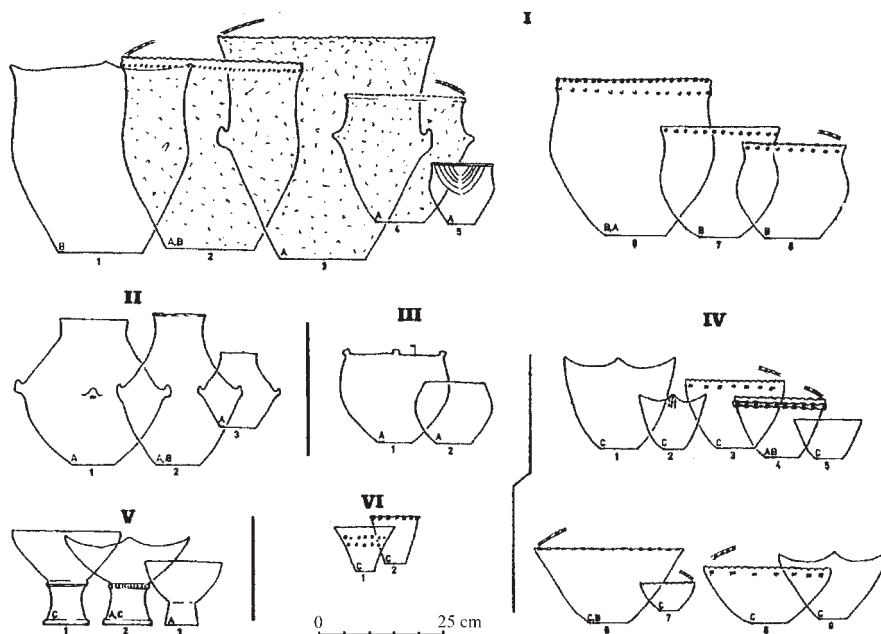


Fig. 35. Lublin-Volhynia culture pottery, phase III, from Bronocice (after Kruk, Milisauskas 1985).

assemblage is an indication of diachronic tendencies in the development of the L-VC flint industry. The major sign of these tendencies would be the declining role of burins [Zakościelna 1996:98].

Phase IIIa of the L-VC can be synchronised with phase A of the Bodrogkeresztúr culture, while phase IIIb with phase B of the same culture and Hunyadi-Halom horizon.

3a. Funeral rites of the Lublin-Volhynia culture (Fig. 25-29, 31-32)

At present, we know of 31 sites on which over 60 grave features have been discovered. Half of them are small cemeteries comprising several graves, while the other half is made up of single graves that were accidentally discovered. The rescue character of excavations on such sites does not allow us to rule out the possibility that they are also part of cemeteries.

The burial grounds and settlements are variously related. We know of single graves spread over the whole settlement, small cemeteries situated in the immediate vicinity of settlements and features located several hundred meters away (Złota, Gródek, site 1C, a complex of sites in Strzyżów). This suggests that we deal here with the process of separating burial grounds from settlements, however, to substantiate this claim it would

be necessary to make a detailed analysis of chronological relations between settlement and burial features.

The L-VC cemeteries consist usually of several graves (7-8 at most) but occupy large areas because graves are situated several up to almost twenty meters apart. It is difficult to tell anything about the arrangement of graves in cemeteries as only one of them, related to the L-VC IIIa, was excavated in full [Strzyżów, site 26 — Zakościelna 1997:11-15]. It occupies an area of about 16 x 24 m marked out by eight graves situated in pairs in the corners [Zakościelna 1997:Fig. 1]. Inside, there was an empty space whose centre may have served as a sacred ground marked by, for instance, an earth mound. The hypothetical existence of an earth mound may have been the reason why people inhabiting the area of the site at the turn of the 2nd century A.D. chose to bury there their deceased [Zakościelna 1997:Fig. 1]. This layout of the cemetery was not repeated on any other feature that yielded a comparable number of graves [Strzyżów, site 2A — Kutylowski 1965; Gródek, site 1C — Gauda 1996:25, Zwenihorod — Sveshnikov 1956:57-68]. What is similar, however, is the considerable distances that separate individual inhumations.

The dead were interred in rather shallow, at present, grave pits whose outlines are usually indeterminable. Only in few cases was it possible to trace the oval or semi-rectangular shapes of pits. The inhumations are usually single, though double or triple do occur, and contain skeletons lying on their side in a flexed position, with their hands placed next to the face and the head pointing south. A large number of anthropological analyses carried out recently show that women were placed on their left side, while men on the right [Gauda 1996:32-34].

It was a common custom in the L-VC to bury the dead with rich and diverse grave-goods. The most numerous grave-goods were vessels of which 2 to 15 were placed in a grave [Lubcze, site 27, grave II — Koman 1997:40-43]. The most frequently occurring vessel types were goblets, flowerpot vessels, bowls, large biconical amphorae with ceratoid handles on the belly, small pear-shaped amphorae with handles at the rim and S-shaped vessels. In Phase IIIa a common grave-good is the Baalberg-type beaker [Lasków — Gurba 1982:Pl. 281-282, Gródek, site 1C, grave I — Kokowski, Zakościelna 1988:Fig. 6d, Strzyżów, site 10, grave 1 — Zakościelna 1997:Fig. 5c, Strzyżów, site 26, graves 5 and 7 - Zakościelna 1997:Fig. 2d]. Vessels were placed by the head or legs of the deceased or, at times, along and in front of the body. A frequently observed practice is the placing of single goblets in flowerpot vessels or several goblets in larger vessels, mainly bowls.

As frequently as vessels, flakes and flint tools were placed in graves. These are usually macrolithic specimens that seem to have been carefully selected [Zakościelna 1996:44-45]. Among them are retouched blades, scrapers, burins, truncated pieces, trapeziums and triangular points which were placed close to the head, hands or the pelvis. The set of tools known from grave assemblages is supplemented by rather numerous bone awls, infrequent antler axes [Strzyżów, site 26, grave 2 and 4 — Zakościelna 1996:Fig.

4e] and very rare daggers [Strzyżów, site 2 A, grave 3 — Gurba, Kutylowski 1970:Pl. 151-153].

Ornaments, as pendants of wild boar tusks, are few. They were found in Husynne, grave 1 [Zakościelna 1996:Fig. 2i], Strzyżów, site 26, grave 2, Gródek, site 1A, grave 1, Moniatyczne Kolonia grave I [Gauda 1996:46].

Shell ornaments are quite common. They are encountered as either beads of various shapes or perforated whole shells of *Spondylus*, *Potamides* or *Turritella*. The richest sets of shell ornaments were found in grave no. 7 in Nieleďwia, grave no. 2 on site 1A in Gródek and grave no. V on site 1C in the same locality [Gauda 1996:46-47].

Copper goods comprise only ornaments whose diversification is limited to copper wire coils [usually found in pairs in female graves next to skulls — Gródek 1C, graves IV and V — Gauda 1996:Fig. 6, Strzyżów 1A, grave 1, Strzyżów 26, graves 2 and 3 — Zakościelna 1997:14], bracelets made from copper wire or band [Stefankowice Kolonia 3, grave 1 — Gauda 1996:Fig. 11, Żuków, grave III — unpublished materials held by Lublin Museum] and fragments of copper wire and plates. The only utensil discovered so far is a small copper hook found in the surface layer of soil on the cemetery in Strzyżów 26. The hook must have belonged to the grave-goods of a damaged grave.

The only feature of this kind in Bronocice is clearly set apart from a few dozen known L-VC graves by its construction, arrangement of skeletons and the location of grave-goods. A two-level structure consisting of the grave pit proper, where two people were buried, the sitting position of the man, and the division of grave-goods into two groups are elements hitherto unknown in the funerary ritual of the L-VC. One group of grave goods was placed next to the skeletons, while the other was placed on a clay-timber structure that closed the unfilled lower pit and served as the floor for the upper one [Kruk, Milisauskas 1985:30-41].

3b. Lublin-Volhynia culture flint industry

The flint industry of the L-VC has been recently described on the basis of over a dozen of rich settlement assemblages and several dozen smaller ones coming from all the settlement centres of the L-VC [Zakościelna 1996].

1. Raw material.

In the whole range of the L-VC, of the greatest significance were Volhynian and chocolate kinds of flint. A considerable variety of used kinds of flint follows from the proximity principle holding that these kinds of rock are used whose deposits are the closest to settlement areas, provided that the given kind meets basic technological and economic requirements. As far as the use of raw material is concerned, two zones can be clearly seen: eastern, covering the Volhynia-Podolia Uplands, where Volhynian flint absolutely dominated and western encompassing the Lublin, Sandomierz and Miechów Uplands as well as Rzeszów Piedmont, where the main role was played by chocolate flint, while locally (Miechów Uplands) Jurassic flint was important. The abundance and excellent technological qualities of Volhynian flint were the reasons why

the populations of the eastern zone showed no interest in other silica minerals. Only in the western fringes of this zone (Hrubieszów Basin) did chocolate flint appear (the most distant place from its deposits where it was found is the settlement in Zimne — approx. 240 km as the crow flies). It is in this region that the boundary between the two raw material supply zones may run. The western zone is characterised by a wide variety of raw materials used because it lacked or could not take advantage of Świeciechów and variety G Jurassic kinds of flint [Zakościelna 1996:78-79], so technologically excellent material as Volhynian flint in the east. With chocolate flint being dominant (a low share of this material was recorded only in Bronocice which lies in the Jurassic flint zone), in the western zone three to five other kinds of flint (Jurassic, Volhynian, Świeciechów, Gościeradów and erratic) were used, obviously, to a smaller extent.

On all the sites of this zone, regardless of the distance to the deposits of raw materials of vital economic importance, a very important role was played by Volhynian flint, imported in the form of flakes, which satisfied the demand for macrolithic semi-finished products. Within the L-VC range, this material spread over the largest distances — the maximum distance — approx. 240 km as the crow flies - is established by its presence in the settlement in Bronocice.

Settlements were supplied with flint by organising direct expeditions to deposit areas where the mineral was extracted, preliminarily selected and worked. One can speak of certain forms of ownership of flint deposits. This refers to Volhynian flint in stages LV-C I, LV-C II and partially L-VC IIIa, chocolate flint in stages L-VC II, especially IIIa, and Jurassic flint in stage LV-C IIIb, which is testified to by the scale of production for the use by one's own settlement centres and by FBC communities or in the case of Volhynian flint by the communities of the Tiszapolgár and Bodrogkeresztúr cultures. In the case of chocolate flint, the L-VC flint industry supplied it to the Bodrogkeresztúr culture, beginning with phase B, and to Lažňany and Hunyadi-Halom groups. The two last mentioned groups were also supplied with Jurassic flint [Zakościelna 1996:85-89]. All this required good extraction and processing skills as well as complex distribution systems.

2. Survey of the flint industry

The flint industry was limited to the working of single-platform cores, the preliminary working of which was restricted to a minimum (preparing of striking platforms and removing of uneven places on the striking surface), which was possible owing to the regular shape of lumps of both basic kinds of material used. It was to them that forms of cores were frequently adjusted. The flint industry was definitely set to produce flake semi-finished products of possibly the greatest length. Their 'post-metric turning-point' nature is revealed in all settlement centres, regardless of the kind of flint raw material used. The metric turning-point in the flint industry is understood here as a tendency to produce flakes of possibly the greatest length *vis-à-vis* the possibilities offered by a specific kind of flint. In this approach the 'post-me-

tric turning point' nature of the LV-C flint industry is determined, on the one hand, by export of macrolithic flakes, from its own production centres located on the deposits of Volhynian flint, to the western zone of raw material supply and, on the other hand, by the skilful taking of the greatest advantage of the possibilities offered by the kinds of flint occurring in this zone. As regards chocolate flint specimens, the maximum size is set by a retouched blade from Zaliszcze (156 x 29 x 10 mm) and a flake from Złota (169 x 28 x 8 mm), as far as Jurassic flint is concerned a flake from Łañcut is the largest (123 x 35 x 9 mm), and, finally, in the case of Gościeradów flint also a flake from Łañcut (119 x 28 x 7 mm) sets the maximum size. In the whole range of the L-VC, the size of flake semi-finished products varies considerably. Next to very long flakes, short and medium ones were in use. In addition, for the sake of some tools microlithic flakes were intentionally produced as well [Zakościelna 1996:90-91].

3. Tools

The assortment of tools comprises over a dozen groups that occur on all sites. A clear typological value can be assigned to scrapers, burins, truncated and backed pieces, retouched blades, points, perforators and borers, combination tools and trapeziums. Percentage-wise, on the majority of sites retouched blades dominated (from 31.2 to 36.6%). A similar incidence was shown by burins (from 16.9 to 34.1%), while next positions were taken by scrapers and truncated pieces (from 12.6 to 25.0% and from 8.4 to 16.6%, respectively). The remaining tools had a much lower share, yet it must be stressed that trapeziums, especially typical of assemblages from the Naęczów Plateau in Wąwolnica, accounted for 11.7% of all tools [Zakościelna 1996:Tab. 30]. The typological-statistical structure of tools on individual sites varied considerably. What did not change was the set of tools as listed above and the dominant position of retouched blades. Also stable but lower than suggested earlier [Balcer 1983:108, 112-115] was the incidence of burins which at some sites ran very low. Moreover, almost each site offered a different typological-statistical picture. The analysed materials showed that there were at least five varieties [Zakościelna 1996:75].

1. Assemblage with a high share of retouched blades and truncated pieces and a medium share of burins and scrapers (Las Stocki, site 7);
2. Assemblage with a high share of retouched blades, a low share of burins, a medium share of scrapers and truncated pieces and a high share of trapeziums (Wąwolnica, site 6);
3. Assemblage with a high (stable) share of retouched blades and burins, a high share of scrapers and a low share of truncated pieces (Antopol);
4. Assemblage with a high (stable) share of retouched blades and burins, a very low share of scrapers, a low share of truncated pieces and a higher share of combination tools (Łañcut),
5. Assemblage with a high (stable) share of retouched blades and burins, a high share of scrapers and a low share of truncated pieces (Strzyżów, site 1D).

One of the basic techniques of tool production was oblique covering parallel retouching. It was used to shape basically all retouched blades and triangular points, but also a large part of truncated pieces, scrapers and even some perforators. Owing to this retouching technique, some tools are diagnostically important for the L-VC. These are truncated pieces of the Las Stocki type, retouched blades and triangular points.

Differences in the flint industry between raw material supply zones are observed in the use made of raw material, morphometry of cores and flakes but are absent in the group of tools [Zakościelna 1996:95-99, Tab. LVI]. The uniforming role was played by the oblique covering parallel retouch that was present in all the development stages and territorial groups of the L-VC. In the flint industry of this culture, as a rule no internal diversification, due to evolution in time, is observed. Perhaps, only a low share of burins in assemblages from Bronocice is a reflection of a certain tendency. However, it must be made absolutely clear that a relatively low share of burins in the whole of L-VC, next to other important traits of this culture's flint industry, does not justify its inclusion in the so-called Sępów industry [Zakościelna 1996:101-107; opposing view cf. Balcer 1983:115-116].

In the flint industry of the L-VC three topogenetic elements may be distinguished [Zakościelna 1996:101-107]: (a) Malice — representing southern flint industry, (b) Tripolye — the metric turning-point, oblique covering parallel retouching, the idea of a retouched blade and a harvesting tool with a uniform, long insert, (c) *quasi* Mesolithic — low trapeziums, backed pieces [Zakościelna 1985; the latter was acquired in L-VC II as a result of contacts with Forest-zone units].

3c. Lublin-Volhynia culture fortified settlements

From several different L-VC settlement clusters, there comes evidence of the existence of defence structures surrounding settlements or their parts. In this context, one may mention such sites as Zimne, Gródek Nadbużny, Złota and Bronocice. Only the last-mentioned site was excavated in the extent enabling a description of such structures in any greater detail.

The settlement in Bronocice was surrounded by a defence system that can be reconstructed as follows. An oval space measuring 210 x 168 m was encircled by a V-shaped ditch about 2.5 m deep and wide. On its inner side stood a rampart of a similar height and about 4-5 m wide at the foot. The rampart was crowned with a palisade made from stakes approx. 20 cm in diameter [Kruk, Milisauskas 1985:41-51].

A possibility cannot be ruled out that every L-VC settlement cluster had at least one fortified settlement functioning as a centre for the settlement District which served it. The maintenance of fortified settlements was justified by the accumulation of relatively great wealth (local copper metallurgy) amid alien cultural environments (late phases of the MC and FBC).

ATTEMPT TO RECONSTRUCT THE SOCIO-CULTURAL PROCESSES

Being theoretically the most probable and best substantiated by materials, the model assuming the migration of the oldest groups of farmers from Moravia and south-western Slovakia to the highland-loess areas of Małoposka seems to us be the most convincing [Kozłowski, Kozłowski 1977:264]. In a relatively narrow time horizon (Gniechowice) - at the beginning of the 6th millennium BC — the first farmers penetrated virtually all favourable settlement zones and permanently settled selected microregions of western Małopolska, the vicinity of Sandomierz and Rzeszów and the Western Volhynian Uplands. Until the end of the ‘music note’ phase of the LBPC, the early agriculturalist populations inhabiting Małopolska and western Ukraine maintained close ties with the cradle of its eastern province, i.e. with south-western Slovakia.

At the beginning of the *Żeliezovce* phase (ZI), the centre in south-western Slovakia did not exert anymore any impact on the vast areas of the Dniester drainage and the Volhynian Upland. Only very weak influence of the centre is observable in the Lublin province, on the western fringe of the Volhynian Highlands and on the San River [Kozłowski 1985]. At the beginning of the classic *Żeliezovce* phase (ZIIa), the sphere of influence of the main centre shrank to loess regions in the vicinities of Kraków, Sandomierz and Rzeszów only to narrow down even further somewhat later (i.e. in phase ZIIb) limiting itself to the surroundings of Kraków (Fig. 2, 3).

The dwindling of the sphere of influence of the oldest agricultural civilisation in this part of Europe (i.e. in south-western Slovakia) brought about far-reaching consequences for the cultural development of the post-linear era in the areas of interest to us here during the next millennium. It turned out that cultural units belonging to the Lengyel cultural circle thrive only on the loess soils of western Małopolska, i.e. in the areas where influence from south-western Slovakia could still be felt in phase ZIIb. Whereas populations settling regions east of the San and Vistula rivers — in other words those that were virtually deprived of any stronger *Żeliezovce* impact — did not take any active part in the rise of new, post-linear cultural units. Meanwhile, as a passive factor, they offered a demographic base for the cultural expansion of the newly emerged units to the territories that had been settled at least from the beginning of the ‘music note’ phase of the LBPC. It is worth stressing that their range of settlement and penetration by post-linear groups never crossed — in the north, east and south-east — the limits of settlement zones of the LBPC.

Besides external factors, such as the already mentioned process of dwindling and ever shrinking range of the cultural impact of the centre of the LBPC’s eastern province in south-western Slovakia and intensifying contacts between the populations of the culture

in question and groups of people from the circle of eastern linear cultures (Fig. 2), an important impact on the course of the cultural change was exerted by internal processes. One of their detectable elements is the increasing role of groups of people living in a single house (an extended family?) in the organisation of external, often far-reaching contacts. One purpose of setting up such contacts was to ensure supply of flint raw material. The results of the analysis of the Rzeszów settlement microregion show that as late as the 'music note' phase there were no differences in the raw material structure of flint artifacts found in features linked to different households. However, such differences were noticeable between settlements of the same region, for instance, between large settlements on the Piastów estate and Staromieście sites, on the one hand, and the WSK site in Rzeszów, on the other. Only on the last mentioned site, was a substantial share of obsidian recorded accompanied by imports of Tiszadob group pottery. The situation did change in the Źeliezovce phase. On the Piastów estate site, nearly every complex of buried features being traces of individual households has a different raw material structure and a different percentage of alien pottery imports. Some feature complexes contained particularly large amounts of obsidian and Bükki culture pottery, others rendered pottery of the Samosz group or a significant amount of Volhynian flint, still others relied chiefly on Jurassic material with no ceramic imports whatsoever [Kadrow 1990b].

The influx of flint raw material and culturally alien pottery from diverse directions [see also Godłowska 1982] in the Źeliezovce phase of the LBPC is a reflection of a process that with some exaggeration could be called 'competition in the search for ever more exotic partners' to perform certain vital socio-cultural functions of human groups. If our presumption is correct than one can suspect that the described developments are a reflection of a considerably advanced diversification of social microstructures (primarily of extended families and local groups) within the LBPC.

The substratum of socio-cultural processes as outlined above (diminishing attractiveness of one's own traditions combined with the increasing desire to leave a mark of one's own group personality by establishing 'exotic' contacts) triggered a cultural change that is clearly observable only in pottery form and ornamentation and, in some regions, in raw material sources. However, in settlement structures or zones and inevitably related economic foundations and basic principles of social organisation no such clearly discernible changes can be observed in the period of the LBPC decline and the rise of post-linear units.

Admittedly, chronological studies based on pottery typology suggest a large hiatus between the mentioned cultural developments and, as a consequence, make some scholars adopt a thesis about a relationship between the cultural change and the coming of a new wave of colonists from the south. Yet, all other arguments justify an opposite thesis. It emphasises the continuity of settlement in Małopolska and western Ukraine. This finds no contradiction in the growing number of radiocarbon dates or serious arguments of the so-called traditional chronology or the logic of settlement processes on the regional scale.

Ca. 5000 BC

At the dawn of a new, post-linear cultural structure in Małopolska, a central position was occupied by loess areas in the vicinities of Sandomierz and Rzeszów. They were close enough to the old cultural centres to absorb still strong early *Żeliezovce* impulses (ZI and ZIIa) and distant enough not to assimilate the influences of the final periods of the *Żeliezovce* phase, i.e. ZIIb and ZIII, while intensifying contacts with alien cultural circles. Gained in this way, the independence from hitherto prevailing influences from south-western Slovakia and the ‘feverish’ atmosphere of establishing new contacts explain the sudden shift in external contacts. A new partner — of crucial importance for the direction of cultural transformations — was found in LSPC communities inhabiting the Bohemian Basin (Fig. 36). In the stylistically oldest assemblage of the new cultural unit from site 20 in Rzeszów, one can find stroked ornamentation (bands and chevrons) reminding of phase III of the LSPC in Bohemia. There are no elements whatsoever attributable to the Lengyel culture. A local contribution to the emergence of this unit was the vessel with a bulging neck. The discussed assemblage represents the oldest phase of the MC (Ia). It was then, too, that a clear shift in the supply of raw materials took place (Fig. 37). The import of Jurassic flint ceased almost entirely in favour of chocolate flint [Kadrow 1990b, 1993]. This occurrence is an ample illustration of the declining importance of those directions (i.e. south-western Slovakian and closely related western Małopolska ones) that had inspired the cultural evolution over large expanses of Małopolska until then.

A more complex situation prevailed around Sandomierz at that time. On the developments known already from the vicinity of Rzeszów, there were imposed rather weak but clear influences of the Lengyel culture. They must have used the trail blazed by the last phase of *Żeliezovce* influences of phase ZIIb, which are detectable on the Sandomierz-Kruków site. The Sandomierz subgroup, representing the oldest phase of the MC [Michalak-Ścibior 1996], at the same time displays many traits typical of the Samborzec-Opatów group, which is traditionally defined as part of the Lengyel culture. A great variety of meander patterns suggests influences from the beginning of phase IV of the LSPC. Such influences may be synchronised with Lengyel Ia with its distinctive red paint ornament.

The Kraków subgroup of the Samborzec-Opatów group, which must have developed slightly later than the Sandomierz subgroup and the early phase of the MC (Fig. 9), displays the greatest selection of elements taken from the Lengyel environment. Nevertheless, it cannot be claimed that it could be an effect of migration of groups of people from the south. Its positively local character makes one look for its roots where it was found. Also in this case, the stylistic image of this subgroup is determined in the first place by LSPC influences from early phase IV and not by less important early Malice elements like the vessels with bulbous necks mentioned earlier.

In the light of the above discussion, a deconstruction of the Samborzec-Opatów group (of the Lengyel culture) seems to be necessary. It consists of two segments of which

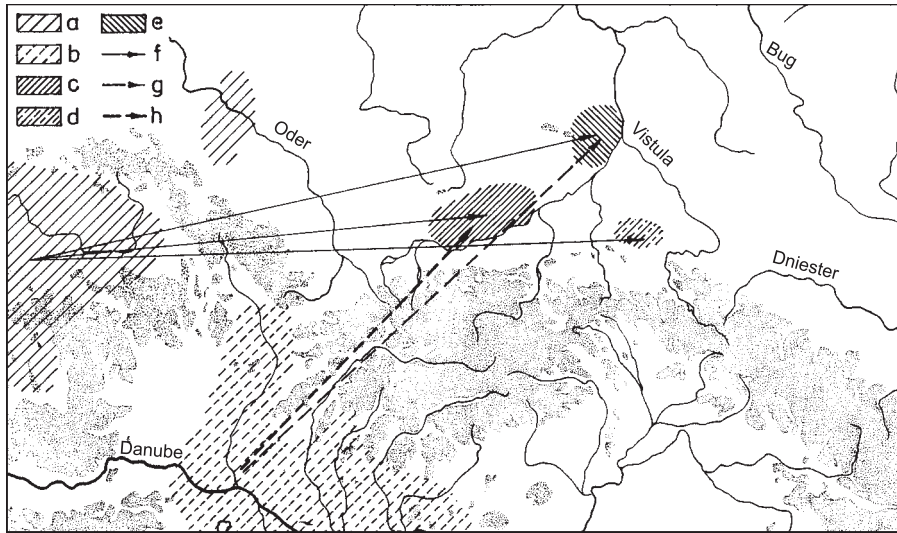


Fig. 36. Cultural relationships ca 5000 BC. a - decline of phase III of LSPC in Bohemia and early LSPC in Silesia; b - Lengyel culture Ia; c - Kraków subgroup; d - Malice culture, phase Ia; e - Sandomierz subgroup; f-h - directions of influences.

only the Kraków subgroup forms a part of the Lengyel complex with the Sandomierz subgroup being of mixed Malice-Lengyel character. It was one of the major branches (next to the Rzeszów settlement microregion) of the successive evolution of the MC. Western Małopolska, on the other hand, became a springboard for the development of a sequence of local cultural units maintaining close ties with the Lengyel circle. The Lengyel sequence in the vicinity of Kraków looks as follows: (a) Kraków subgroup — (a gap related to the expansion of the classic MC) — Pleszów group — Modlnica group (with Polgár intrusions in the form of the Złotniki-Wyciąże group and Wężerów type complexes) and as such shall not be discussed here any further.

The third (next to the L-VC and LSPC) post-linear cultural unit, namely the MC, developed on the basis of the populations of the LBPC of the early *Żeliezovce* phase as an effect of the intensifying process of their internal diversification and reorientation of traditional cultural ties. The cultural change was then — which must be stressed again — of purely superficial character. It concerned the sphere of pottery production. The most important segments of the material and social culture remained intact.

Ca. 4800 BC

In the next stage, synchronous with LSPC IVb and with the Lengyel culture, phase Ib, the MC entered its classic phase (MC Ib) and spreading from its centres located on Sandomierz and Rzeszów loess soils, reached the greatest territorial range (except the eastern direction) in its whole lifetime (Fig. 38). In western Małopolska, it stymied

the development of the early Lengyel Kraków subgroup and reached as far as Upper Silesia and north-eastern Moravia. Up north, it emerged in Kujawy. Another direction of temporary expansion was eastern Slovakia and Transcarpathian Ukraine. A stable direction of expansion of the MC was also the Lublin and Volhynian uplands. We believe that the expansion of the MC in this area consisted chiefly in exerting an acculturating impact on clusters of linear people still living there. The impact was aided by the old tradition of ties holding between these areas and the settlement centres of the LBPC of the 'music note' phase located on the Upper Vistula and in the San drainage. It was owing to these circumstances that the expansion left so permanent a trace. MC traces in other mentioned areas were rather a result of migration of small groups of people into the communities of other post-linear populations. These traces are noticeable only in short periods of time and as such they did not bring about any serious consequences for the successive cultural development of the territories affected by the migrations (Kujawy, western Małopolska, eastern Slovakia and north-eastern Moravia).

East of the Nida and Wisłoka rivers, the classic phase MC settlement was rather long-lived. Only in some parts of the vast range of this culture (the vicinity of Rzeszów, the Nałęczów Plateau) is discernible a slow evolution of ceramics assemblages in the direction of the late classic phase (MC Ic). Its distinctive trait is a disintegration of the rich stroked ornamentation and its considerable simplification. In its long life, in the classical phase, the MC experienced a period of consolidation and developed according to its peculiar rules. External influences, so important in the formative period, lost their meaning. This was a period of persistence and stability.

Ca.4200 BC

Around the above-given date at the latest, we encounter a new cultural quality on the loess expanses of central and eastern Małopolska. For one thing, going with the tide of general central European changes (rising of the Rössen culture and the LLPC), MC communities, adapting better to local conditions, carried out a kind of internal colonisation of territories that had already been penetrated earlier (Fig. 39). Also around that time, changes must have taken place in social structures whereby the traditional Early Neolithic organisation of large local groups made up of extended families must have yielded to smaller social units that could survive in a much more diversified natural environment. To a certain extent, elements of the economy must have changed, too. This is shown by changes in the flint industry. It was then that the first macrolithic stone assemblages appeared, in particular in areas relying on Volhynian raw material. This process was accompanied by changes in pottery ornamentation. Classic stroked ornamentation disappeared altogether only to be replaced by incisions, single, deep pricks and reliefs. Generally speaking, another stage of ornament simplification took place. This period is called the early Rzeszów phase (IIa) in the development of the MC. Ukrainian archaeologists classified materials of this type as belonging to separate cultural units (known as Hoszcza-Werbkowice or Werbkowice-Kostyanets). There was a substantial increase in the number of known MC sites. The centre of gravity of MC settlement

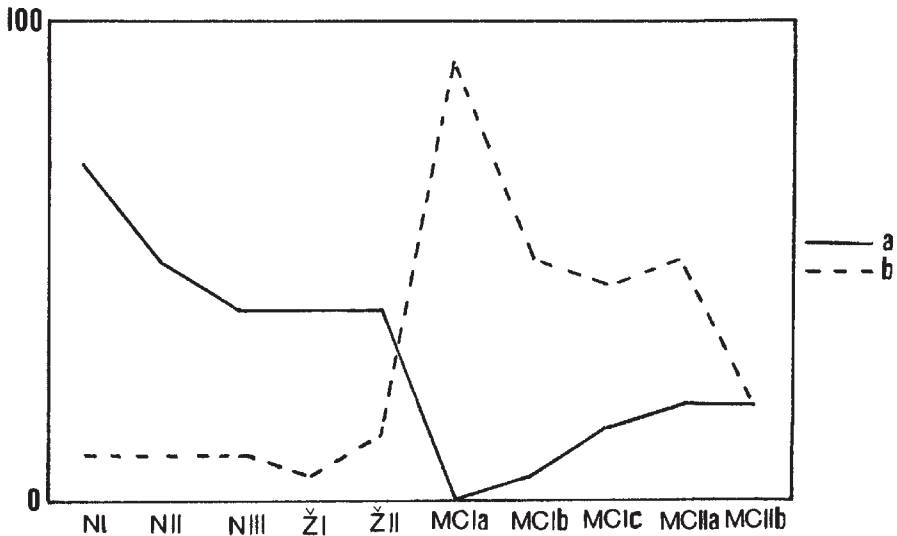


Fig. 37. Frequency of Jurassic (a) and chocolate (b) flint in Rzeszów, site 16, from the beginning of 'music note' phase of LBPC (NI) until the Rzeszów phase of MC (MCIIb).

moved east then, to the drainages of the Styr and Horyn rivers. Settlement became more intensive also in the western portion of the Volhynian Highlands and on Sandomierz and Rzeszów loess soils.

The above described changes coincided with an extremely important civilizational transition which took place in the Carpathian Basin or, more precisely, in the Tisza drainage and on the Lower Danube. What is meant here is the beginning of the Eneolithic when interrelated economic, social, settlement and cultural transformations generated a huge demand for copper and top quality flint. An area that offered these goods was the central part of Volhynia with easily accessible outcrops of native copper and Volhynian flint (Fig. 39). Therefore, already in the earliest phase of the Eneolithic, this area may have been penetrated by the representatives of the proto-Tiszapolgár phase of the new socio-cultural system on the Tisza. Impulses from the south took root in Volhynia. Among dynamically developing MC populations of the early Rzeszów phase in this region, certain groups of people reacted strongly to the impulses by modifying their cultural system and, as a result, producing the Lublin-Volhynia culture. The oldest, archaeologically perceivable, stage of this process may be represented by materials from Holeszów connected with the early phase of the culture under discussion (Fig. 15-16, 39). They combine certain traits of the L-VC and the early Rzeszów phase of the MC with certain elements still typical of the late classic stage of the MC and the postulated

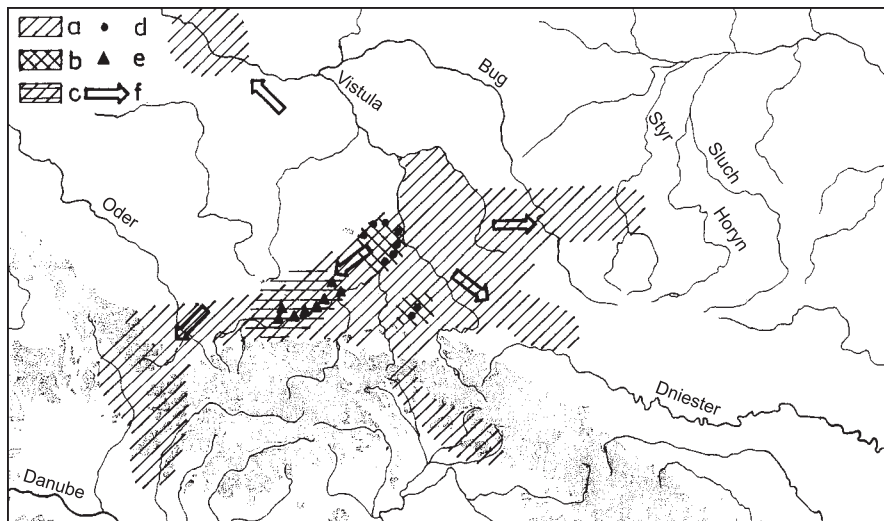


Fig. 38. Cultural relationships ca 4800 BC. a - Malice culture phase Ib; b - Malice culture, phase Ia; c - Kraków subgroup; d - sites of the MC phase I a; e - sites of LC phase I; f - directions of influences.

(the idea of painting pottery with a white paint) legacy of the Tiszapolgár-Csóshalom-Oborín group on the Tisza. Obviously, there are also Tripolye traits in the form oblique covering parallel retouch.

Ca. 4000 BC

At that time, the new cultural system had already set in. In the beginning of the classic phase (L-VC II), all the basic traits of this culture were in place. It was then that the custom of decorating pottery with a white paint flourished. The L-VC flint industry was then decisively of macrolithic character. There is also evidence of local copper metallurgy. The process of gradual acculturation of late Malice societies by the Lublin-Volhynia culture began in areas traditionally occupied by the MC, i.e. on the western fringe of the Volhynia Upland, the Nałęczów Plateau and on Sandomierz loess soils (Fig. 17). It was also there that contacts, albeit isolated for the time being, could have taken place with the oldest FBC populations infiltrating south-east Poland from the Lowlands. A trace of these oldest penetrations is, for instance, a pottery assemblage from Turkowice [Gurba 1989, Tab. XXIX]. Because of too large a civilizational and cultural distance, these contacts did not bring forth any acculturation processes that would be noticeable today. The L-VC, without losing its own unique character, acquired then, albeit rather superficially and similarly to many other cultural units of this period, many elements typical of phase B of the Tiszapolgár culture. One of such elements is the distinctive manner of pottery ornamentation with deep pricks arranged in 'hanging chevrons' (Fig. 18-20). In addition, a majority of copper ornaments have their prototypes in the said culture.

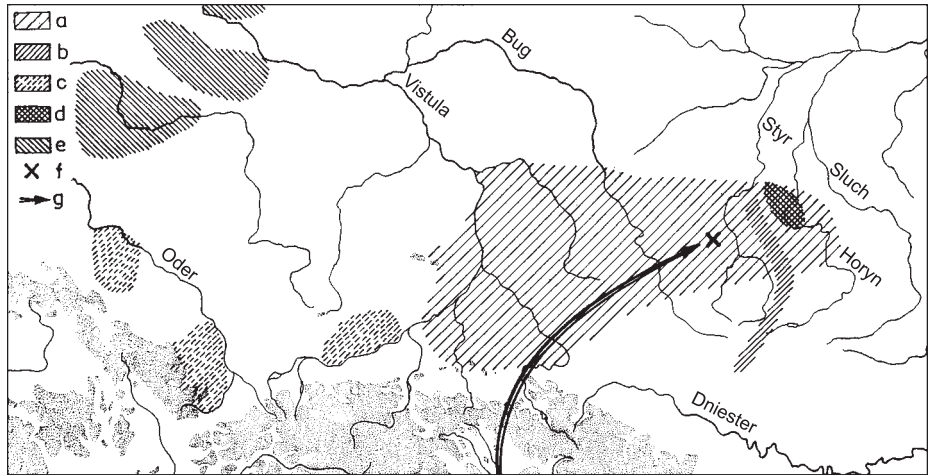


Fig. 39. Cultural relationships ca 4200 BC. a - Malice culture in transition from phase Ic to phase IIa; b - outcrops of the highest quality Volhynia flint ; c - local groups of the Lengyel culture in western Małopolska and Silesia and (e) the Late Linear Pottery culture in Wielkopolska and Kujawy; d - outcrops of native copper; f - Golyshiv Wołyński; g - direction of influence.

The penetrations of the northern piedmont of the Carpathian Mts. by Tiszapolgár culture people, which is evidenced, for instance, by Wężeń type complexes, led to yet another form of acculturation of late Malice communities. Namely, in the vicinity of Rzeszów, induced by a very shallow adaptation of Tiszapolgár influences, there developed the so-called Rzeszów type of late Malice pottery. This designation is synonymous with the late Rzeszów phase of the MC (IIb), which is restricted in occurrence in the late Malice context only to this small area. Let us remember that in the same temporal horizon, Tiszapolgár influences are superimposed also on the classic L-VC complexes and on a number of other cultural groups (Fig. 14).

As it has already been mentioned, during the classic phase of the L-VC, Małopolska was penetrated by FBC people of the Lowlands origin in all probability [e.g. Kraków-Nowa Huta, site 49 and Turkowice; cf. Burchard, Jastrzębski, Kruk 1991:97, Fig. 2, 3]. Before long their presence drew a response from the local late Malice population (early Rzeszów phase of the MC), which began to succumb to the acculturation impact of the newcomers from the north. An archaeologically perceptible trace of this process is an assemblage (5-B6) from Bronocice [Kruk, Milisauskas 1983:Fig. 9] in which artifacts displaying clear traits of the incipient south-eastern group of the FBC accompany still readily observable late Malice elements [Kadrow 1988:27]. Similar conclusions may be drawn from the analysis of some flint assemblages [e.g. from Majdan Nowy; cf. Bronicki, Kadrow 1988, Bronicki 1995].

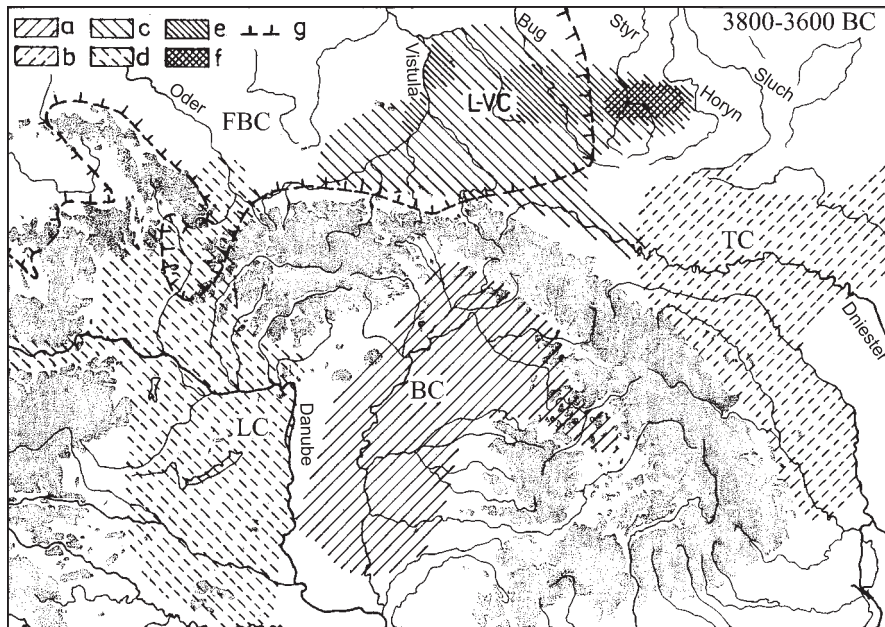


Fig. 40. Cultural relationships between 3800 and 3600 BC; L-VC - Lublin-Volhynia culture; FBC - Funnel Beaker culture; LC - Lengyel culture; BC - Bodrogkeresztúr culture; TC - Tripolye culture. a - Bodrogkeresztúr culture, b - Tripolye culture, c - Lublin-Volhynia culture, d - Lengyel culture, e - II phase of L-VC, f - I phase of L-VC, g - SE border of FBC.

Thus, in the early 4th millennium BC, we would be dealing with two different trends acculturating late Malice communities in Małopolska. One of them originated from the L-VC moving slowly west, while the other from the Lowlands FBC penetrating loess areas in the south. As a result of the first, the most active late Malice groups joined the processes of intensive eneolithization becoming part of the L-VC. The other trend of acculturation resulted in the rise of south-eastern group of the FBC in which the most active Beaker element took over the rest of late Malice populations creating thus a more extensive model of eneolithisation lacking many of its essential attributes, for instance, copper metallurgy, circulation of prestige objects and — which is most significant — greater sensitivity to the processes of spontaneous, internal differentiation of society.

Ca. 3800 BC

This date heralds the onset of the decline of the L-VC, the last link of Danubian cultures in Małopolska, except for the contemporaneous Wyciąże-Złotniki group from western Małopolska. The L-VC preserved its individual character discernible mainly in pottery production and the system of settlement. The latter was based on several distinct settlement agglomerations with fortified settlements serving as central localities.

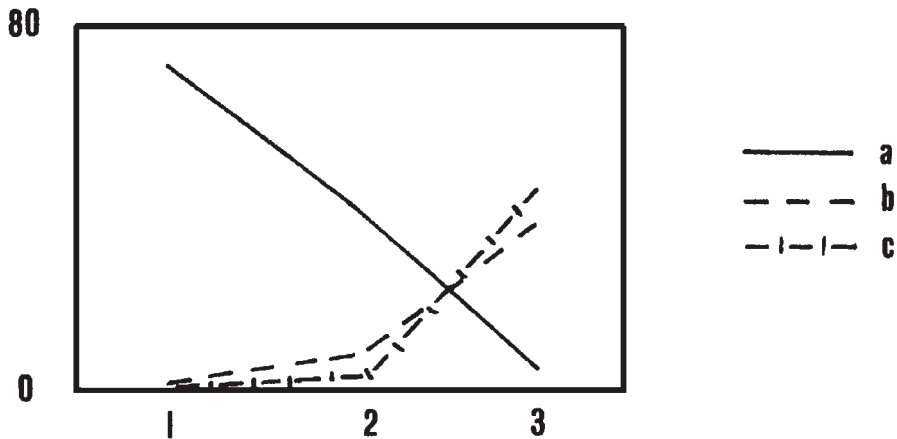


Fig. 41. Frequency of Volhynia, (a) chocolate (b) and Jurassic (c) kinds of flint in the assemblages of the Polgár cultures of the Carpathian Basin. (1 - Tiszapolgár, 2 - Bodrogkeresztúr, 3 - Lažňany).

In pottery ornamentation ('hanging chevrons' built of three shallow, circular dents) and some of its forms (milk pots), influences of the Bodrogkeresztúr culture are readily observable. Almost entirely dependent on these influences — in terms of designs — was copper metallurgy which especially well developed in this very period. Besides quite numerous ornaments (Fig. 33), daggers appeared then (Fig. 33). The first horizon of their occurrence is dated contemporaneously with the development of the Bodrogkeresztúr culture, which means that it is also contemporaneous with the late phase of the L-VC (III) synchronised with the second phase of copper metallurgy in southern Germany [Mutuschik 1997, 1998].

The strength of the Bodrogkeresztúr impact was reinforced by the penetrations of the areas located north of the Carpathians by small groups of people of this culture [e.g. Albigowa; cf. Kadrow 1992]. Closer contacts of L-VC populations with the societies of the classic phase of the FBC took place then as well [e.g. Gródek Nadbużny; cf. Jastrzębski 1991]. Such contacts, however, as a rule did not give rise to mixed character complexes. Both cultures, despite several centuries of living next to one another [cf. also the case of Bronocice; Kruk, Milisauskas 1983] kept their individual character uncontaminated by the neighbour's influence. The L-VC, *vis-à-vis* FBC, continued to monopolise (similarly to the relations holding between L-VC and MC) the prestigious and lucrative contacts with the civilizational centres of the Carpathian Basin and in a way also with the Tripolye culture. Slowly, the centre of gravity of the L-VC settlement was moving farther west until it reached Bronocice [Kruk, Milisauskas 1985] and Iwanowice (unpublished materials from Góra Klin site). An excellent illustration of the western expansion of the L-VC and the simultaneous functioning of its populations as the chief

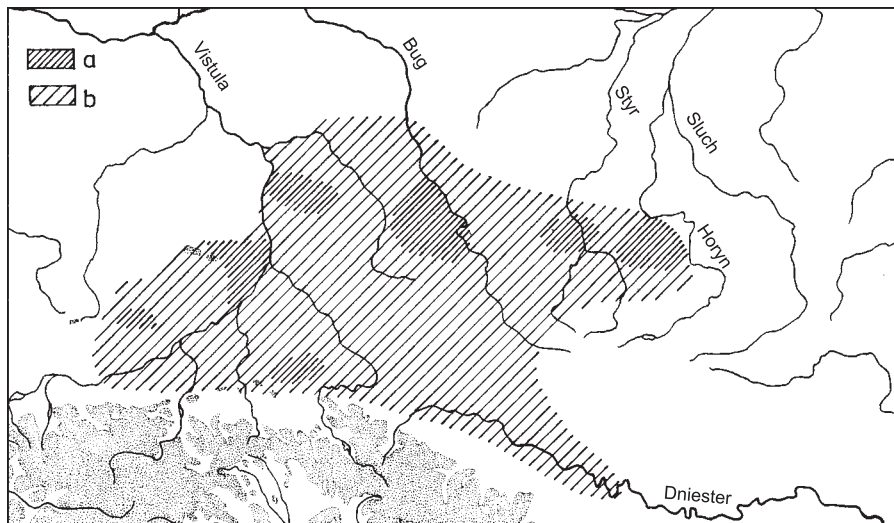


Fig. 42. Settlement clusters of the Lublin-Volhynia culture (a) against the maximum range of this culture (b).

suppliers of top quality flint raw material to the Carpathian Basin are the changes in the structure of flint material found in the assemblages of Polgár cultures. The changes reflect the moving of the centre of gravity of the L-VC settlement from areas with Volhynian flint to the areas featuring chocolate and Jurassic flint outcrops (Fig. 41).

The Lublin-Volhynia culture disappeared at the same time as the cultures of the Polgár circle which justified its existence by taking from its people top quality kinds of flint. However, it is difficult to find out what happened to the substantial population of this culture. We do not have any archaeological evidence of its leaving Małopolska or being assimilated (acculturated) by the population of the south-eastern group of the FBC, who was already past its heyday at that time anyhow.

Thus, together with the emergence of the L-VC, a new socio-cultural system coalesced. On the one hand, the MC continued to develop, albeit in a simplified form — known as the Rzeszów phase, but capable of settling also less productive territories. This was one of the extensive models of eneolithization continuing to large extent old Neolithic traditions. On the other hand, there appeared the L-VC representing the proper, intensive variety of the process in question. The L-VC attracted only the most active part of early Eneolithic society that was undergoing internal differentiation and participated in the inter-regional division of labour. It specialised in supplying the societies of the Carpathian Basin with high quality kinds of flint, originally Volhynian and later chocolate and Jurassic (Fig. 41). The population concentrated in several settlement agglomerations (Fig. 42), the background of which, in the early and classic phases, was the settlement

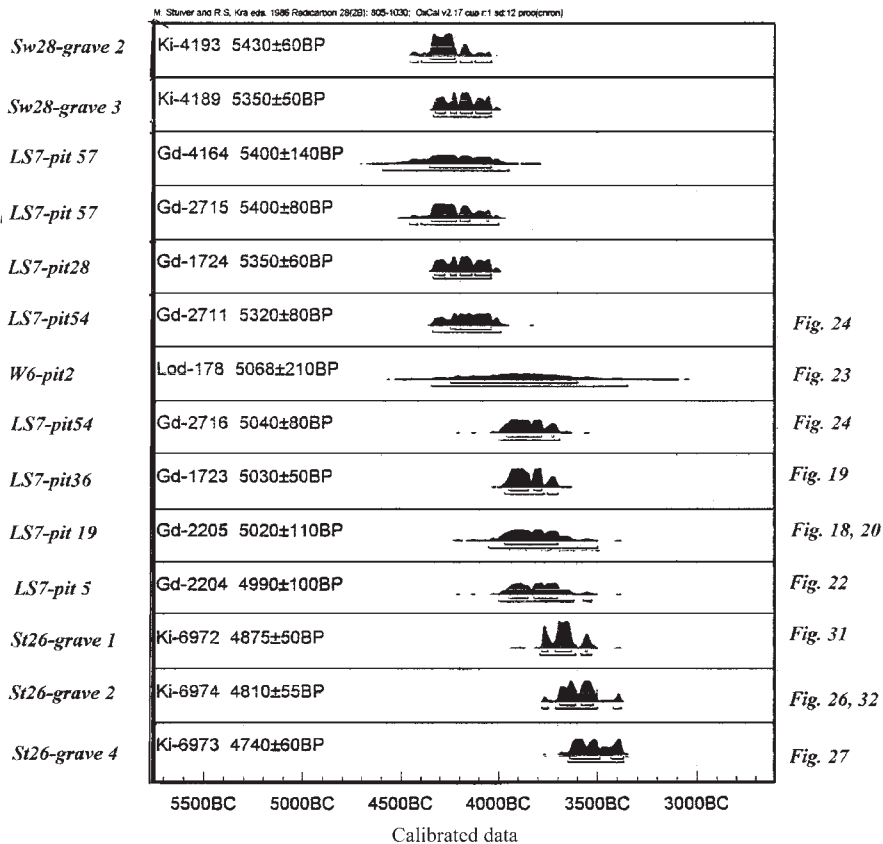


Fig. 43. Radiocarbon dates of selected assemblages of the late classic phase of the Malice culture and classic and late phases of the Lublin-Volhynia culture; Sw28 - Świerszczów, site 28, LS7 - Las Stocki, site 7, W6 - Wąwolnica, site 6, St26 - Strzyżów, site 26.

of the late phases of the MC, while towards the end of the classic phase and especially in the late phase, of the FBC. It must be stressed that L-VC settlement clusters always stayed at a certain distance from the Tripolye, Lengyel and Polgár cultures (Fig. 40).

With this attempt to outline the major socio-cultural processes in the period spanning approx. two millennia, we end our discussion leaving - as demanding too much space — the questions of absolute chronology (Fig. 43-44) and copper metallurgy (Fig. 33-34) to next publications. Comparing the point of departure of this paper (Fig. 1) with the outline of achieved results (Fig. 45), we wish to emphasise strongly that — except for the period of the LBPC — we had to modify in all other cases the existing schemata of

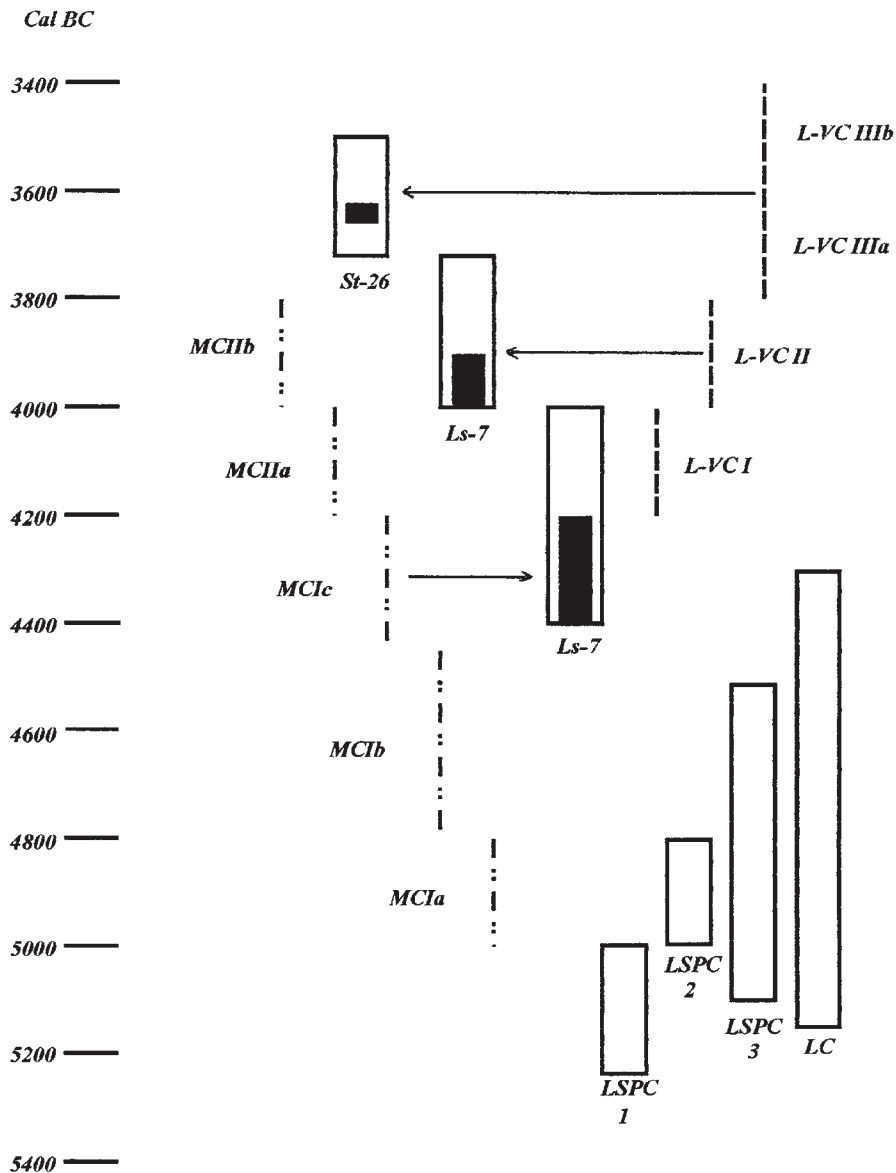


Fig. 44. Absolute chronology of the sequence of phases of the Malice (MC) and Lublin-Volhynia (L-VC) cultures against the chronology of the LSPC and LC in Austria and LSPC in Silesia and Šarka phase (Ssz) of the LBPC in Silesia; ST-26 - Stryżów, site 26 (sum of 14C dates); LS-7 - Las Stocki, site 7 (sum of 14C dates for the Malice culture, phase Ic, and the Lublin-Volhynia culture, phase II). LC - Lengyel culture in Austria, LSPC 1 - Šarka type in Bohemia, LSPC 2 - Lower Silesia, LSPC 3 - Austria.

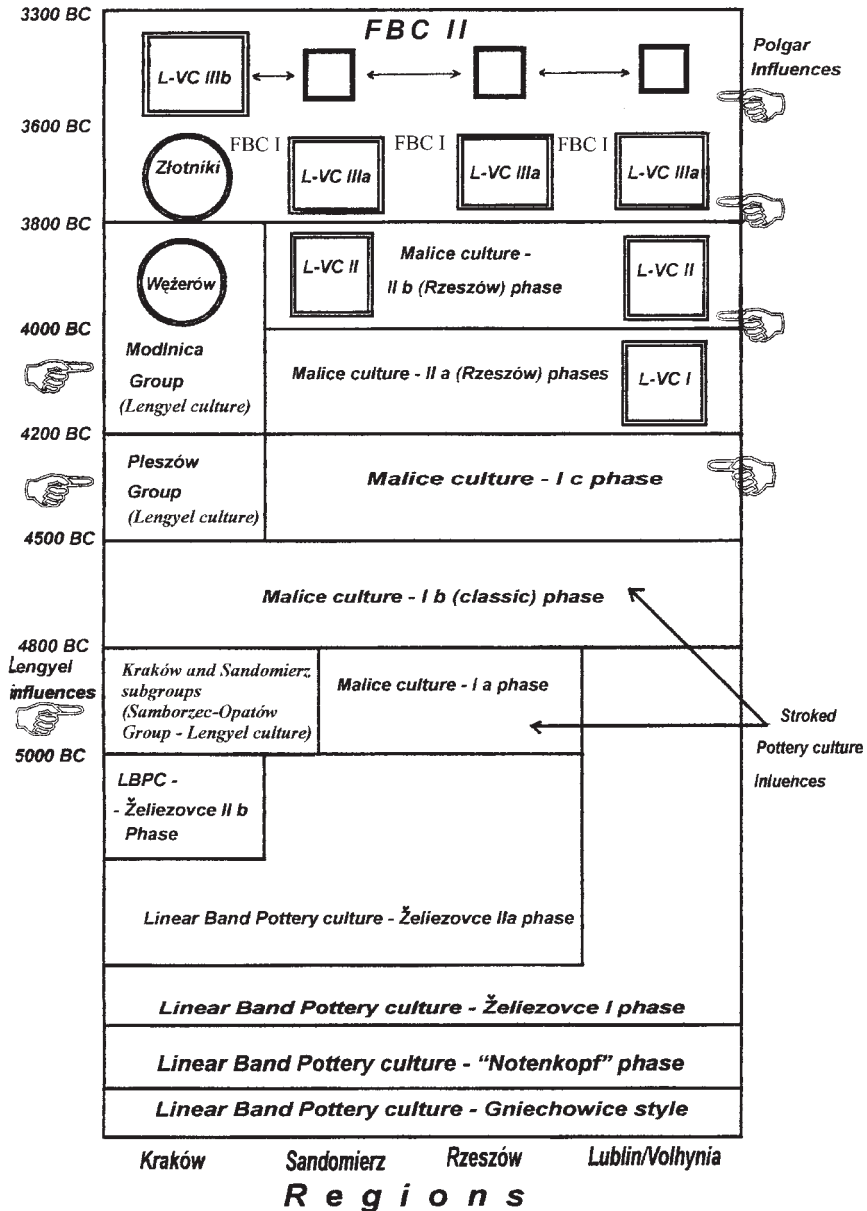


Fig. 45. Taxonomy and chronology of the Danubian cultural units in Małopolska and Volhynia.

cultural taxonomy or put forward entirely new solutions in this respect. Among the more important detailed results of this paper are, on the one hand, the drawing of attention to the importance of the first wave of colonisation of Małopolska and western Ukraine by the populations of the LBPC, which drew a tentative outline of the limits of development of later Danube cultural units, while on the other, the rejection of the thesis connecting any cultural developments east of the Vistula and San rivers with the Lengyel culture. The decisive role was played here by the Malice culture together with its evolutionary extension — the Lublin-Volhynia culture, to which we have devoted so much space for this very reason.

Translated by Piotr T. Żebrowski

ABBREVIATIONS

AP	– Archeologia Polski, Warszawa
APS	– Archeologia Polski Środkowowschodniej, Lublin
BPS	– Baltic-Pontic Studies, Poznań
KSIA	– Kratkiye soobscheniya Instituta Arkheologii, Moskva
KSIA AN USSR	– Kratkiye soobscheniya Instituta Arkheologii Akademii Nauk Ukrainskoy SSR, Kiev
KSIIMK	– Kratkie soobshcheniya Instituta Istorii Materyalnoy Kultury Akademii Nauk SSSR, Moskva.
MIA	– Materialy i issledovaniya po arkeologii SSSR, Moskva
NA IA NANU	– Naukovy Arkhiv Instituta Arkheologii Natsionalnoi Akademii Nauk Ukrainy, Kiev
SA	– Sprawozdania Archeologiczne, Kraków
SCIVA	– Studii și Cercetări de Istorie Veche și Arheologie, Bucarest
WA	– Wiadomości Archeologiczne, Warszawa
Zapiski NTS	– Zapiski Naukovogo Tovarystva imeni T. Shevchenka, Kiev

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