

INTRODUCTION

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LOBULAR AMPHORA CULTURE IN EASTERN EUROPE. PRESENT STATE OF RESEARCH AND POSSIBILITIES FOR FUTURE STUDIES¹

The Globular Amphora culture (GAC) is one of the principal cultural units of the late and declining Neolithic of Central Europe. At the present state of research we have the main temporal and spatial data concerning GAC and we know its general characteristics against the background of transformations of European societies in the late and waning phases of the Neolithic. However, the latest findings show that both the chronology and periodization as well as social and economic structures widely differ from region to region [Szmyt 1996:224-238]. Now, therefore, it is of paramount importance to investigate regional groups of this culture and to determine the scope of their peculiarity [cf. e.g. Wiślański 1966; Nagel 1985; Beier 1988; Ścibior 1991].

Generally, synthetic descriptions of GAC use a triple framework of its spatial division distinguishing three territorial groups (Fig. 1): western, central (or Polish) and eastern [Wiślański 1966:86-91, 1970:183-221]. The first of them covers the area from the drainage of the Oder in the east to the drainage of the Elbe in the west and from the Baltic and North Sea in the north to the Vltava in the south. The Polish group is concentrated in the drainage of the Vistula and the eastern group occupies the expanses of Eastern Europe from the drainages of the Bug in the west to the Dnieper in the east and from the Baltic in the north to the drainage of the Seret and Prut in the south.

While assessing the state of research it must be stressed that the Polish group is relatively best known now. Within this group a number of local groups are distinguished. Gradually, researchers reconstruct sets of cultural traits characteristic of them and lines of their chronological transformations [Nosek 1967:340-348; Wiślański 1969:273-326, 1970:186-213; Kempisty 1970; Kirkowski, Sosnowska 1987; Ścibior 1991; Kukawka, Sosnowska 1994; Szmyt 1996]. Socio-economic transformations are documented only to a lesser degree. Research on the western group is less advanced. In this case, the development of a scheme of internal periodization has met with serious difficulties [Weber 1964; Nagel 1985; Beier 1988]. Our knowledge of the eastern territorial group of GAC is clearly the smallest. This has been manife-

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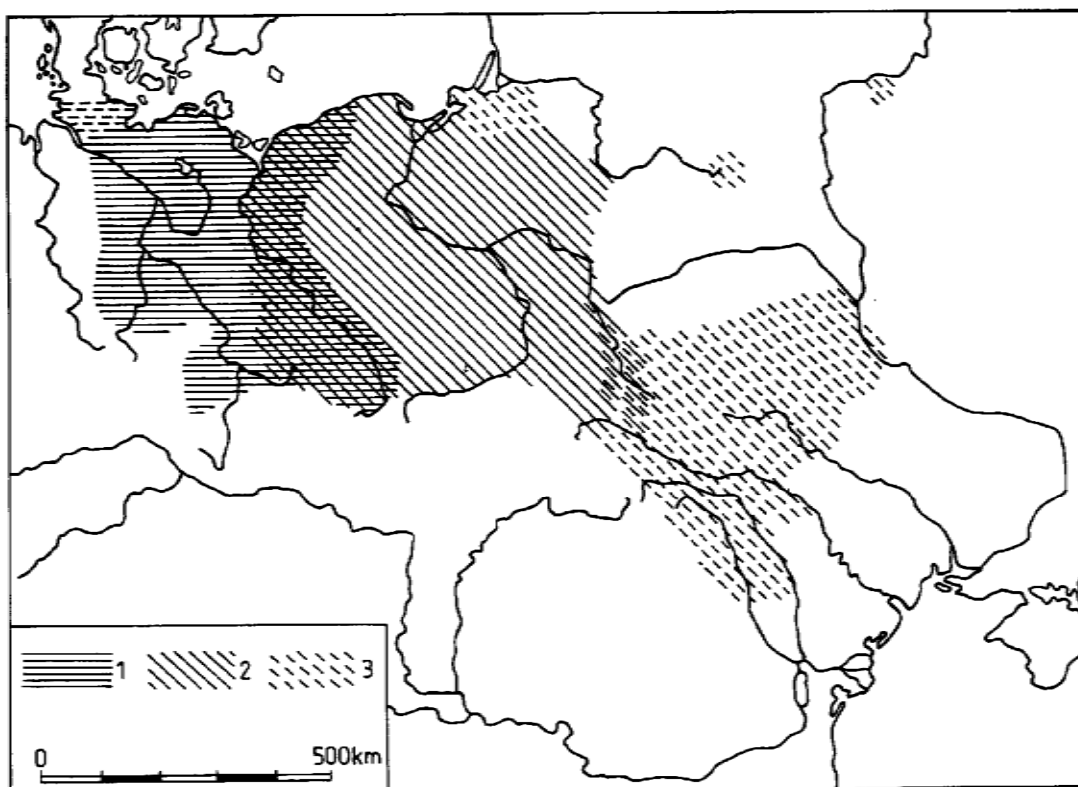


Fig. 1. Distribution of the Globular Amphora culture. Source: Wiślański 1970. Legend: 1 - the western group, 2 - the Polish (central) group, 3 - the Eastern group

sted until now by highly controversial chronology of this group exclusively based on imprecise comparative analyses. This deficiency is made up for by papers collected in this volume of „Baltic-Pontic Studies”.

In the present paper I shall discuss the present state and possibilities for future research on the role of GAC communities in the cultural environments of Eastern Europe. From the point of view of both cultural and settlement phenomena, on one hand, and natural and geographic ones, on the other, Eastern Europe is a highly diverse area. Generally speaking, within the western portion of Eastern Europe, that is of particular interest to us here, four ecozones are distinguished: Baltic Coastland, forest, forest-steppe and steppe zones. Numerous works by archaeologists and historians justify the treatment of these zones as great eco-cultural units. In this context, a fundamental spatial observation should be stressed: traces of GAC in Eastern Europe are recorded in all the eco-cultural zones. Such traces are found on the south-eastern coast of the Baltic, in the interior of the forest zone (Polesie, drainage of the upper Dniester and in the forest-steppe and steppe zones — Fig. 1). Nevertheless, dense GAC settlement, being a nucleus of the eastern group, is situated on the border of forest and the forest-steppe zone, in Volhynia and Po-

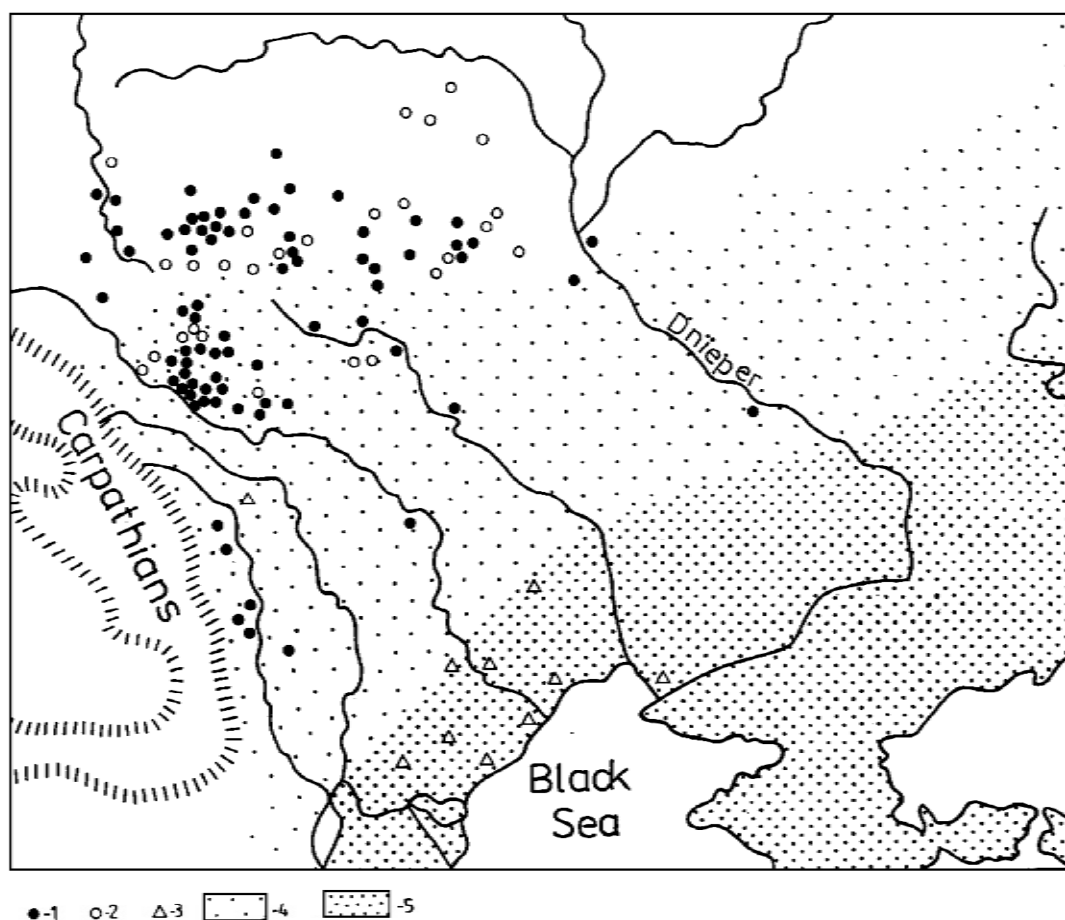


Fig. 2. Distribution of Globular Amphora culture sites in the southern part of Eastern Europe. Legend: 1 - site of GAC, 2 - hypothetical site of GAC, 3 - site of Yamnaya culture with elements of GAC, 4 - forest-steppe zone, 5 - steppe zone

dolia (Fig. 2). To the north and south of this nucleus, as well as to the south-east, dispersed relics of GAC are recorded. It is also important to note that „pure” GAC sites occur in the area from the drainage of the upper Dnieper in the north to the Moldavian Upland in the south. In the east, the area reaches to the middle section of the Dnieper. To the north, east and south of these limits, there are recorded only materials combining traits of various local cultures and GAC. These observations point out at least to the high development dynamism of the cultural system known as GAC. They also raise questions concerning the reasons, stimuli, scope and effects of the adaptation of GAC populations to extremely varied natural and cultural environments. It is these issues, unquestionably the most important though also the most difficult ones, that call for earlier organisation of information that is already known and hypotheses that have so far been formulated. This also applies to future research projects that have been suggested in this context. It is these very aims that the present paper attempts to attain.

1. HISTORY OF RESEARCH

Traces of GAC have been recorded in a scholarly manner in the area in question since the 19th century. They were correctly identified with specific cultures in the early 20th century [Kossinna 1910]. The first outline of south-eastern-European (specifically Podolia) GAC concentration (defined as „megalith grave culture”), a part of a larger collection, was published in 1921 [Kozłowski 1921:39; cf. repeated also in Kozłowski 1924]. A few years later a monograph of GAC („megalithic culture”) was published concerning the eastern part of Volhynia [Levickiy 1929]. Successive years brought reports of new discoveries [e.g. Levickiy 1930]. Problems of the south-eastern branch of GAC were also discussed in broader, synthetic works [e.g. Antoniewicz 1938; Kozłowski 1939; Kostrzewski 1948:155-158; Bryusov 1952:220-227; Gimbutas 1956:140-152; Sulimirski 1959:271-282] and marginally in works on other cultures [e.g. Äyräpää 1933:120-123; Passek 1949:219-223]. Only a monograph by I.K. Sveshnikov [1957] lent back some order to the source base. Despite its misleading title, that work, together with later publications by A. Häusler [1966] and T. Wiślański [1966:83-90], finally broke down the tradition of double nomenclature of the materials in question (of the two names „Globular Amphora culture” and „megalithic culture” the latter was used to stress the independent genesis of Volhynia-Podolia findings). At the same time, traces of GAC settlement were found in the eastern piedmont of the Carpathians, in the drainage of the middle Seret [Dinu 1960].

In successive years there were published works presenting new complexes of sources [e.g. Maleyev 1971, 1986]. I. Sveshnikov's successive approaches [1971, 1974, 1983] made clear by the then standards the questions of the range, spatial diversification and chronology of Volhynia-Podolia GAC materials. A different approach was taken by T. Sulimirski [1968] who also authored the most comprehensive synthetic description of the problems of the development and intercultural contacts of eastern groups of GAC [Sulimirski 1970:162-170]. The latest monographs [e.g. Chernysh 1982; Sveshnikov 1985a, 1990] by and large repeat I. Sveshnikov's older claims. However, one should also note the appearance of works expanding the hitherto body of knowledge [e.g. Berezanskaya, Pyasetskiy 1979]. Furthermore, reports of next discoveries of GAC materials on the Moldavian Upland were published [Miclea, Florescu 1980: Map 6]. In recent years a series of new publications by Polish scholars came out dealing with some aspects of the development of the south-eastern branch of GAC [Koško 1990, 1991], including also its border zone with the Polish group [Kokowski, Ścibior 1990; Ścibior 1991; Ścibior, Kokowski, Koman 1991].

The studies of GAC in Volhynia, Podolia and the Moldavian Upland are closely linked with the exploration of the contribution of GAC elements to the development of steppe cultures. An extreme hypothesis concerning the issue was advanced by N.A. Nikolayeva and V.A. Safronov [1974]. Their view (see part 6.4.c) was criticised

[Maleyev 1980; Sveshnikov 1983:20]. Nevertheless, we note a continuous expansion of the catalogue of traits that are genetically related to GAC and are recorded in the context of steppe groups [e.g. Yarovoy 1979, 1981; Subbotin 1988].

The situation in respect of the northern (i.e. lying in the south-eastern portion of the Baltic Coastland) and central (i.e. in the forest zone, now in Belarus and Russia) parts of Eastern Europe is quite different. In respect of the former part, only recently was the information contained in old German publications expanded [cf. Rimantienė, Česnys 1990; Rimantienė 1992; see op. cit. for earlier works]. Also recently, new sources of GAC from the forest zone of Eastern Europe were presented [Charniauskis 1972, 1992; Shmidt 1992 a, b]. They gave rise to new hypotheses on the contribution of GAC to the transformations of local culture groups [e.g. Miklayev 1992].

2. DESCRIPTION OF SOURCES

The information collected so far on GAC settlement in Eastern Europe primarily concerns cemeteries (Table 1) consisting for the most part of graves with stone structures. Far poorer is our knowledge of settlement of eastern GAC (in fact, only one such site has so far been explored Mezhireche) [Sveshnikov 1983:22-25]. This is mainly a consequence of a lack of appropriately planned research projects, since data given in the literature of the subject prove the existence of relevant sites [Berezanskaya, Pyasetskiy 1979]. The one-sidedness of sources has a decisive impact on a limited knowledge of many aspects of settlement of eastern GAC.

Table 1

Identification	Graves	Settlements	Undefined sites	Total
GAC	70	2	22	94
GAC?	28		2	30
with elements of GAC tradition	16	6	11	33
Total	114	8	35	157

Besides „pure” GAC sites, traits characteristic of this culture appear in contexts of other contemporaneous groups as Narva, Neman, Tripolye, Middle Dnieper, Yamnaya, Catacomb cultures and others. What is believed in such „mixed” complexes to be genetically related to GAC are primarily certain traits of pottery decoration (mainly stamp ornaments), some vessel shapes (e.g. amphorae), ritual features (graves with stone structures either with stone slabs set on edge or built of rubble; animal burials) and non-ceramic artefacts like some types of flint axes.

Similar traits were also identified in later complexes of Early Bronze dating (according to Central European periodization) or Middle Bronze (according to Eastern European periodization). I shall return to this issue later on.

3. ORIGINS OF GAC IN EASTERN EUROPE

In the literature of the subject there are two opposing hypotheses concerning the origins of the eastern branch of GAC. One of the hypotheses can be called (a) „eastern” while the other, dominating at present, (b) „western”.

a. The „eastern” option, in various versions, was represented by L. Kozłowski [1921, 1924], V.G. Childe [1925, 1930], A.Y. Bryusov [1952] and M. Gimbutas [1956, 1977, 1980, 1991]. V.G. Childe places the origins of GAC on the steppes on the Black Sea [Childe, 1930]. L. Kozłowski [1924] and A.Y. Bryusov [1952:215] argue for the local (Volhynia-Podolia) origin of eastern GAC rejecting its possible links with the other groups (western and central). This is stressed by the name that both authors use: „megalithic culture”. The best-developed version of the hypothesis claiming eastern (precisely south-eastern) connections of GAC was presented by M. Gimbutas in a series of her works [e.g. Gimbutas 1956, 1977, 1980, 1991]. Generally speaking, she related the origins of GAC to steppe influences. GAC is for her an element of the new cultural picture of Europe that came into being after the second wave of invasions by steppe peoples (Kurgan Wave #2) [Gimbutas 1991:381-384]. The population substratum of this culture, according to the quoted author, was twofold: in the west it was based on the population of the Funnel Beaker culture, while in the east on the Tripolye culture [Gimbutas 1980:293 and 301, Fig.13]. The appearance of GAC was decided by the influences of militant steppe groups that accumulated over the old population substratum. It is these influences that primarily manifest themselves in GAC rituals and in forms of material culture that are similar to phenomena encountered on the Black Sea steppes (e.g. in the Maykop culture) [Gimbutas 1980:292-296].

b. At present, in the literature of the subject, the „western” option is a dominating one stressing the close relationship of the eastern group of GAC with the other two groups of the culture, viz. the western group and especially the central one or Polish [Sulimirski 1959:277, 1970:162; Haüsler 1966:134; Wiślański 1966:128, 1970:209-212; Sveshnikov 1983:18-19]. This hypothesis seems to be best justified at present both analytically and conceptually. Its core is the assumption that GAC population (settling areas lying to the west of the Bug line) migrated to the south-east. Two migration directions are being reconstructed [Wiślański 1970:221]: from within the Polish group along the Bug and from Silesia and Saxony through Małopolska. The two directions supposedly crossed in Volhynia and Podolia where the centre

of the eastern group formed. However, it is believed that the GAC settlement in Volhynia is slightly older [Koško 1991:246]. An effect of further expansion was the emergence of the Podolia agglomeration. The agglomeration's population is supposed to have headed further south, to the drainage of the Seret [Koško 1991:246]. Volhynia (mainly?) and Podolia were also departure points for penetrations reaching to the Dnieper in the east. Also, from the area of the Polish group, few groups of GAC population are believed to have migrated to the south-east coast of the Baltic [Rimantienė 1992:123].

4. GAC CHRONOLOGY IN EASTERN EUROPE

The longest line of chronological and cultural changes was traced for one of the major agglomerations of the Polish group of GAC occupying Kujawy (Fig. 3) situated in the central part of the interfluvial area between the Oder and Vistula [Szmyt 1996:63-78]. Throughout the GAC settlement in Kujawy, spanning the period from 4000/3600 to 1950 BC at the maximum, one can distinguish six development phases making up three stages (horizons) of changes of the culture in question: early (4000/3600-3250/3100 BC, phases I and IIa), middle or classic (3250/3100-2400/2150 BC, phases IIb and IIIa) and late (2400/2150-1950 BC, phases IIIb and IIIc). At present, it is this sequence of transformations that is known in the greatest detail and hence may serve as the only reference for studying processes taking place in other regions of GAC settlement. This also refers to the East-European branch of this culture. An obstacle to comparative analyses is created by the different character of source materials. The Kujawy periodization was developed on the basis of settlement complexes. Its full application to grave complexes is hindered by a different pace of changes of the two source categories [Szmyt 1996:36-45].

The studies of eastern GAC chronology have so far been based exclusively on rather imprecise comparative analyses [e.g. Sveshnikov 1983:18; cf. criticism: Ścibior 1986:355-356]. It must be stressed that synchronisation with the Tripolye culture was of crucial importance. In the latest conceptions [Movsha 1985b:27-30], it is assumed that south-eastern GAC settlement existed partially parallelly to the late Tripolye groups of stage CII (see below part 6.3).

The most widely accepted view so far has been that GAC settlement itself in Eastern Europe was a short-lived phenomenon [e.g. Isayenko 1976:115]. It was believed to have existed from 100 years, i.e. two to three generations [e.g. Zakharuk 1962:51; Sulimirski 1959:278] to 250 years, i.e. five generations [Sulimirski 1970:165]. At the same time, however, it was believed that it had a marked impact on cultural transformations in Eastern Europe and that it affected much larger expanses that

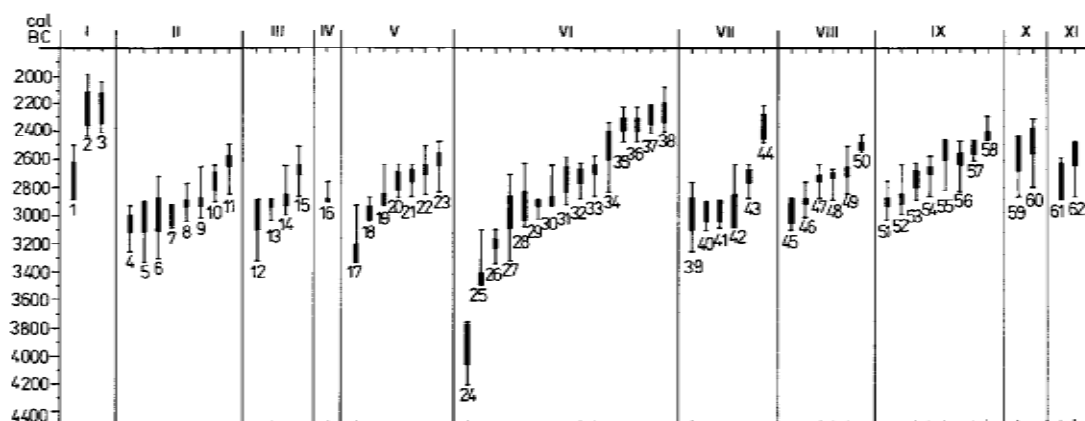


Fig. 3. Radiocarbon datings for Globular Amphora culture. Calibration after Stuiver, Reimer 1993 (1 sigma, areas of max. probability marked). Source: Szmyt 1996. Legend: I - Mecklenburg, II - Mittelbe-Saale region, III - Altmark-Lüneburg, IV - Czech, V - Great Poland, VI - Kujawy, VII - Chełmno Land, VIII - Little Poland, IX - Volhynia-Podolia, X - forest zone, XI - Baltic Coastland; 1 - Serrahn (Bln-342: 4160±120 BP), 2 - Katelbogen (Bln-554: 3800±120 BP), 3 - Poggendorfer Forst (Bln-990: 3805±100 BP), 4 - Quenstedt (KN- 2418: 4420±45 BP), 5 - Halle-Dölauer Heide (Bln-838a: 4380±100 BP), 6 - Halle-Dölauer Heide (Bln-912: 4340±100 BP), 7 - Quenstedt (KN-2420: 4380±55 BP), 8 - Quenstedt (KN-2417: 4310±50 BP), 9 - Quenstedt (Kn-2419: 4280±50 BP), 10 - Wandersleben (Bln-2371: 4220±70 BP), 11 - Grossörner (Bln-1346: 4105±60 BP), 12 - Pevestorf (Hv-582: 4380±100 BP), 13 - Pevestorf (KN-2461: 4330±55 BP), 14 - Pevestorf (KN-2459: 4270±55 BP), 15 - Pevestorf (KN- 2460: 4130±55 BP), 16 - Homolka (GrN-4065: 4260±10 BP), 17 - Żuławka Mała 1 (4470±60 BP), 18 - Żuławka Mała 1 (4330±60 BP), 19 - Chodzież 3 (Bln-1549: 4265±50 BP), 20 - Żuławka Mała 1 (4200±60 BP), 21 - Żuławka Mała 1 (4180±50 BP), 22 - Żuławka Mała 1 (4130±40 BP), 23 - Żuławka Mała 1 (4080±60 BP), 24 - Krusza Zamkowa 13 (Gd-309: 5140±140 BP), 25 - Dęby 29 (Gd-2148: 4600±90 BP), 26 - Kołuda Wielka 13 (GrN-13593: 4525±40 BP), 27 - Opatowice 36 (Gd-6522: 4350±120 BP), 28 - Opatowice 3 (KN-3765: 4290±120 BP), 29 - Krusza Zamkowa 13 (GrN-14022: 4330±35 BP), 30 - Kierzkowo 1 (GrN-15412: 4270±40 BP), 31 - Opatowice 3 (Gd-4117: 4230±110 BP), 32 - Opatowice 36 (Ki-5136: 4180±70 BP), 33 - Kierzkowo 1 (GrN-15411: 4135±40 BP), 34 - Opatowice 36 (Gd-6438: 4010±100 BP), 35 - Opatowice 36 (Ki-5137: 3920±60 BP), 36 - Opatowice 1 (Gd-8035: 3900±60 BP), 37 - Opatowice 36 (Gd-8037: 3850±50 BP), 38 - Opatowice 1 (Gd-8036: 3820±60 BP), 39 - Wichorze 24 (Gd-2428: 4340±90 BP), 40 - Stablewice 24 (Gd-4019: 4380±60 BP), 41 - Bartlewo 21 (Gd-6093: 4350±70 BP), 42 - Bartlewo 21 (Gd-6092: 4300±90 BP), 43 - Bartlewo 21 (Gd-5572: 4170±50 BP), 44 - Linowo 25 (Gd-6755: 3890±80 BP), 45 - Sandomierz 78 (Gd-2452: 4370±70 BP), 46 - Klementowice 3(D) (KN- 1255: 4300±40 BP), 47 - Klementowice 3 (D) (GrN-5046: 4175±30 BP), 48 - Świerzczów 27 (Ki-5433: 4170±35 BP), 49 - Krasnystaw 8 (Ki-5841: 4120±30 BP), 50 - Łopiennik Dolny Kolonia 1 (Ki-5434: 4010±30 BP), 51 - Tovpyzhyn (Ki-5011: 4310±55 BP), 52 - Tovpyzhyn (Ki-5010: 4270±50 BP), 53 - Vorvulinty (Ki-5008: 4220±70 BP), 54 - Loshniv (Ki-5006: 4150±55 BP), 55 - Dovge (Ki-5009: 4040±60 BP), 56 - Ivanye (Le-5021: 4090±70 BP), 57 - Ivanye (Ki-5141: 4030±50 BP), 58 - Peresopnitsa (Ki-5075: 3910±50 BP), 59 - Krasnoselsky (Gd-4080±140 BP), 60 - Turinshchina (Gd-10082: 4000±80 BP), 61 - Šventoji 6 (Vs-499: 4170±110 BP), 62 - Šventoji 6 (Vs-500: 4070±110 BP)

the settlement itself [cf. e.g. extreme views Sulimirski 1970: 169-177; Nikolayeva, Safronov 1974:193].

An analysis of a series of radiocarbon datings and corresponding source complexes, presented in this volume of „Baltic-Pontic Studies” [cf. articles by Charniauski; Kadrow, Szmyt; Maleyev; Maleyev, Pryshchepa; Shmidt, Szmyt; Shelomentsev-

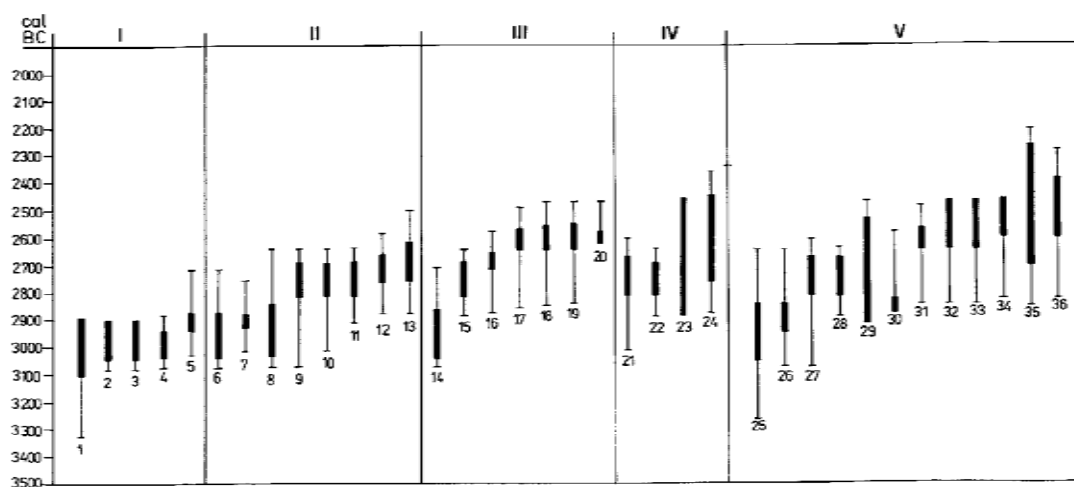


Fig. 4. Radiocarbon datings for selected east-European cultures. Calibration after Stuiver, Reimer 1993 (1 sigma, areas of max. probability marked). Sources: Gimbutas 1991, Miklayev 1992, Kovalyukh, Videiko, Skripkin 1995. Legend: I - late Tripolye - Usatovo type, II - late Tripolye - Sofievka type, III - Usvyaty culture, IV - Yamnaya culture - west, V - Yamnaya culture - east (selected datings); 1 - Mayaki (Bln-629: 4400 ± 100 BP), 2 - Mayaki (UCLA-1642B: 4375 ± 60 BP), 3 - Mayaki (UCLA-1642G: 4375 ± 60 BP), 4 - Mayaki (Le-645: 4340 ± 65 BP), 5 - Usatovo (UCLA-1642A: 4300 ± 60 BP), 6 - Sofievka (Ki-5012: 4310 ± 70 BP), 7 - Sofievka (Ki-5029: 4300 ± 45 BP), 8 - Zavalovka (Ki-515: 4290 ± 90 BP), 9 - Krasny Khutor (Ki-5038: 4280 ± 110 BP), 10 - Sofievka (Ki-5013: 4270 ± 90 BP), 11 - Zavalovka (Ki-5014: 4230 ± 80 BP), 12 - Krasny Khutor (Ki-5039: 4160 ± 90 BP), 13 - Krasny Khutor (Ki-5016: 4140 ± 110 BP), 14 - Usvyaty (Le-243: 4310 ± 80 BP), 15 - Usvyaty (TA-202: 4210 ± 70 BP), 16 - Usvyaty (TA-817: 4150 ± 80 BP), 17 - Usvyaty (TA-633: 4120 ± 60 BP), 18 - Usvyaty (TA-203: 4100 ± 70 BP), 19 - Usvyaty (TA-203: 4090 ± 70 BP), 20 - Usvyaty (Le-1007: 4030 ± 50 BP), 21 - Cernavoda (Bln-62: 4260 ± 100 BP), 22 - Varna (Ki-89: 4210 ± 60 BP), 23 - Baia-Hamangia (Bln-29: 4090 ± 160 BP), 24 - Baia-Hamangia (KN-38: 4060 ± 160 BP), 25 - Pereshchepino (Ki-100/5: 4310 ± 105 BP), 26 - Pereshchepino (Ki-100/4: 4290 ± 90 BP), 27 - Brilyuvata mogila (Ki-497: 4270 ± 120 BP), 28 - Tsatsa (UCLA-1270: 4210 ± 80 BP), 29 - Khristoforovka (Ki-578: 4170 ± 170 BP), 30 - Ustman (UCLA-1271: 4150 ± 80 BP), 31 - Ust Dzhegutinskaya (Le-693: 4110 ± 60 BP), 32 - Brilyuvata mogila (Ki-497: 4080 ± 100 BP), 33 - Balki (Le-1168: 4080 ± 90 BP), 34 - Ust Dzhegutinskaya (Le-687: 4040 ± 60 BP), 35 - Svatovo (Ki-585: 4000 ± 190 BP), 36 - Balki (Ki-601: 3990 ± 110 BP).

-Terskiy], leads to a conclusion that GAC presence in the east was a long-lived phenomenon lasting for at least 2930-2380 BC. Thus it was contemporaneous among others with (Fig. 4 and 5):

- the last phase (CII) of the Tripolye culture or rather with its segment marked by the Sofievka type [Kadrow 1995; Kovalyukh, Videiko, Skripkin 1995], viz. with phenomena defined in other conceptions as epi-Tripolye [Jastrzębski 1989:110];
- the middle and late phases of the Yamnaya culture [Telegin 1977; Shaposhnikova 1985:351-352];
- the middle and late phases of the Middle Dnieper culture [Artemenko 1987:41];
- the early and partly middle phase of the Catacomb culture [Bratchenko, Shaposhnikova 1985:417-418];

cal BC	CULTURES							conv BC
2200			middle	late				
2300								
2400			early			late		
2500		late		middle				2000
2600					late		GAC	
2700								
2800								
2900	S				middle			
3000	U	early		early		middle		
3100								
3200	CH-γII				early			2500
3300								
	TC	YC	CC	MDC	UC	NC	GAC	

Fig. 5. Synchronization of the chronology of selected cultures from Eastern Europe. Sources: Charniauski 1979, Bratchenko, Shaposhnikova 1985, Movsha 1985a, Shaposhnikova 1985, Artemenko 1987, Miklayev 1992. Legend: TC - Tripolye culture, YC - Yamnaya culture (from Northern Pontic steppe), CC - Catacomb culture, MDC - Middle Dnieper culture, UC - Usvyaty culture, NC - Neman culture, GAC - Globular Amphora culture, U - Usatovo type, S - Sofievka type

- the early and middle phase of the Corded Ware culture in Volhynia and Podolia [Sveshnikov 1985:391];
- late phase of the Narva culture [Rimantienė 1992:100];
- late phase of the Neman culture [Charniauski 1979:61-67; Rimantienė, Česnys 1990:344];
- the middle and late phases of the Usvyaty culture [Miklayev 1992:28-30].

With reference to the GAC periodization in Kujawy discussed earlier (Polish territorial group), the East European settlement of this culture took place in the classic period, from the border zone of phases IIb and IIIa until the decline of the latter [Szmyt 1996:338].

The longest line of development of GAC in Eastern Europe is recorded within the Volhynia-Podolia concentration (Fig. 3). Both the oldest and the youngest complexes were, however, recorded in Volhynia in the form of the sequence of sites: Tovpyzhyn-Ivanye-Peresopnitsa. Somewhat younger seems to be the GAC settlement in Podolia (oldest date from Vorvulintsy), however it is difficult to determine its decline.

5. THE QUESTION OF SPATIAL AND TEMPORAL TRANSFORMATIONS OF GAC IN THE EAST

The literature on eastern GAC has devoted more attention to (a) its territorial diversification while giving far less attention to (b) chronological changes. The static treatment of GAC is characteristic of most works concerning both eastern and western groups. This may be a consequence of real difficulties resulting from the specific character of the corpus of sources (predominance of grave sources showing smaller dynamism of changes than settlement sources in the case of GAC) [cf. Szmyt 1996: 36-45] and of the commonly adopted hypothesis about the short-lived nature of eastern GAC (cf. item 4 above). A favourable exception in this respect is the state of knowledge on the middle territorial group and its local groups [Wiślański 1966:87-89, 1970:186-213; Nosek 1967:340-348; Szmyt 1996].

a. A preliminary analysis was undertaken in respect of the spreading of GAC in the central part of the eastern group, namely in the Volhynia-Podolia agglomeration. The works of I.K. Sveshnikov consistently outlined the twin nature of the concentration within which he distinguished two groups: Volhynia and Podolia [Sveshnikov 1983:10-16]. Each group was characterised by a slightly different set of grave-goods traits (ornaments and vessel forms) and burial ritual. Polish authors argued for more detailed versions of spatial division. T. Wiślański, relying on the analysis of co-occurrence of characteristics, distinguished three units: Podolia group consisting of two subgroups (western and eastern) and Volhynia group [Wiślański 1966:89-90]. On the other hand, the six spatial units distinguished by T. Sulimirski [1968:40-48] were justified exclusively by the geographical proximity of site locations.

As I have mentioned in the beginning, both to the north as well as to the south and east of the main Volhynia-Podolia concentration, dispersed „pure” GAC sites are recorded. They occur from the drainage of the upper Dnieper in the north to the Moldavian Upland in the south. In the east, they reach to the middle section of the Dnieper. To the north, east and south of the area so delineated, there are recorded materials combining traits of various local cultures and GAC. In some extreme analyses, bounds of GAC influences were set at the Ural [Sulimirski 1970:167-169] and Caucasus [Nikolayeva, Safronov 1974:193].

b. The dynamism of chronological transformations and periodization of GAC in Eastern Europe are virtually unknown at present. The only hypothesis was advanced by T. Sulimirski [1968:49-54, 1970:164-165]. The periodization scheme that he suggested consisted of three phases. Phase I was represented by complexes characterised by clear similarity of traits (mainly of pottery) to the state recorded in the Polish group. Phase II would be the period when local elements were adopted and secondary GAC centres were created. These were short-lived groups that quickly „melted into” the local environment. Phase III, distinguished only in Podolia and in the central part of Volhynia, would be actually a „post-GAC” phase. In complexes characteristic for it, the GAC tradition was represented only by the cist form of

grave accompanied by late Corded Ware materials, epi-Corded Ware and Komarów culture (Biały Potok group) goods. In the version of 1968, instead final phase III, the quoted author distinguished three states of transformations of the GAC tradition (designated as stages III-V) [Sulimirski 1968:54].

T. Sulimirski's suggestion was adversely affected in the first place by the conviction about the short-lived nature of eastern GAC settlement and the reliance on controversial data concerning relative dating. Nevertheless, the fundamental assumption of the presented scheme of internal periodization, viz. the growth of differences with time with respect to the original areas from where the migration took place, can be also used now.

6. INTERCULTURAL RELATIONS OF GAC IN EASTERN EUROPE

The spreading of GAC relics over the vast expanses of Eastern Europe makes it justified to consider their relations with other cultures in blocks corresponding to the eco-cultural zones of this part of the continent (see introduction).

6.1. TRACES OF GAC IN THE SOUTH-EASTERN BALTIC COASTLAND

Traces of GAC in the south-eastern Baltic Coastland are recorded in the context of Narva culture settlement.

Source evidence to support the hypothesis about the connections between the two cultures is supplied by the analysis of pottery and amber goods. In the case of pottery (Fig. 6:1-3), the presence in Narva materials (Šventoji 6) of vessels both totally (viz. technically and stylistically) foreign to the local tradition and forms combining traits of GAC and the Narva culture is stressed [Rimantienė, Česnys 1990:342]. The connections between the two cultures is also revealed by the use of the same types of amber goods, in particular V-perforated buttons [Gimbutas 1985:246-251; Czebreszuk, Makarowicz 1993:530]. Since the chronology of button finds in Narva assemblages is older [Loze 1988:45-46,100-105], it must be assumed that GAC communities adopted this type of goods from the south-eastern Baltic Coastland [Gimbutas 1985:246] and spread it to other cultural environments of Europe [Czebreszuk, Makarowicz 1993:531].

The above mentioned source evidence justifies the hypothesis about the direct contacts of GAC and Narva culture populations [Gimbutas 1985:251; Rimantienė, Česnys 1990:339; see there for older works]. GAC communities are supposed to have

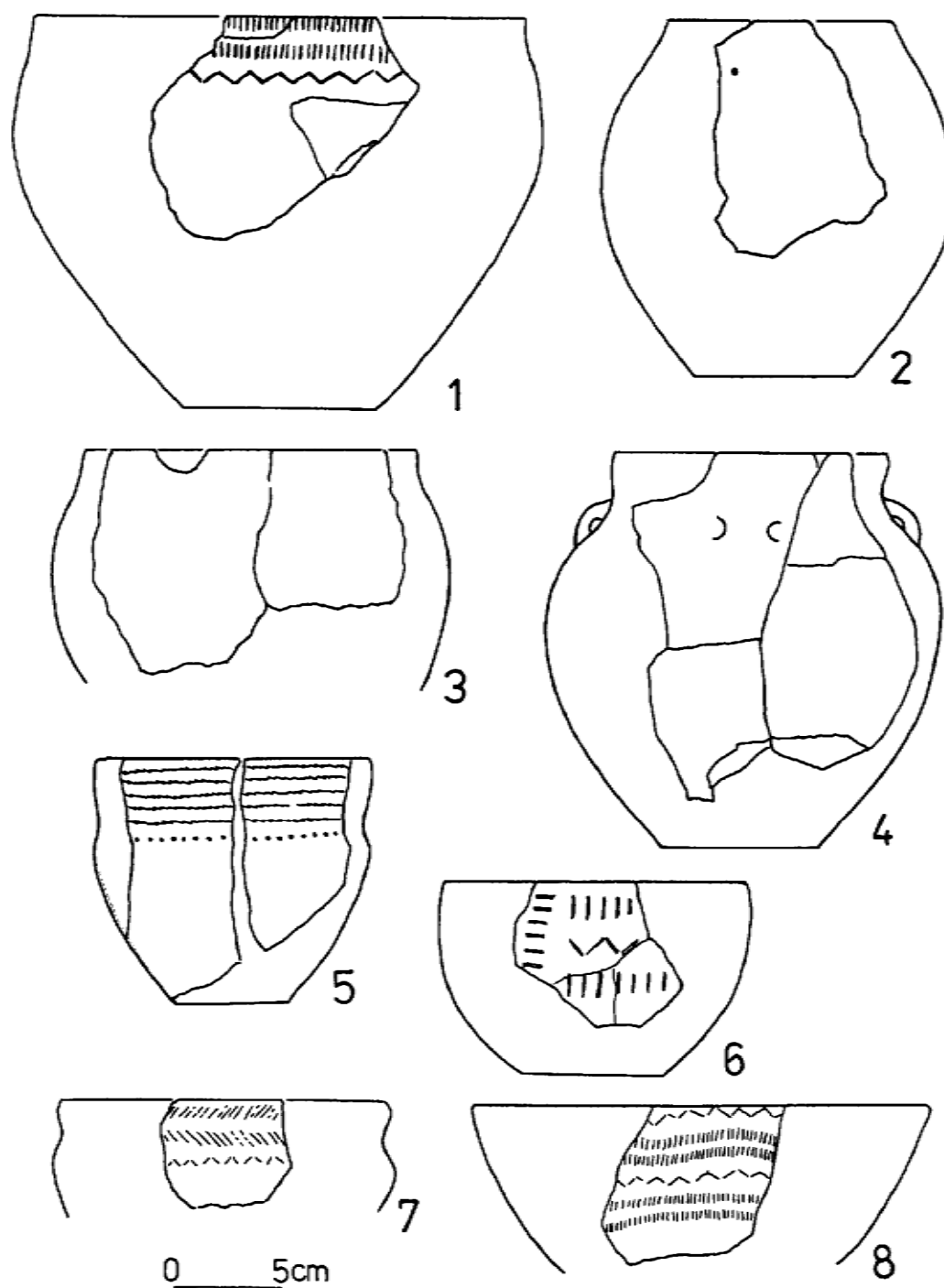


Fig. 6. Elements of GAC in cultures from the Baltic Coastland: Narva culture (1-3 - Šventoji 6), Bay Coast culture (4-5 - Šventoji 2A, 7-8 - Nida). Source: Rimantienė, Česnys 1990

penetrated the area of the Baltic Coastland in the „late” phase of its development [Rimantienė, Česnys 1990:339] and its „customers” were late Narva groups. These contacts resulted in the introduction of elements of developed agriculture into the subneolithic environment of the Narva culture. Among these elements were crops like hemp, millet and emmer and implements for their cultivation (e.g. a GAC related find of 3 wooden ards from Šventoji 6) [Rimantienė, Česnys 1990:342; Rimantienė 1992a:109-125, 1992b:375]. What is more, a possibility is accepted that GAC migrants may have functioned in the Narva environment [Rimantienė, Česnys 1990:342].

Chronology of these events is determined on the basis of radiocarbon datings (Fig. 4) for the Narva settlements containing elements connected with GAC (Šventoji 3B, Šventoji 23, and especially Šventoji 6) [Rimantienė, Česnys 1990:342; Rimantienė 1992b:369]. The datings define a time span of 3100-2550 BC; however, it can probably be narrowed down to 2900-2550 BC.

A separate question is the nature of GAC participation in the emergence of the Rzućewo culture (broadly: Pamařiu or Bay Coast or Haffküsttenkultur). It is commonly believed that GAC traits, especially clear in pottery (Fig. 6:4-8), resulted from both direct and indirect connections with GAC. The former consisted in the participation of part of GAC population in the genesis of the cultural group in question [Machnik 1979:377], whereas the latter involved transposition through the Narva and Neman cultures [e.g. Rimantienė, Česnys 1990:346].

6.2. GAC IN THE INTERIOR OF THE FOREST ZONE OF EASTERN EUROPE

In the interior of the forest zone of Eastern Europe, there were recorded both (a) relics of GAC population settlement and (b) evidence of their connections with local cultural groups.

a. The penetration of the interior of the forest zone by GAC communities is evidenced by „pure” sites of this culture explored in the area of Grodno and Smolensk. In the area of Grodno, these are mainly cemeteries in the vicinity of the villages of Krasnaselsky and Maly Yodkavichi [see in this volume: Charniauskis, Materials. . .]. The GAC site located farthest to the north-east is also a cemetery uncovered in the vicinity of the village of Turinshchina [see in this volume: Shmidt, Szmyt, Ritual. . .]. The chronology of these traces of GAC settlement is set by radiocarbon datings (Fig. 3) obtained for features in Krasnaselsky and Turinshchina [see in this volume: Kadrow, Szmyt, Absolute. . .]. The most probable dates thus obtained are from c. 2660 BC to 2480 BC (Krasnaselsky 2657 ± 190 BC, Turinshchina 2476 ± 126 BC).

The presence of GAC population in the area of Grodno is interpreted as a result of western migration from the so-called Mazovia-Podlasie group [see Char-

niauski, Materials. . .], which is also indicated by pottery traits. This migration may have been caused by the search for deposits of high quality flint. This is indicated by the location of a GAC cemetery in the area adjacent to the flint deposits on the Ros river in Krasnaselsky [Charniauski 1995:269; Charniauski, Kudrashov, Lipnitskaya 1996:24]. Intensive extraction of the flint in the mines of Krasnaselsky took place, admittedly, in the Middle Bronze Age (1900-1450 BC) [Gurina 1976:127], however, the presence of GAC traces seems to indicate the beginning of the working of the said deposits [Charniauski 1995:269; Charniauski, Kudrashov, Lipnitskaya 1996:24].

The cemetery in Turinshchina currently sets the extreme north-western limit of penetration of the forest zone by GAC communities. For the time being, it seems most probable that these people migrated to the drainage of the upper Dnieper from the south, along the river. However, a possibility cannot be excluded that these people migrated from the west, along the Neman-Pripet tributaries-Dnieper axis.

In Krasnaselsky, as in Turinshchina, which is specifically revealing, in GAC rituals is manifested the agrarian character of Central-European migrants. This is immediately made clear by assemblages of bones of domesticated animals (in Krasnaselsky mainly cattle, in Turinshchina pigs and cattle) [see: Charniauski, Materials. . . ; Shmidt, Szmyt, Ritual. . .].

b. Elements that are genetically connected with GAC appear in the forest zone also in the context of local cultures. The most important among them are: (ba) Neman culture, (bb) Usvyaty culture, and (bc) Middle Dnieper culture. Attention is also drawn to possible affinities in vessel ornamentation between GAC and the Fatyanovo-Balanovo culture [e.g. Tallgren 1926:87-88; Äyräpää 1933:96; Sulimirski 1970:201-203], Pit- and Comb Pottery culture [Berezanskaya 1975; see also in this volume: Serdyukova, Contribution. . .] and the Dnieper-Donets culture [Isayenko 1976:115]. These questions, however, call for further studies.

ba. In the literature of the subject, stress is laid on the contribution of GAC (and then the Corded Ware culture — CWC) to the formation of the late stage of development of the Neman culture [Rimantienė, Česnys 1990:344], mainly the so-called Dobry Bor type, isolated in the drainage of the Neman and upper Pripet [Charniauski 1979:63, 1987a:40, 1987b:433]. Decisive evidence for this hypothesis is supplied by the analysis of vessel ornamentation, in particular the appearance of ornaments made with a rectangular die [e.g. Charniauski 1987b:433; Rimantienė, Česnys 1990:344]. The chronology of late Neman materials, determined exclusively on the basis of the comparative analysis of pottery, encompasses the period from 2750 BC to 1700 BC at the maximum [Charniauski 1979:78].

bb. In recent years attention has been drawn to the possible connections between the Funnel Beaker culture and GAC, on the one hand, and the Usvyaty culture, on the other. The last-mentioned culture developed in the interfluvial area between the Western Dvina and Lovat rivers from c. 3900 to 2500 BC (Fig. 4) [Miklayev 1992:28-30; cf. also Dolukhanov, Miklayev 1979]. In the opinion of its main explorer, the Usvyaty culture may be seen „as a distant eastern variant” of

the Funnel Beaker culture and GAC [Miklayev 1992:40-41]. During its whole development, cultural links connected the Usvyaty culture only with the western and south-western directions. There is no evidence of contacts with the sphere of the Pit- and Comb Pottery cultures which occupied the area to the north and east of the Western Dvina [Miklayev 1992:41]. Possible contacts with GAC are supposed to be evidenced by vessel ornamentation from the middle and late phases of the Usvyaty culture dated, respectively, to 3000-2750 BC and 2750-2500 BC [Miklayev 1992:29-30]. Because relevant information has not been published in full, it is difficult to comment on the quoted opinions. Nevertheless, it has to be pointed out that the possibility of contacts of local populations with GAC communities (rather in the late phase of the Usvyaty culture?) is validated by the presence of the latter in the drainage of the upper Dnieper (c. 120 km south-east of the eponymous site of the Usvyaty culture). Discovered in 1986-1987, the complex in Turinshchina proves the point [see above item a and article: Shmidt, Szmyt, Ritual. . .]. It can be added that it is in the late phase of the Usvyaty culture that small amounts (4% of contents) of bones of domesticated animals sheep, goats, pigs, cows appear [Miklayev 1992:43].

The related hypotheses fit in the broader conception of A.M. Miklayev in whose opinion, during the Neolithic, along the chain of lake districts stretching from the Polish border to the mouth of the Toropa and Western Dvina, a „corridor” functioned separating upper valleys of the Volga and Dnieper from the Baltic Coastland. Through this „corridor” cultural patterns from Central Europe were transmitted into the interior of the forest zone. Traces of GAC recorded in this „corridor” would be the third Central-European element, after Linear Band Pottery and Funnel Beaker Pottery cultures, flowing in from the south-west to the drainage of the Dvina [Miklayev 1992:44].

bc. The issue of relations between GAC and the Middle Dnieper culture has been only marginally touched on or neglected altogether [e.g. Rumjancev 1974; Artemenko 1987]. Curiously enough, a possibility of mutual interrelationships was alluded to in laconic mentions of GAC pottery being found in kurgans on the middle Dnieper [e.g. Lunevo – Artemenko 1987:41] and reported in already published materials [e.g. Kalechyts 1987:Fig.35,56]. Certain arguments are also offered by a grave complex from Prorva site 1 presented in this volume [see Kryvaltsevich, Grave. . .]. In respect of this complex we have two radiocarbon dates [see: Kadrow, Szmyt, Absolute. . .]. A joint calibration of both datings permits to place the dated event at c. 2620 BC. The feature contains a vessel whose ornaments combine GAC traits (impressions of a rectangular stamp) with those of the Corded Ware culture (cord decoration). It should be mentioned that it is only the second ¹⁴C dated feature of the Middle Dnieper culture [Artemenko 1987:41, footnote]. So far, attempts at distinguishing three development stages of this culture have been based on comparative analyses [Artemenko 1987:37-42, see there for older literature]. Due to current controversies over the version of periodization of the Middle Dnieper culture proposed in literature, this question by no means can be elaborated.

6.3. GAC AND THE CULTURES OF THE EAST-EUROPEAN FOREST-STEPPE ZONE

From among groups developing in the forest-steppe zone of Eastern Europe by far of the greatest importance for the problems discussed here is (a) the forest-steppe facies of the Tripolye culture. It is also important to organise information shedding light on interrelationships between GAC and (b) the sphere of the CWC.

a. The nature of relations between GAC and the Tripolye culture has been assessed mostly on the dubious basis of co-occurrence of materials of both cultures in the same sites (in particular, the presence of GAC pottery in Tripolye settlements) [e.g. Passek 1949:222; Sulimirski 1959:279; Sveshnikov 1983:18]. The bare fact of recording sources of both cultures in the same place without a detailed analysis of conditions and nature of such a co-occurrence cannot be an argument for the contemporaneity of the two cultures [Zbenovich 1976:46; Ścibior 1986:355]. Drawing conclusions on the basis of such arguments led, for instance, to the erroneous synchronisation of GAC with the CI stage of the Tripolye culture [e.g. Sulimirski 1959:167; cf. a polemic: Zbenovich 1976:46]. Currently, the list of more convincing evidence is being extended. New items prove partial contemporaneity of both cultures and direct contacts of their populations [e.g. Movsha 1985b]. Among them are interborrowings in pottery and rituals. Of crucial significance is the occurrence of pottery combining traits of GAC (mainly ornaments) and the Tripolye culture (technology admixture of shells, possibly forms) in the late Tripolye sites of the Gorodsk-Kasperovtsy group (e.g. Tovtri, Velika Slobidka — Fig. 7:1-5) [Sveshnikov 1983:18; Movsha 1985b:28] and of the Sofievka group (Fig. 7:6-7) [Kadrow, Koško, Videiko 1995:209-215]. Similarly, in GAC sites there are recorded vessel fragments displaying Tripolye technology (i.e. with an admixture of shells and flint) [Sveshnikov 1983:13-15]. I must add that some of the quoted opinions are obviously in need of correction (personal scrutiny of GAC materials in the Institute of Archaeology of the Ukrainian NAN in Kiev) [cf. also comments by J. Ścibior 1986:360], others, however, seem to be credible.

On the basis of still rather few cases of co-occurrence of traits of GAC and the Tripolye culture and the current version of chronology of both cultures, it seems justified to adopt a thesis of partial contemporaneity of GAC and late Tripolye groups of phase CII [Movsha 1985b:29], or more precisely, of the late interval of phase CII [cf. however less adequately corroborated comments about the possibility of an earlier synchronisation taking place at the beginning of phase CII [Movsha 1985b:30] or in phase CI [Sulimirski 1970:176]. The difficulty in determining temporal relations with greater precision stems from relatively poor exploration of the decline of the Volhynia agglomeration of the Tripolye culture, i.e. the stage defined here as the Gorodsk type (Gorodsk-Listvin) [Shmaglii 1966; Jastrzębski 1989:14-16, 112]. In particular, it cannot be assessed at present to what degree it is probable to connect the end of stage CII in Volhynia with the critical date of 2950/2900 BC [e.g. Movsha 1985a:255] that is mechanically transferred from the southern steppe

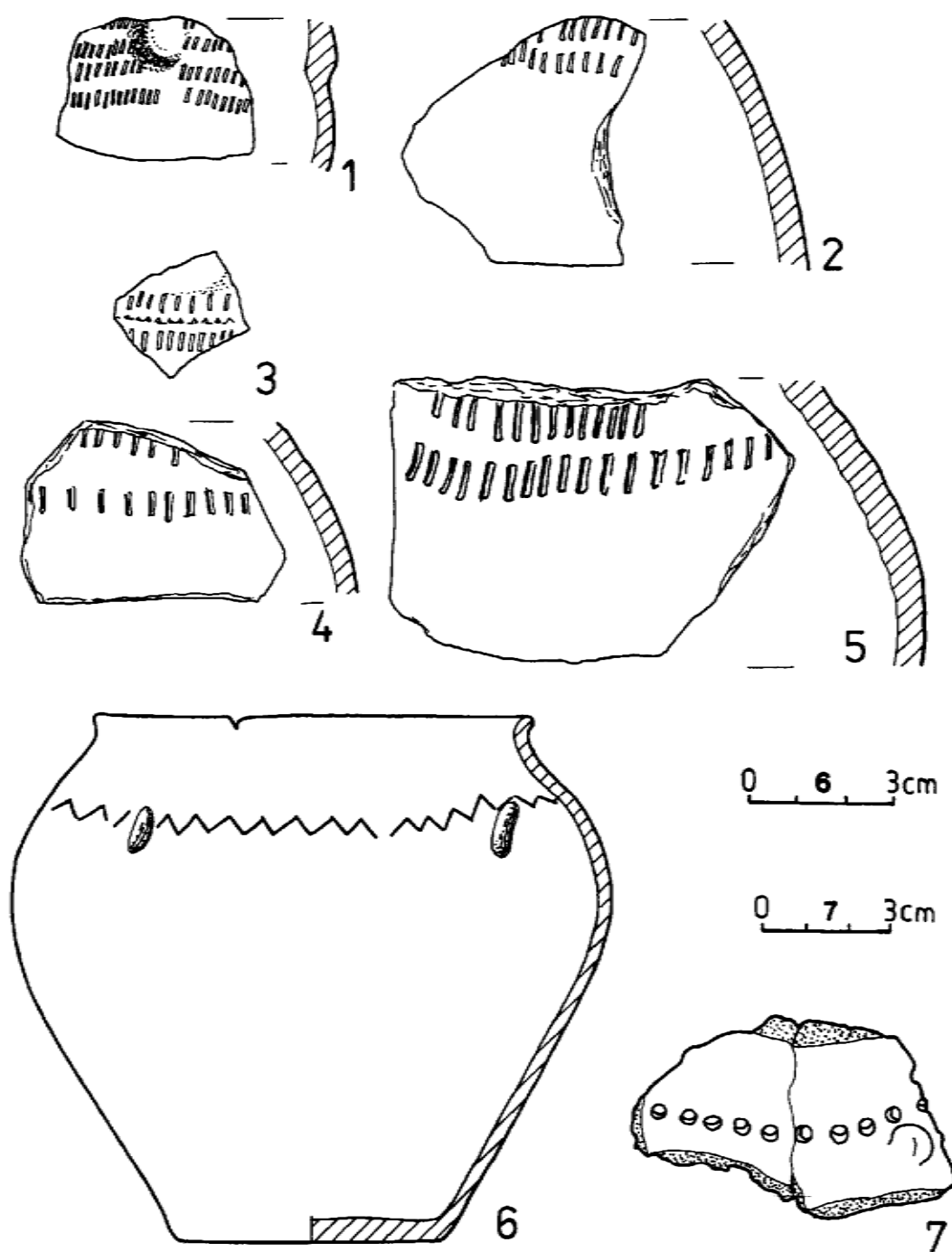


Fig. 7. Elements of GAC in pottery of late Tripolye culture (1 - Tovtri, 2 - Kostashty IV, 3-5 - Velika Slobidka-Khreshchate II, 6-7 - Krasny Khutor). Sources: Movsha 1985b, Kadrow, Koško, Videiko 1995

branch of the Tripolye culture (Usatovo type). Re-dating (relying on a local series of radiocarbon datings) of the Sofievka type [Kadrow 1995; Kovalyukh, Videiko, Skripkin 1995] commands great caution in this respect. Another misunderstanding is the equally mechanical connecting of the end of the Tripolye culture in Volhynia with the beginning of GAC settlement there. Decisive could be only the procurement of independent (radiocarbon) source evidence for structures like Gorodsk.

As it is stressed by T.G. Movsha [1985b:28] there was no neutral zone between the Tripolye culture and GAC. It is certain that areas of GAC settlement in the forest-steppe zone were earlier (or maybe at least for some time simultaneously) occupied by Tripolye groups. However, to look at the mutual relations between the two communities only from the angle of their possible competition (or even struggle) [e.g. Sulimirski 1970:166; Zakharuk 1971:179; Zbenovich 1976:46] would be premature. In this context, one should remember about far more complicated relations between GAC populations and people of other Late and Declining Neolithic cultures in the „departure” areas, i.e., for instance, in the drainages of the Vistula and Oder [Szmyt 1996; Prinke, Szmyt 1996].

b. The relations between GAC and the sphere of the CWC in the whole area of their occurrence are not known too well [cf., however, Szmyt 1996:245-254]. This also applies to areas located in Volhynia and Podolia. Only for the drainage of the upper Dniester, analysed in greater detail by J. Machnik [1979], do certain possibilities open for the evaluation of the chronological changes of these relations. In CWC kurgans known from this sphere, dated to its phase II (e.g. Kołokolin), there were recorded artefacts connected with GAC (pottery, fragment of an axe made of banded flint from Krzemionki Opatowskie) [Sulimirski 1968:142-143; Machnik 1979:58]. It is unclear, however, whether these finds were grave-goods or came from a secondary deposit, which makes their interpretation difficult. It is generally believed that „a barrier for the spreading of CWC to the east and north-east may have been formed by compact distribution of GAC at that time” [Machnik 1979:57]. The border zone between the two cultures is identified with the areas between Gnila Lipa and Zolota Lipa. The expansion of CWC to the north and east that took place in phase III, as distinguished by J. Machnik, led, in turn, to the decline of earlier GAC settlement.

The contemporaneity of development of GAC and CWC [see also Zbenovich 1976:52] is confirmed by the latest radiocarbon datings [see: Kadrow, Szmyt, Absolute. . .] which also point out to the longevity of the process. Because of the paucity of evidence of mutual contacts between both cultures during the development of „proper” CWC, alluded to above, of crucial importance is the higher incidence of GAC traits in groups included in the sphere of epi-Corded Ware cultures developing later in Volhynia and Podolia. Among them are: groups (cultures) of Gorodok-Zdolbitsa [Sveshnikov 1985b:381-384], a local (in Podolia and Pokucie) variety of the Early Mierzanowice culture (Chłopice-Vesele) [Machnik 1979:62-67; 1987:151-153]; or as proposed by I.K. Sveshnikov Podolia group of the sub-Carpathian culture [Sveshnikov 1985b:380] and the Strzyżów culture [Głosik 1968; Mach-

nik 1978]. In all the cases references to GAC are visible mainly in the burial rituals, more precisely in the construction of cist graves built either of stone slabs or stone rubble with the last type being foreign to the CWC tradition. References to GAC are also seen in pottery forms resembling GAC models [e.g. Machnik 1978:79]. In this context a thesis about (partial) assimilation of the eastern branch of GAC by CWC was formulated [Sveshnikov 1957:42; 1990:49]. It must be added that graves with stone structures survived until later being one of the distinguishing factors of the Biały Potok group of the Komarów culture [Sulimirski 1968:93].

6.4. GAC AND STEPPE ZONE GROUPS

The possibility of contacts of GAC communities with steppe groups was indicated by discoveries of „pure” sites of this culture in the Romanian part of the Moldavian Upland [Dinu 1960]. However, a breakthrough took place only in the 1980s. It was then that materials referring to GAC and originating with steppe cultures were published. Of primary importance among these cultures was the (a) Yamnaya culture. Separate attention should be devoted to the hypothetical contacts of GAC with (b) the Catacomb and (c) Kemi-Oba cultures and areas of Kuban-Caucasus.

a. From the eastern part of the Moldavian Upland, we know of graves in which vessels, undoubtedly deriving from GAC (Fig. 8B), occur in the context of both materials and the burial ritual typical of the Dniester variety of the Yamnaya culture [Yarovoy 1979, 1981, 1985:89; Dergachev 1986:79; Manzura 1993:34-36]. Characteristically, these are always single vessels faithfully preserving the form and ornamentation of GAC [e.g. Yarovoy 1985:Fig.26, 1990:219; Dergachev 1986:79; Manzura, Klochko, Savva 1992:Fig. 12,6]. They are believed to be imports from the area of the eastern group of GAC providing evidence for both partial contemporaneity and close contacts of both cultures [Yarovoy 1979, 1985:91; Dergachev 1986:79]. The interfluvial area between the Prut and Dniester would be thus a contact zone of both cultures [Yarovoy 1981]. These contacts took place rather in phase II of the Dniester group development [Manzura, Savva, Bogataya 1995:26].

A different set of traits is attributed to possible GAC impact in the steppe zone south-east of the Moldavian Upland, in the area stretching from the Danube's estuary to the estuary of the Dnieper [Subbotin 1988:129; see also in this volume: Rassamakin, On early. . .]. Among these traits are ones relating to the burial ritual and artefacts foreign to the steppe tradition, namely:

- stone cist graves, dug (as secondary burials) into the mounds of the Yamnaya culture kurgans (Fig. 8A), formally different from graves of the Kemi-Oba culture or Srubnaya culture [cf. also Serova, Yarovoy 1987:130],
- vessels (e.g. amphorae with handles), foreign to the Yamnaya culture, but which may be a transformation of GAC models,
- flint axes in the Yamnaya culture graves.

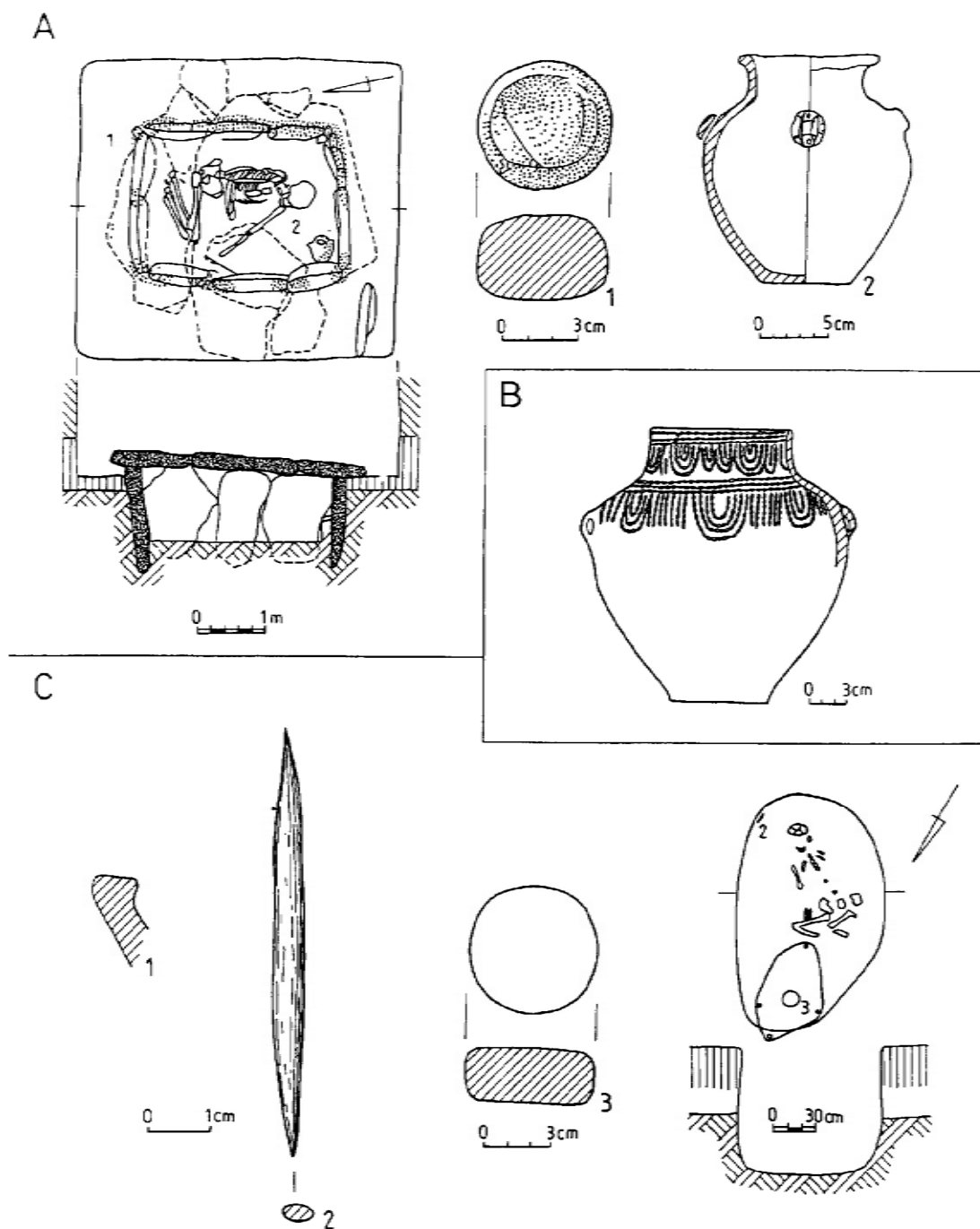


Fig. 8. Elements of GAC in Yamnaya culture (A - Tatarbunary: 1 - stone, 2 - vessel; B - Korpach) and Catacomb culture (C - Primorskoye: 1 - pottery, 2 - bone, 3 - stone). Sources: Dergachev 1986, Popandopulo 1992, Subbotin 1988

Differently from the situation encountered in the Moldavian Upland, in this case we have to deal with elements that are less unequivocal, both genetically and culturally [cf. e.g. doubts: Zbenovich 1976:48]. In all the cases the studied traits were connected to secondary burials, dug into the mounds of earlier kurgans. Stratigraphic evidence allowed to date them to c. 2500 BC [Subbotin 1988:130; on the possibility of an earlier dating cf. Rassamakin, *On earlier...*].

b. Certain traits hypothetically referring to GAC are revealed in materials of Catacomb culture groups [cf. old theses of A.Äyräpää 1933:121 and T.Sulimirski 1970:229]. An example of this may be a discovery of a double-edged stone blade, analogous to ritual objects typical of GAC [Wiślański 1966:42; see also: Charniauski, *Materials...*], in a Catacomb culture grave on the Konka river (Fig. 8C), a left tributary of the lower Dnieper [Popandopulo 1992:Fig.4:2]. Also in the ornamentation of the pottery of the Catacomb culture from the middle Dnieper references to GAC are observed [cf. Serdyukova, *Contribution...*]. It seems, however, that faced with strong regional diversification of the Catacomb culture sphere [Bratchenko, Shaposhnikova 1985:403], it would be more important, from the point of view of matters discussed here, to explore chronological and spatial relations of both cultures in the area along the Dniester, i.e. in the western portion of the area occupied by the Catacomb culture [Toshchev 1991].

c. Ambiguity of relations between GAC and the Kemi-Oba culture remains. The thesis of N.A. Nikolayeva and V.A. Safronov [1974:185-193] about the genetic relation of Kemi-Oba with the expansion of GAC has been subjected to criticism [Maleyev 1980; Sveshnikov 1983:20]. At present, there are no doubts about the contemporaneity of development of both cultures in the broadly understood Pontic zone [Shchepinsky 1985:336], however, with no direct spatial contact between their compact settlement [Arkheologiya 1985:Map 9]. It should be accepted, however, that it was possible for the influences of both cultures to meet in the area of the lower Dnieper.

Heated controversies are aroused by hypotheses about genetic connections of GAC and the Maykop culture [e.g. Gimbutas 1991: 381-384; cf. a critical review: Häusler 1994]. This matter, however, calls for more research (cf. item 8 below).

7. THE PROBLEM OF SOCIO-ECONOMIC CHARACTERISTICS OF EASTERN GAC COMMUNITIES

A lot of attention has been devoted to the social organization and economy of GAC populations. For the most part, however, these problems have been dealt with in synthetic works whose authors intentionally formulated general opinions applying to the whole GAC oecumene. An extreme view was put forward by V.G. Childe defining GAC as a culture of hunters, shepherds and prowlers [Childe 1930:139]. Howe-

ver, a more moderate interpretation prevailed [e.g. Wiślański 1969:244-251,273-326, 1979:281-293; Kruk 1980:316], according to which the GAC people „were seminomadic herders living in small groups who practised limited seasonal movements (...) Agriculture (...) seems to have been only supplementary to an essentially stockbreeding economy in which cattle were of paramount importance” [Gimbutas 1991:383]. Relations within groups were based, in the opinion of most scholars, on the socio-organizational supremacy of adult males to whom women, children and adolescents were subjected [Wiślański 1969:312; cf. also Sulimirski 1970:166; Gimbutas 1991:383]. These recent interpretations took also into account information from the eastern group of GAC [e.g. the celebrated case of the tomb of Wojciechówka, now Kolodyazhnoye — Levitskiy 1930].

In the most recent interpretations an assumption is made concerning a possibility of regional and chronological diversification of the social organization and economy of GAC populations [Szmyt 1996]. And so, the only detailed analyses, carried out on the example of the GAC community in Kujawy [Szmyt 1996:201-216], allowed to distinguish three levels of social organization, namely: village, microregional (microlocal) and regional groups. The basic unit of social organization was the home group (family) numbering at least 4-5 persons. It was also this group that in most cases formed a village group. Under special circumstances (e.g. seasonally) a few families comprised one village group that would share one settlement consisting of a few houses. At least 3-5 basic families made up a microregional group whose domain covered 160-310 sq. km. A manifestation of a microregional group's unity and also a sign of their rights to the area was the ritual zone marked by a megalithic cemetery (or cemeteries). About 20 microregional groups made up a regional group. It was a communication community within the bounds of which marriages must have been arranged.

This multilayered structure of social organization reconstructed for a well researched region of the longest GAC settlement tradition [cf. part 4] cannot be directly transposed to any other fragment of the oecumene of the people in question. To test its adequacy for the eastern branch of GAC (or, for instance Volhynia-Podolia agglomeration) one would need first to chronologically stratify features and design a periodization scheme as well as to expand one's knowledge of settlement and economic microstructures (in particular settlements and camps).

At present, we have only fragmentary knowledge of the settlement structures and economic system of people of the eastern group of GAC [Sveshnikov 1983:16-17]. There are no doubts about the agrarian character of this economy, which is indicated by remains of domesticated animals recorded in GAC cemeteries located even in the most distant regions [cf. in this volume: Charniauski, Materials...; Maleyev, Pryshchepa, Grave...; Shmidt, Szmyt, Ritual...]. The knowledge (and cultivation?) of crops is evidenced by impressions of corn grains (barley or wheat and may be millet) in the bottom of one of the vessels found in the cemetery in Turinshchina, hence in the interior of the forest zone [cf. Shmidt, Szmyt, Ritual...]. The site in Mezhireche [Sveshnikov 1983:12] supplies proof for the existence of

settlements consisting of at least two homesteads. However, no single-house settlement, typical of Kujawy [Szmyt 1996:157], has been identified. In the source context presented here it is difficult to draw any conclusions going any further than the general evaluations quoted earlier.

8. GAC AND THE ETHNICAL TRANSFORMATIONS OF EUROPE

„At any rate, it is apparent even at this stage of research that the emergence of the Globular Amphora culture in the North European plain is a phenomenon crucial to the question of the Indo-European origin” [Gimbutas 1980:301-302]. This quotation expresses the view of those scholars, working on the problem of the indo-europeanisation of Europe, who relate main ethnical transformations of our continent to the late Neolithic/Eneolithic [cf. also e.g. Mallory 1991:250-251]. For competing options, e.g. the hypothesis identifying the beginning of the process of indo-europeasation with the advent of the Neolithic in Europe [Renfrew 1987], GAC population is already and simply Indo-European. Here, however, it is worthwhile to consider the questions related to the first of the above options.

In M.Gimbutas' version, the Proto-Indo-Europeans may be identified with the „Kurgan tradition”, i.e. a series of cultures developing in the Pontic-Caspian steppe and forest-steppe zones. „Kurgan” people expanded to Central and partially western Europe from 4500 to 2500 BC. This expansion occurred as three waves of people movements. In M.Gimbutas' opinion [1980:293-301; 1991:381-384] GAC is an effect of the overlaying of an older population substrate with East-European nomads representing „Kurgan Wave #2” [cf. above item 3a]. Due to such origins „the fundamental social, religious, and economic components of the Globular Amphora culture link it to the North Pontic area” [Gimbutas 1991:384]. The quoted author points out to analogies with respect to rituals (primarily the form of cist grave, animal burials, „human sacrifices”, solar symbolism), certain forms of vessels and the type of economy. These analogies bring GAC and the Maykop culture closer together. In this hypothesis a special place is held by the eastern branch of GAC which supposedly came into being on the substrate of the Tripolye culture population, whereas the other GAC groups were connected to the substrate of the Funnel Beaker culture [Gimbutas 1991:381 and Fig. 10-13].

The legitimacy of the source evidence of the discussed hypothesis varies. In the first place, the area of GAC expansion is located in the broadly understood border zone between Eastern and Central Europe („Bug-Dniester limes”) where beginning with the Mesolithic translocations of cultural patterns had been taking place in various directions (including along the SE-NW axis) [Kośko 1990, 1991]. During the 4th and in the early 3rd millennia BC, in this zone, population shifts occurred, which is well documented by archaeological sources. Unquestionably, in

GAC rituals in the whole area of its appearance, there are motifs which have precise analogies in Indo-European symbolism [cf. Kowalski 1988]. Analogies with respect to pottery, that supposedly are to link GAC and Lower Mikhailovka, however, are debatable. Controversies are also raised by the origins and chronology of the stone form of the cist grave that is present in the GAC and Kemi-Oba cultures as well as the Caucasian Dolmen culture [cf. item 6.4.c and the theses of Nikolayeva, Safronov 1974]. In the light of current knowledge it would be difficult to credibly justify the hypothesis about the (late-)Tripolyan population substrate of eastern GAC and its mixed (Tripolyan-Kurgan) character. Far more source evidence supports the view assuming the migration of people formed by GAC from the west with late-Tripolyan communities undoubtedly playing some (for the time being undefined) role in the process of local transformations of the culture. Finally, the type of GAC economy (the basic role of animal raising supplemented by land cultivation) and the mobile way of life must be seen in the context of broader, endogenous economic transformations of Central Europe [Kruk 1980:315-333; 1993], although Pontic influences in this respect cannot be excluded.

To summarize, the connection between GAC and the formation of the new ethnic structure of Europe seems well grounded. However, to determine the share of the discussed communities in the process would call for the broadening of knowledge of the dynamism of their transformations and thus for the abandoning of the static vision of culture that still dominates, particularly with respect to the eastern territorial group.

CONCLUSIONS

The summary of the present state of knowledge on the eastern branch of GAC presented here, in the author's intention is to set guidelines for research for the nearest future. Top priority should be given to two fundamental projects: (1) an attempt to work out an internal periodization of the GAC group in question, and thus to abandon its static concept (it is necessary to obtain more radiocarbon datings, also for GAC materials from eastern Poland), and (2) a revision of source evidence concerning relations of GAC with contemporaneous cultures of Eastern Europe. Far more time and especially systematic efforts are needed for the third project, i.e. a thorough investigation of the socio-economic core of eastern GAC transformations. This last mentioned project would require a change of the current structure of sources dominated by grave complexes. Such a change stands some chance of being implemented, which is evidenced by papers included in this volume [cf. Serdyukova, Contribution. . .; Shelomentsev-Terskiy, Settlement. . ., in this volume].

Translated by Piotr T. Żebrowski