

GLOBALAR AMPHORAE CULTURE IN MOLDAVIA BETWEEN THE CARPATHIANS AND PRUT. CURRENT STATE OF THE EVIDENCE

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In Romanian Moldavia, the Globular Amphorae Culture (GAC) phenomenon was no native one. In the literature of this subject it is widely accepted that the GAC human groups have penetrated in this region coming from the north, from Volhynia and Podolia areas, *i.e.* it is indeed likely a demic diffusion. However, the presence of the GAC in Moldavia is documented by specific burials and traces of short-lived occupations, but there are also some indirect clues, such as GAC sherds in local sites or accidental finds of flint artifacts (axes and chisels, mostly) with GAC technological traits.

Because in the most recent works concerning the eastern group of the GAC, the Moldavian GAC materials were only sporadically mentioned or used¹, in the present paper we will try to correct this deficiency by dealing with the problem of the Moldavian GAC concentration. Our analysis will be based here on older, as well as recent evidence.

I. A brief history of research

The first Moldavian cist burials possibly connected to the GAC phenomenon have been pointed out in a scientific manner since the last quarter of the 19th century (Grănicești², Horodnicu de Jos³, Borlești⁴). At the same time, at Siret-“Zamca” decorated ceramic sherds comparable to the Grănicești pottery have been collected (a settlement?)⁵.

Accidental discoveries of some cist burials were made in the inter-war period, too, but the information collected are insufficient to classify them as indisputably GAC finds (Brășăuți/Cut⁶; Șcheia-Iași, “Humărie” site⁷). Of particular importance are the recovery of the inventory from the disturbed cist burial found in Piatra Neamț-“Grădina Lalu” (1955)⁸ and the M. Dinu’s excavations at Dolhești Mari (1957–1958)⁹ which have firmly produced

arguments to support the existence in Moldavia of a group of funeral monuments with cultural analogies in Volhynia and Podolia areas¹⁰. In addition, these last-mentioned finds allowed for the first time to distinguish the presence of the GAC in Moldavia, being made also the first attempt to classify and dating the graves assigned to this cultural unit¹¹.

In the 1960s, at Succava-“Cetatea Șcheia”, relics of human occupation assigned to the “Gorodsk-Usatovo group” have been discovered¹², but the materials, judging by their illustration, are rather linked to the GAC.

In the next two decades, new discoveries connecting to the GAC in Moldavia have come to light (cist burials at Calu-Piatra Șoimului¹³; Bârgăoani¹⁴; Șerbești¹⁵; Basarabi-Preutești¹⁶; Suceava-“Spital”¹⁷; Șcheia-Iași, “Muncel” site¹⁸; Mastacăn¹⁹; a short-term settlement at Șcheia-Suceava, “Siliște” site²⁰; cremation graves -?- and settlement at Suceava-“Parcul Cetății”²¹). Unfortunately, in many cases, the GAC cists were accidentally revealed by the people who didn’t have archaeological practice. Due to this fact, many details connecting with these cist burials are incomplete, sometimes not clear or even are missing.

In two articles published in the first half of the 1980s, Șt. Cucuș resumed the problems of the GAC presence in Moldavia²². In a recent monograph, Gh. Dumitroaia touched also the general issues concerning the GAC phenomenon in northern Moldavia, but, generally, he repeated the older conclusions²³. By contrast, in the paper of V. Mihăilescu-Bîrliba dealing with the Mastacăn cist grave, many older hypotheses linked to the GAC are submitted to discussion, being frequently revised or updated²⁴.

A recent detected cist grave at Sânmartin-Ciuc (Harghita County)²⁵ demonstrates for a certainty and directly that GAC human groups have also reached the south-eastern corner of Transylvania.

A particular attention was given to the flint axes and chisels, including the flint hoards, discovered in Moldavia, many of them directly connected to the GAC²⁶. Based on the examination of the skeletal remains in the cist burials, O. Necrasov and her contributors had been carrying out the anthropological description of the GAC population in Moldavia since the end of the 1950s²⁷.

II. Funeral sites.

II.1. Inventory of sites and their territorial distribution

The main archaeological source refers to the GAC in Moldavia is representing by graves, singular or organised in small cemeteries. For the moment, only 9 GAC funeral sites (Map I), contained a total of 14 graves, that can be undoubtedly assigned to this culture are known in Romanian Moldavia. At Suceava-“Parcul Cetății”, pottery which has connection with GAC lay inside the flat necropolis with cremation burials of Sofievka type²⁸. It may belongs to mixed Sofievka-GAC burials, but we must fully take into account the fact of occurrence, in the nearby, of a short-lived GAC occupation²⁹. To the list, can be added a number of 12 funeral sites with 20 cist graves, for which the evidence of affiliation to the GAC is less secure or doubtfully.

According to data available, most of the secure GAC graves are concentrated in the Suceava Plateau area and in the Cracău-Bistrița Depression (in the northern Carpathian foothills).

The Central Moldavian Plateau is another zone where cists were frequently encountered (Gârceni, Tăcuta, Băcești, Oniceni, Dumeștii Vechi). Since the information collected on these latter features are rather scarce, it is difficult to establish for a certainty if they belong to GAC or not. In spite of this fact, some evidence exists to reasonably argue a GAC occupation of this region (amongst them: pottery with GAC traits, a favourable habitat, even repeated cist finds), hypothesis which has been already stated³⁰. Anyway, in the future we expect more reliable data and substantial GAC finds to appear in the Central Moldavian Plateau³¹.

The flint axe discovered at Ariușd³², with good parallels in the flint inventory of the GAC graves, as well as the cist burial with bone appliques from Sânmartin-Ciuc, above mentioned, clearly attested the presence of the GAC elements in the south-eastern part of Transylvania.

II. 2. Typology and topography.

The most typical GAC funeral feature in Moldavia is represented by the flat cist grave, but there are also documented few other particular burial interments, for instance the grave on stone paving (Grave No.3/Dolheștii Mari), in flat, ground pit (Grave No. 4/Dolheștii Mari) or near the menhirs/dolmens (?) (Mastacăn³³). Usually, the GAC cists lay about 0,10–0,50 m below the ground surface, rarely appeared to a higher depth (with a maximum of 0,80 m below actual ground level). As in the whole eastern group of the GAC³⁴, in Moldavia, the assumption on the existence of the GAC tumular interments is unwarranted, since all the evidence to sustain it come from the uncertain archaeological record of the late 19th century (a cist from a tumulus in the IInd tumular group/ Szombathy 1894 at Horodnicu de Jos and, possible, Borlești).

The GAC graves in Moldavia are usually located on the upper river or brooks terraces, being preferred heights (especially, their eastern slopes³⁵). In reference to the soils, it has to be emphasised that in Moldavia, the GAC sites are exclusively placed on forest-brown and chernozems-like soils. The tombs were singular (particularly, in the Carpathian foothills) or organised in small necropolises (2 to 4 graves) (in the Suceava Plateau). At Gârceni, 6 stone boxes were discovered, but their connection to the GAC is not secure.

II. 3. Burial customs.

As far as the mortuary practice is concern, in the case of Moldavian GAC we are dealing, for a certainty, only with the interments of the bodies. Even if at Suceava-“Parcul Cetății” existed cremation burials of mixed Sofievka-GAC character, it is obvious that the cremation tradition was brought here by the Sofievka group who founded the cemetery, in their original homeland (the Middle Dnieper basin), the burning of the human remains being a large scale practice at these communities. However, apart from this case, there are yet few other instances which can be, at least, mentioned in connection with the presence of the cremation as a funeral rite of the GAC groups in Moldavia: Brășăuți/Cut³⁶, Suceava-“Spital” (Grave No. 2)³⁷ and, possibly, Borlești³⁸. Unfortunately, none of these sites dispose on secure information.

In the eastern group of the GAC cremation burials were reported from the Volhynia Upland (in the groups of Sluch and Žitomir, according to Sulimirski's classification)³⁹, but many data related to them are disputable.

The fact that in other GAC areas, the cremations rarely appear, otherwise in small local concentrations⁴⁰, suggests that cremation of the deceased was not a common mortuary practice at these communities. Its sporadic appearance can be rather due to the external contacts and influences with other cultural phenomena and/or as a "perpetuation of older local traditions"⁴¹. Having in mind this hypothesis, the eventual GAC cremation burials in the eastern group should be explained by immediate vicinity of the late Tripolian tribes, which practised currently or as a ritual behaviour the burning of the human bodies (see, as examples, the discoveries made at Kunisovcy, Koszyłowce (Koşilovcy)-"Oboz" and Cviklovcy, in the Upper Dniester basin⁴² and the Sofievka group, in the Middle Dnieper basin⁴³).

II. 3. 1. Funeral structures.

In most cases, the Moldavian GAC "stone boxes" were built of medium sized slabs of "Tarcău/Kliwa" sandstone that does occur in this region. The burial chambers were rectangular (Grave No.2/Succava-"Spital", Bârgăoani, Calu) or trapezoidal (Grave No.2/Dolheştii Mari, Mastacăn, Piatra Neamţ) in shape, being frequently oriented along the E-W axis (in the Suceava Plateau region), rarely along the N-S axis (particularly in the Carpathian foothills). The sepulchral cists are of medium dimensions, measuring 1,5–1,7 m in average length, rarely exceeded 2 m long (for instance, Piatra Neamţ). Usually, the stone cists found in the Succava Plateau area have the longer sides made of two slabs each, supplemented by smaller stones who filled the gap between the great blocks. By contrast, at the tombs discovered in the Carpathian foothills the longer sides of the box consisted in most cases of a one large slab each. The cist of Mastacăn has a more complicated structure, with the capstone and lateral walls made of double-edged blocks, the inner sides slabs sledge runner shaped and a niche carved in the outer western slab⁴⁴.

The bottom of the cists was paving with 2–3 slabs (at Bârgăoani, up to 14 small stones), sometimes "fused" together with stones and clay (Grave No.2/Suceava-"Spital", Piatra-Neamţ) or was made of a large block (Mastacăn, Calu).

It seems that the grave found at Mastacăn was "marked" with two river boulders, placed on the ground surface⁴⁵.

The stone cist (*das Steinkistengrab*) is commonly registered amongst the GAC funeral constructions, being documented (excepting few regions, such as Sachsen or Bohemia) throughout the large GAC distribution area. However, there is some local and regional variation in the details of fabric and shape of the cist. In this respect, were already emphasised the similarities of the Moldavian GAC "stone boxes" with the cists discovered in certain areas of the GAC⁴⁶.

Burial interments on stone paving (*die Steinplattengräber ohne Kammereinbau*) as Grave No. 3/Dolheştii Mari are absent in the other parts of the eastern group of the GAC. Some correspondances are to be found in the Sandomierz region (Grave No. VIII and X/Sandomierz 78⁴⁷; Rzeszyca Mokra⁴⁸). The burial in simple ground pits is fairly rare, not only in Moldavia, but also in Podolia and Volhynia⁴⁹. In the central territorial group of the GAC (*i. e.*, the Polish group), the frequency of such funeral pits increases in Małopolska, although they sporadically appear in central and north-west Poland⁵⁰. By contrast, this kind of funeral construction is predominant in the western group of the GAC⁵¹. Finally, the graves near the menhirs/dolmens are also rare in the eastern and Polish groups of the GAC⁵².

II. 3. 2. The deceased.

Inside the GAC tombs in Moldavia were successively or simultaneously placed from 1–2 (in most cases) to 5–7 individuals (as in the cists of Bârgăoani and Piatra Neamţ). In this regard, the cists can be considered as "family vaults". In the tombs with one skeleton or in the double burials, adults and fairly rare adults with children or only children (possibly, at Băceşti) were buried. In the collective graves were encountered adults (usually, men and women together) or, as in the case of the cist in Piatra Neamţ, adults with children. Judging from a "bone dagger" (or chisel) pointed to the chest of one skeleton in the cist of Bârgăoani⁵³, it cannot be excluded the practice of the human sacrifices. This assumption is in agreement with other available evidence⁵⁴.

As a rule, the deceased were placed in a flexed position. This type of deposition of the dead seems to be typical for the whole territory covered by the GAC. In the Dolheştii Mari cemetery skeletons lying in extended (Grave

No.1 -?- and Grave No.4) and supine (Grave No.2) position were also documented. The existence of outstretched skeletons inside the cist discovered in Piatra Neamț is rather presumed than a certitude⁵⁵. In both eastern and Polish groups of the GAC, the extended position of the skeletons represents a rarity. In the western areas it is attested only in the marginal zones (for instance, in the Altmark-Lüneburg group of the GAC), being explained as an imported burial custom or as a practice transmitted through the TRB tradition⁵⁶. The argument of the external contacts (with the neighbours) to suggest the emergence of the extended burials to the GAC human groups in Moldavia was also given by Șt. Cucuș⁵⁷, but he didn't exactly specify the "population-neighbour". It should be noted that in almost all the cases, the skeletons in supine position were encountered in collective vaults, occupying inside them, as a rule, the dominant place (see, for instance, Las Stocki⁵⁸, Uvisla⁵⁹). Judging by the description⁶⁰, it can be presumed that in the double grave No.4 in Dolheștii Mari, the skeleton in extended position occupied also the dominant place (this in the case that we are not dealing there with successive interments). Anyway, in the light of the facts last-mentioned, it seems inadequate to search for such factors as cultural or ethnical responsible for the appearance of the unusual deposition of the individuals in the GAC graves (adding here, the sitting position). In this respect, it should be also considered the social structure and ideological system in the attempt to offer an explanation.

Present evidence suggests that in Moldavia, the E-W (or approximate) orientation of the bodies prevails in the GAC graves.

II. 3. 3. Other ritual elements.

Inside the cists discovered at Mastacăn and Piatra Neamț, charcoals and burned stones have been found. For the eastern group of the GAC, I. Svešnikov mentioned traces of fire in the GAC graves assigned to the Podolian variant⁶¹.

Judging by the description, it could be claimed that the substance found in the vessels of the first discovered Grănicești cist⁶² was ochre. As far as we know, the appearance of ochre in the GAC tombs is almost exclusively attested in the eastern group of the culture (in the Volhynian region, on and around the skeletons⁶³), more exposed to the Steppe influence. Westwards, ochre appeared only exceptionally, (see the recent evidence of Grave No. II in Sandomierz, south-east of Poland⁶⁴).

In the GAC tombs found in Bârgăoani⁶⁵ and Șcheia-Iași, "Muncel" site⁶⁶, remnants of pig or wild boar have been found, while at Dolheștii Mari, in the proximity of Grave No. 3, a horned cattle has been buried together with an amphora⁶⁷. Common graves of people and animals (included pigs, big and small horned animals, horses, dogs), as well as animal burials are attested throughout the GAC distribution area⁶⁸. From the Grave No.2 in Suceava-"Spital", a lower jaw of a small animal (possibly, a rodent) was recovery⁶⁹, but it seems that its appearance here was accidental one.

III. Grave goods

Inventory of the GAC graves in Moldavia consists of: 1) pottery; 2) lithic and 3) bone artifacts. The amber is still missing, though it is present in the GAC burials uncovered in the other areas. It follows from the discoverer's account, recorded by C. Matasă, that in the cist of Brășăuți/Cut "few copper objects" (awls?; adornments?) have been found⁷⁰.

III.1. Pottery.

The grave goods consist primarily of clay vessels, which are relatively abundant and characteristic. Most of ceramics were placed inside the cists, but at Mastacăn few vessels were laid outside the inner chamber⁷¹.

Taking into account the information available - not always secure, because of the circumstances in which most GAC graves have been discovered - it seems that the rule was to put no less than three clay containers inside the cist, additionally, the amount depending, perhaps, on the number of individuals buried (3 vessels/*per* person in average) or on other factors (for instance, social status). For all that, there are exceptions. However, the number "three" and its multiples must to be played a special (ritual?) role in the mortuary practice of the GAC groups, as far as the funeral pottery placed in the stone boxes is concern (see the Table 1). In the other GAC burials (in simple pits, on stone pavement, or in the animal graves), the rule "of three vessels" it is out of order (Grave No. 3/Dolheștii Mari: single, one vessel; Grave No.4/Dolheștii Mari: double, two vessels; Grave No. 5/Dolheștii Mari: animal burial, one vessel).

The vessels were made of clay paste with an admixture of sand, pebbles, plant material or pounded

Table 1
The quantitative distribution of the vessels in the Moldavian GAC cist graves

Site/Cist	Vessels	Individuals
Suceava-"Spital" G.1	one preserved	1?
Suceava-"Spital" G.2	three	cremation?
Basarabi-Preutești	two	1
Grănicești	two	2
Dolhești Mari G.1	?	4
Dolhești Mari G.2	six	2
Șcheia -"Muncel" G.I	six	single and double tombs
Șcheia -"Muncel" G.II	three	
Mastacăn	nine	1
Piatra Neamț	nine	5-7
Brășăuți/Cut	"two-three"	cremation?
Șerbești	three	1
Bărgăoani	six	6
Piatra Șoimului (Calu)	three	1

flint. The latter was observed in the paste of the vases found at Dolhești Mari, Mastacăn and Suceava-"Parcul Cetății". The ceramic is usually finely worked and the baking colour is in blackish and grey tones, in most cases. The surface is carefully smoothed and even polished, being covered by a dark-colour engobe or coating (slip).

The whole shapes repertory of the GAC funeral pottery is impossible to reconstruct, either due to the highly fragmentary character of a part of the ceramic material, or because many vessels have been lost or destroyed. The pottery recovered from the Moldavian GAC graves is represented by amphorae, amphoretac, beakers, jars and bowls (Pl. I/A).

Among the ceramic categories, the amphorae and amphoretac are the most numerous and various, being susceptible of supplementary division. As a result, can be distinguished the following types:

A. Amphora with globular belly, cylindrical or arched neck (with H. 1/5-1/7 of that of the entire vessel), flattened or lightly everted rim, flat bottom, in most cases, emphasized from the belly, and four horizontally perforated handles on the shoulder. H/max. diameter 1: 1,08-1,10, on average. Height of the vessels: 18-24 cm. Two variants can be distinguished within this type: A1, with a slimer belly and the maximum diameter lying in the first 1/3 of the body, at the level of the shoulders line, and A2, which includes amphorae with spherical or bulging-flattened body, having the maximum diameter

near the middle part of the belly. The former variant, known in the literature as the "Kuiavia amphora"⁷² is wide spread in the central and eastern areas of the GAC⁷³, whilst in the western region of the GAC distribution it is known a variant, well-represented (especially in the Mittelelbe-Saale region), with a particular large mouth of the recipients (so-called *die weitmundiger Topf*)⁷⁴. The A2 shape it is much frequent in the eastern group, the amphorae with bulging-flattened body being characteristic to this cultural zone⁷⁵.

B. Undecorated amphora with a pear-shaped body, slightly inverted brim, flat bottom, four handles on the shoulders. Height of the vessel: about 21 cm. One should mention similar vessels in Poland⁷⁶.

C. Amphora with globular belly, high cylindrical neck (with H. about 1/4 from that of the entire vase), lightly everted brim, flat bottom and two horizontally perforated handles on the vessel shoulder. Height of the vessels: 29 cm. In Moldavia, this type it is attested only at Șcheia-Iași, "Muncel" site. The influence coming from the local cultural groups as Horodiștea and Erbiceni in the shape and proportion of the amphora's neck at Șcheia cannot be excluded. We don't know exact parallels for this type of amphora. However, we believe that amphora of type C it is one of the most ancient amongst the GAC ceramic forms in Moldavia.

D. Undecorated amphora with elongated body, short neck, flat bottom and two handles on the shoulder or

at the neck's base. Height of the vessels: more than 19 cm. In the GAC complexes uncovered in Poland⁷⁷, as well as in the eastern areas (particularly in Volhynia Upland)⁷⁸, this type it is attested in many variants. However, a fragmentary recipient coming from the Șcheia-Iași, "Muncel" site (Grave No. II) could also belong to an ovoid large pot.

E. Slender amphora with an egg-shaped belly, high, funnel-shaped neck, flat bottom and two horizontally perforated handles on the shoulders. An almost identical vessel with the one recovered from the Șcheia-"Muncel" Grave No.I came to light at Nikolaev, in Volhynia⁷⁹.

F. Amphora or amphoreta with two handles on the shoulder, truncated or lightly arched neck, flat or almost rounded bottom it is mainly attested in two variants. The first one, F1, is characterized by an egg-shaped belly (H/max. diameter 1: under 1,00) and the other one, F2, by a spherical belly (H/max. diameter 1 : about 1,00). Height of the vessels: about 12/13–17 cm. The two variants are attested in the cemetery of Dolheștii Mari. A fragmentary small amphora (only the lower part was preserved) found at Mastacăn, could be ascribed to the F2 variant⁸⁰. This type of vessel seems to be quite well-documented in the entire area covered by the GAC⁸¹.

G. Miniature amphora with globular body, truncated neck, lightly crenated shoulder, endowed with four handles. For this shape, analogies could be found in the GAC features located in the north-eastern part of Poland⁸².

The beaker category includes the following types:

H. Beaker with egg-shaped belly, truncated, high neck, sometimes with inverted brim, flat bottom, two small handles on the shoulders. Height of the vessels: 11–12 cm. This shape is documented in the Suceava Plateau and displays analogies in finds revealed in the eastern group of the GAC (in Podolia area)⁸³ and in the central (Polish) group of the GAC (specific for the eastern part of Poland)⁸⁴. In the western areas, some parallels for this shape can be encountered amongst the *Kugelamphoren mit ovalen Bauch* (according to Baier's terminology)⁸⁵, only that the German recipients have a larger size.

I. Beaker with a sack-shaped body, tight brim, almost hemispherical bottom and two handles on the shoulders. Height of the vessel: 12 cm. In Podolia we find the best correspondences for the beaker discovered at Dolheștii Mari⁸⁶.

J. Beaker (or small?- pot) with truncated-cone body, profiled shoulder, arched neck, slightly everted rim. For this shape, we didn't know exact parallels, but in the western and central groups of GAC, there are vessels with some correspondences⁸⁷.

So far, the jar is documented only at Mastacăn by containers with globular belly, short, everted rim and flat bottom. Height of the vessels: about 8–9,5 cm. Some of the vessels have been endowed with 1–2 handles on the shoulder⁸⁸ (K).

Few sherds recovered from Grave No.2 at Suceava, "Spital" site⁸⁹, seem to belong to a small bowl, with arched body, short neck, tight brim and flat bottom (L). In the Kuiavia region could be find some similarities for this shape⁹⁰. However, the sherds already mentioned could have belonged to a beaker, too. A fragmentary vessel found in the cist of Bârgăoani has been quoted by Șt. Cucuș as belonging to a small bowl, with parallels in the western areas of the GAC⁹¹.

The GAC pottery connected to the funeral contexts is, in most cases, decorated. The vessels which bear no ornamentation belong to certain ceramic shapes (for instance, to B-, D-, J- and K-types) (see, Pl. III/B). The decoration was made either by hollow technique, using impression and, sporadically, incision, or by incrustation with a white paste. One can presume that the impressions were made to be later inlaid with paste (sometimes or no exceptions?). Usually, the ornamentation covers the neck and the shoulders of the vessels, whereas the handles were rarely decorated.

With regard to the repertory of the impressions, by the stamp used, seven types can be distinguish (Pl. II).

The first type (I) includes the rectangular impressions arranged in continuous horizontal rows, vertical or horizontal bands, zigzags, chevrons, as well as "leaf" rows. The Ia - subtype represents the most frequent decoration motif and it is combined with many other different types of impressions. It is a common motif, being well-documented in the area covered by the GAC. By contrast, the If-, Ig- and Ij-subtypes appear only with the impression of I-type. In the eastern group of the GAC, these last-mentioned decoration motifs are specific to the Volhynian variant⁹². The decoration using the rectangular impression is attested in the whole Moldavian area which yielded GAC funeral features and, as a rule, adorned the amphorae (see, Pl. III/A and B).

The second type (II) assembles the ornamentation

motifs made with a tool which had an end in right angle, such as, suspended triangles in “fish scales”, continuous bands. At Piatra Neamț, the same decoration motifs appear in so-called “lattice” technique⁹³. These motifs are specific for the GAC amphorae found in the Carpathian foothills region, but in the settlement at Șcheia-Suceava, “Siliște” site (in the Suceava Plateau), few sherds decorated in this manner have been discovered⁹⁴. The ornament achieved by “crescent-like” impression (the IIIrd type) consists of horizontal, oblique or vertical rows and bands of three-four lines and of suspended triangles (sporadically). One can be observed that the shape and size of the “nail” impressions differ sometimes. The decoration motifs appear on amphorae/amphoretas, but they can be seen also adorning the beakers. In the eastern group of the GAC, the IInd and IIIrd ornamentation types are considered typical for the sites in Podolia region⁹⁵.

The circular impressions (the IVth type) were arranged in continuous horizontal rows, vertical bands or vertical bands delimited other motifs. In the central group of the GAC, this kind of impression is documented in the whole GAC evolution and it is also attested in the eastern areas⁹⁶. The oblique bands of small impressions (included triangular stitches) (the IVc-subtype) as those decorating one of the A2-amphora discovered at Șcheia-Iași, “Muncel” site, are also found on GAC pottery in Poland and Volhynia regions⁹⁷.

The pseudo-corded and corded decoration (for the last one, using only the two-fold cord) (the Vth and VIth types) consists of horizontal bands of three lines, combined, in most cases, with concentric multi-garlands motifs. The cord impression is fairly wide spread on the GAC pottery found in the Suceava Plateau region (tombs and habitation contexts, alike: Suceava-“Spital”, Grave No.2; Suceava-“Parcul Cetății”, Șcheia-Suceava, “Siliște” site; Groapa Vlădichii-“Vatra satului”), whilst in the Neamț County it seems that only pseudo and wrapped cord is attested (Piatra Neamț, Bârgăoani). Usually, on Moldavian GAC pottery connected to the burials, the cord decoration appears unaccompanied by other types of impressions. The corded motifs documented in Moldavia are dated in Poland to the later phases of the GAC evolution⁹⁸, while in the eastern group of the GAC, they appear especially in Volhynia, but are documented also in the Podolia region⁹⁹.

Bands of thick incised lines (the VIIth type) have parallels in Volhynia¹⁰⁰.

III.2. Lithic artifacts.

The lithic inventory included objects made of flint, sandstone, chalcedony. The GAC burials in Moldavia yielded a number of flint artifacts, including mostly axes and chisels - about 20 pieces -, then blade-scrappers (Mastacăn, Piatra Neamț), sickle-blades or blade-knives (Piatra Neamț and perhaps cist No.1 from Dolheștii Mari), flakes (Basarabi-Preutești, Șcheia-Iași, “Muncel” site/ Grave No. II).

Among the objects collecting from the almost completely destroyed grave at Piatra Neamț, C. Matasă enumerated two stone artifacts made of sandstone and shale. One of them seems to be a polishing plate, the other one arc of unknown function (smoothing tool?; adornments?; an arm shield?)¹⁰¹. The unauthorized discoverers told him also about the presence inside the same cist of a stone quern¹⁰².

Besides an axe “aus Achat” (probably made of flint or chalcedony), in the cist of Grănicești a “versteinerter Rest einer Holzkeule (?)” was discovered¹⁰³. This last-mentioned artifact could be similar with the object found in Koszyłowce (Košilovcy) (Podolia), presumed to be a small hammer/battle-axe or a mace-head¹⁰⁴.

The flint (or, rarely, chalcedony) axe/chisel represents one of the most common grave-goods found in the Moldavian GAC graves. So far, these artifacts were exclusively discovered in the cist burials. In the single and double graves were usually recovered 1–2 axes and/or chisels, but in some of the collective vaults were laid 3–4 such objects (Grave No.1/Dolheștii Mari, Piatra Neamț). Their general traits refer to: a cross-section rectangular in shape, a relatively small thickness, a surface in most cases carefully and completely smoothed. Judging by the asymmetrical profile, some of the flint objects usually accounted as axes or chisels, can be interpreted as adzes. According to our estimation, it follows that the most numerous flint artifact is a variant of chisel of medium size, trapezoidal to quasi-rectangular in shape, with straight butt and cutting edge smooth arched and with the surface completely smoothed, variant which is found not only in the burials (Șcheia-Iași, “Muncel” site, Dolheștii Mari, Mastacăn), but also in the flint hoards (Piatra Șoimului-Calu) and Valea Adâncă). In some GAC cist burials, remarkable axes have been found, bear no traces of use, evidently ritual objects, manufactured *ad-hoc*. The

flint axes, chisels or adzes discovered in the Moldavian GAC graves have good parallels in the similar artifacts found in the GAC features elsewhere.

For the sandstone polishing plate collected from the cist in Pietra Neamț¹⁰⁵, probably used for the polishing of flint axes and/or of ceramics, we didn't know correspondences in the burials of the eastern and central (Polish) groups of the GAC. By contrast, this kind of tool is quite well-attested in the habitation contexts. In Kuiavia, for instance, the sites dated to the phases IIb/IIIa and IIIa yielded rich and characteristic assemblages of stone polishers¹⁰⁶.

III. 3. Bone artifacts.

Judging by the evidence available, it follows that in the Moldavian GAC burials, the bone objects are rather rare. The only cists which provided such artifacts are located on the Siret corridor (Dolheștii Mari, Șcheia-Iași, "Muncel" site) and at Bârgăoani.

Particularly noteworthy amongst the other grave goods in the Moldavian GAC burials are so-called bone "buckles" and the bone appliques, found in the cists of Dolheștii Mari (Grave No.1 - two "buckles" and Grave No.2 - two "buckles", two appliques and a bone "bracelet")¹⁰⁷ and Șcheia-Iași, "Muncel" site (two bone appliques). Two bone appliques, similar with those revealed in the Grave No. 2 at Dolheștii Mari, were laid in the cist of Sânmartin-Ciuc (south-east Transylvania). These remarkable bone artifacts, possibly adornments, are quite well-represented in the eastern group of the GAC. Here, the finds are concentrated in the Podolia region¹⁰⁸ (especially, "buckles"), where can be found the best analogies for the Dolheștii Mari pieces. The Volhynia zone produced a little "material" of this kind (an applique)¹⁰⁹. In Poland it is known only from the cist of Kossewo (4 pieces)¹¹⁰. The pieces of Kossewo show general affinities with the appliques found at Șcheia-Iași, "Muncel" site, which, on the other hand, from a typological perspective, seem to me to be more archaic. The western group of the GAC yielded two such artifacts, of rectangular shape, one of which made by shell (Grave No. 45 Bahrendorf/Stemmern - cremation; Grave No. 8 Barby - inhumation; both of the sites in the Mittelbe-Saale region)¹¹¹. The bone piece from Barby could be compare with the bone "bracelet" found in the Grave No. 2 at Dolheștii Mari¹¹². The territorial repartition, makes

us to state that the GAC bone "buckles" and appliques originated in the Podolia-Suceava area. It has been already claimed that these bone artifacts are one of the specific items for the eastern group of the GAC¹¹³. In the burials of the eastern group of the GAC, the bone "buckles" and appliques usually appeared in couple and only on the skeletons of adults. Where the scientific record was possible, it has been observed that, in most cases, these artifacts are located near or on the hands/arms, but at Dolheștii Mari (Grave No. 2) and Sânmartin-Ciuc they laid in the proximity of the pelvis. The question if the so-called "buckles" functioned also as "belt-buckles" still remains open¹¹⁴. In the Barby burial above mentioned, the bone artifact laid behind the skull, so that it was interpreted as an amulet, pendant or as a part of a tiara¹¹⁵.

From the recovered inventory of the Bârgăoani cist, beside the ceramic and the flint artifacts, Șt. Cuceș also mentioned a "bone dagger" (which could have been a chisel, too) and two wild boar or pig fangs. These items are a quite common occurrence with burials of the GAC.

As far as the metal is concern, its appearance in the GAC contexts represents a rarity. Secure information about metal objects found in the GAC monuments (mostly, graves) came so far only from the Polish and western areas of the GAC¹¹⁶. The analysis of the composition of the Polish metal artifacts shows the presence of the As bronze and of the bronze with a high percentage of Sn and Pb¹¹⁷.

IV. Traces of GAC camps. GAC pottery in local settlements. Stray GAC finds.

A great vagueness concerns the type/form and structure of the GAC settlements in Moldavia. However, the available archaeological sources seem to indicate the presence only of the temporary or occasionally settlements (camps), without solid houses or residential structures¹¹⁸.

At Suceava-"Parcul Cetății" three small concentrations of GAC ceramic sherds have been identified. They probably marked the traces of superficial cabins¹¹⁹. Coming from the Suceava, placename "Cetatea Șcheia", three potsherds with possible GAC features and a flint axe were earlier published in the monograph of this site¹²⁰. The typical GAC ceramic materials found at Șcheia-Suceava, placename "Siliște", by archaeological

excavations and surface surveys (Pl. VII)¹²¹, may also indicate a short-term settlement. Additionally, there are still other locations with mentions of pottery and flint axes displaying GAC traits and which could attested traces of habitation (most of the finds came from surface surveys and accidental discoveries). Among them: Siret-“Zamca” and Siret-“Terrace on the left bank of the Negostina brook”¹²², Groapa Vlădichii-Moara¹²³, Ibănești-“Dl. Crucii”¹²⁴, Răucești-“Chetriș”¹²⁵, Darabani-“Iazul lui Cusin” (Pl. VI/8), Ceplenița¹²⁶. In the last three-mentioned sites, the ornamentation of the ceramic fragments consists of deep round impressions arranged on three lines, motif connected with the GAC¹²⁷.

Ceramic sherds which can be ascribed to the GAC or more probable to the Funnel Beaker culture (FBC) were discovered during the excavations in the Bodești-*Frumușica* site (Pl. VI/1-3)¹²⁸. They can be linked either to the Cucuteni B levels (in the case of their connection with FBC), or they have to be explain in the context of ceramic assemblages which referred to the Târpești group dated to the Early Bronze Age period (EBA), identified at Bodești (in the case that the sherds are related to the GAC). The possibility of a proper cultural level (FBC or GAC) at this site is less probable. By contrast, we identified a ceramic fragment with clearly GAC features amongst the EBA materials found on Târpești settlement¹²⁹. If this sherd does really come from Târpești settlement, it would seem more logical to connect its presence with the EBA level (of Târpești type) attested here.

A small number of ceramic sherds discovered at Scânteia (excavations: Cornelia-Magda Mantu), by technology and ornamentation of a certain *post-* or *non-*Cucuteni character (Pl. VIII)¹³⁰, are also possibly connected with the GAC.

A number of GAC vessels or their fragments, as well as imitations of GAC ceramics were sporadically recorded in the local settlements: Horodiștea (the IInd level) (Pl. VI/4), Erbiceni-“Dl. Sărăturilor”¹³¹, Cârniceni¹³². In south-east of Moldavia, such a pottery is also discernible amongst the materials found on Foltești settlement (an undecorated amphora with pear-shaped body and two banded handles in the lower part of the vessel¹³³, maybe a variant of the amphora of type B, a fragment of an amphora of type A, decorated with cord impressions arranged in bands and multi-garlands motifs¹³⁴, other ceramic sherds displaying ornamentation in a GAC manner¹³⁵).

It is quite likely that the “bird feather” motif, “one of the most prominent markers of GAC ornamentation”¹³⁶, present on some sherds from Foltești¹³⁷, to be adopted by the local decoration. Such an element of ceramic ornamentation, maybe linked to the GAC influence, it is also recorded on the Usatovo site¹³⁸. A ceramic fragment decorated in the same technique of the “bird feather” and motifs like the sherd already mentioned from Usatovo was discovered at Țigănești-Vultureni (Pl. VI/7). Besides Cucuteni pottery, on this latter settlements some ceramic material assigned to the EBA period, of Aldești type, has been uncovered.

At Mihoveni-“Cahla Morii” a ceramic fragment decorated in a GAC manner was published together with the early Costișa-Komarow type pottery found there¹³⁹.

Isolated pottery, susceptible to be ascribed to the GAC or which exhibits GAC traits were discovered at Adâncata (Suceava County) (a ceramic sherd decorated with cord impressions arranged in triangular motifs)¹⁴⁰ and Liteni-Moara (Suceava County) (a ceramic fragment with an ornament built of “fish scales”)¹⁴¹. Unfortunately, the data about their precise stratigraphical and cultural contexts are missing.

One must emphasised that the GAC pottery connected to the non-burial contexts seems to be simpler and less elaborate - as far as the vessels morphology and ornamentation are concern - than the ceramics found in the GAC burials.

The flint axes/chisels hoards discovered in Moldavia (Piatra Șoimului¹⁴², Valea Adâncă¹⁴³), as well as a great part of the stray finds of flint axes, are ascribed by the majority of the scholars to the GAC. It's true that many such stray flint objects have good typological parallels amongst the pieces occurring in certain archaeological contexts, but it must be admitted that this is insufficient for an unequivocal cultural identification. However, based on our own observations, it results that in the areas where the occurrence of the GAC traces is, for the moment, less evident (for example, in the Moldavian Plain), the number of flint axes/chisels which display GAC features is relatively small.

V. Food economy and social organization

To determine the character of the economy and social relations of the GAC population in Moldavia, we have at our disposal only scarce direct data (not always

indisputable). The accumulated evidence from the study of different elements (geographical location of the GAC sites, type and structure of the GAC settlements, archaeological objects) (see above), indicate the occurrence either of mixed-farming GAC groups (families) in which domestic livestock has played a dominant role (in this scenario, the hunting and the fishing are seen as complementary activities)¹⁴⁴ or, as V. Mihăilescu-Bîrliba recently argued¹⁴⁵, of hunters communities. Maybe that the understanding of the GAC pattern of food economy is incomplete if we don't take also into consideration the possibility of complex relations with other cultural groups with which GAC communities lived alongside, together with which "they formed regional cultural environment which was strongly and variously internally connected"¹⁴⁶. The non-ordinary inventory, such as some remarkable flint axes and bone "buckles" and appliques, seems to prove the existence not only of a home-type production, but a quite specialised flint and bone processing (maybe in special workshops), if these special items were not brought in Moldavia by the way of trade/exchange from the northern territories. However, we have no data about the existence of a proper prestige goods economy. The theory that the bearers of the GAC "were primarily warriors", forming "a rulling, or upper, class" and living "in the settlements of the conquered indigenous population"¹⁴⁷ it is not sustain by the archaeological evidence.

A greater volume of data from the other areas of GAC distribution has allowed to state the prominence (supremacy) of the adult male within the "intragroup GAC relations"¹⁴⁸, which possibly functioning also at the Moldavian GAC groups¹⁴⁹.

VI. Classification

In the archaeological literature on this topic, the connection between the Moldavian GAC burials and those uncovered in Podolia and Volhynia (regions forming the "nucleus of the eastern group"¹⁵⁰ of the GAC) was constantly proposed and supported¹⁵¹. Analogies with more remote areas (Mazovia and Kuiavia¹⁵², Poland and western group of the GAC¹⁵³) were also distinguished. Our analysis lead to the same conclusion, namely, the obvious cultural closeness of the Moldavian GAC sites to the Podolia and Volhynia GAC features, as a whole. Some specific parallels can also be found in the Polish group of the GAC (especially in its

south-east and east manifestations) or in the western group of the GAC. From this perspective, the inclusion of the northern part of the Moldavia in the eastern group of the GAC, already proposed¹⁵⁴, is perfectly justified.

It is well-known that within the large groups of the GAC (western, central or Polish and eastern) an additionally cultural and territorial local divisions were proposed¹⁵⁵. Some scholars treated the Moldavian GAC sites together with those revealed in Volhynia and Podolia, in a single "Moldo-Volhyno-Podolian" cultural aspect of the GAC¹⁵⁶, or connected them only with the sites discovered in Podolia¹⁵⁷, but there are also mentions who came to suggest a more clear regionalism¹⁵⁸.

In my opinion, in the present state of research, it is difficult to clearly state the existence in this region of a "Moldavian" variant or subgroup of the GAC. First of all, because of the available material, which is rather scarce and sparse. Secondly, because of the constant report of cultural elements with evident and clear analogies mostly in Podolia and Volhynia, sometimes mixed in certain areas (especially visible at the GAC sites in Suceava Plateau) and even in the same contexts (Dolheştii Mari, Şcheia-Iaşi). The anthropological analysis has also indicated that the GAC population in Moldavia was heterogeneous¹⁵⁹. Nevertheless, there are some clues to support more concrete the occurrence of a local cultural shade. Among them:

- the influence on the GAC pottery coming from the local cultural units (such as, Horodiştea or Erbiceni);
- the vessels without exact parallels (amphora of type C);
- quasi-absence of the vessels with rounded bottom;
- the lack of some shapes and decorations well-attested in the Volhynia and Podolia GAC ceramic assemblages (for examples, short lids without handles, bowls with funnel neck, so-called "herringbone" motif), in contrast to the others, without analogies in the latter items;
- a relatively lower variety of the cord-impressed ornaments;
- the lack of the amber objects;
- the occurrence of some burial types without obvious parallels in the other areas of the eastern group of the GAC.

In some cases, the mixed podolo-volhynian character of the grave inventory could be also interpreted

as a sign of "originality". There are indicators which encourage even the hypothesis of a regional difference between the GAC features in the Suceava Plateau and those revealed in the Carpathian foothills¹⁶⁰, some of them being already above mentioned. However, it must be pointed out that at least some of these markers may represent or indicate other facts than a certain regionalism, such as chronological differences or a distant point of departure, way and speed of the movement for few GAC groups which finally reached the Moldavia¹⁶¹.

To sum up, we still needed reliable evidence to firmly state the presence in Moldavia of a "Moldavian variant" of the GAC or even of local groups within it. Only further discoveries and a solid base of sources could maybe provide a concrete answer to the question of cultural character and/or of cultural diversity of the GAC occupation in Moldavia.

VII. Attempt of periodization

In his periodization scheme performed for the eastern group of the GAC, T. Sulimirski tried to insert also the Moldavian cists. Thus, the cists from Dolheștii Mari and Grănicești were assigned to a phase II of the eastern GAC, whereas the cist No.1 from Gârceni was ascribed to a phase III¹⁶². In 1985, Șt. Cucoș didn't see possible to draw out an outline of periodization for the GAC sites in Moldavia. Nevertheless, some differences between the GAC burials suggested him the hypothesis of "possible separate periods of internal development". He also sought chronological criteria in the other zones of the GAC distribution and resumed the conclusion formulated earlier by Sulimirski, according to which the GAC groups have penetrated in Moldavia in the second phase of the GAC evolution from the eastern group¹⁶³.

Our objective here is to present a periodization scheme of the GAC funeral complexes in Moldavia taking into account internal criteria. Then, we may tentatively compare this scheme to the periodization system performed for the GAC in Poland and especially for the GAC in Kuiavia¹⁶⁴, system that for now is the most rigorous. As yet, to base the taxonomic analysis only on the burial materials (pottery) in the attempt to distinguish various phases in the evolution of the GAC is the only possible for Moldavia, the available settlement evidence being extremely shabby. However, we take the risk when suggest this periodization scheme, because of two

reasons, at least (not to mention that our analysis is based only on the seriation of the decoration motifs). First, consist of the possibility like the stylistic features to mark no evolution changes, but regional tendencies. Secondly, because as the analysis for the Kuiavian GAC has showed¹⁶⁵, the confidence in the chronological criteria searched beyond the settlement outskirts, is quite small. Consequently, to limit as much as possible the distortions, we shall used also the available data coming from the settlements.

At present, as already has been mentioned, the only method in the attempt to elaborate a periodization of the GAC in Moldavia is the seriation of the decoration motifs on the funeral pottery discovered in the GAC burials, the other elements being irrelevant or ineffective. With this end in view, we drew out a correlation table (Pl. IV), similar, as a method, with the one performed by the V.G. Petrenko for the periodization of the Usatovo cultural group¹⁶⁶. In the field of our table, appear, although not very clear, two groups of stylistic elements which could indicate the existence of a certain chronological range of them and of the funeral complexes in which they occur. So, hypothetically, the two groups can be interpreted as having chronological values. The left field (which would corresponds to an older phase) group together the motifs made by rectangular impressions (I type), suspended triangles in "fish scales", motifs in "lattice" technique (IIa, b subtypes), "crescent-like" impressions arranged in horizontal and oblique rows (IIIa, b, c subtypes), small circular impressions in horizontal rows (IVa subtype), triangular stitches in oblique rows (IVc subtype), corded decoration of VIB subtype. These ornaments decorate the amphorae of types A, C, E, and F, the beaker of types H and I, the bowls of type L. In the right field of the table, which probably marks a younger phase, appear some motifs made by the "crescent-like" (IIId-g subtypes) and by small circular impressions (IVb, d-f subtypes), the pseudo-corded (V type) and corded (VIa subtype) decoration and also the bands of thick incised lines (VII type). These motifs can be found only on the amphorae of A, F2 and G types and beakers of H type.

Interesting results seems to be brought by the synchronization scheme of the Moldavian GAC burials (Pl. V), evaluated on the basis of the correlation table. According to it, the oldest GAC graves in Moldavia would be located on the Siret valley (Șcheia-Iași,

“Muncel” site and Dolheștii Mari) and the younger ones on the tributaries of the Siret river (Suceava, Șomuzul Mare, Valea Neagră, Bistrița). This interpretation generally confirms an older hypothesis (enunciated, but not demonstrated) about the penetration of the GAC communities in Moldavia, coming from the north, following the Siret valley and other rivers, “to the Bistrița basin and the Central Moldavian Plateau”¹⁶⁷.

In order to report our periodization outline to the periodization of the GAC in Poland, there are some features to compare. We should also bring here additional data coming from the Moldavian settlements.

One must be observed that in the ceramic materials of the Moldavian GAC some relatively well-dated GAC Polish features are missing. Among them: the ornaments consisted of wavy plastic lines, connected mainly with an older period, but which are well-represented also on the pottery dated to the phase IIIa in Poland¹⁶⁸, the three-fold cord impressions, which occurred in the phases IIa and IIIa¹⁶⁹, the overlapping incised triangles, attested in the phase II¹⁷⁰. The small triangular stitches, arranged in oblique rows (IVc subtype), the horizontal “fish bone” motif (Ih subtype), as well as corded concentric multi-garlands combined with horizontal bands of corded lines (VIb subtype), all of these ornaments appeared in the left field of the correlation table (Pl. IV) are ascribed in Poland to the phase IIb of the GAC (for the corded multi-garlands, possible also to phase IIIa)¹⁷¹. In the western areas, the VIb subtype is quite rarely¹⁷², but in the settlement from Brambach/Rietzmeck (the Mittelelbe-Saale group of the GAC) it appears together with motifs¹⁷³ assigned in Kuiavia to the phase IIb. The decoration motif consisted of vertical or horizontal “8-like” or “bow tie” type impressions, bordered by bands of incised or three-fold corded lines, which is attested in Kuiavia in some ceramic assemblages of the phase IIb¹⁷⁴, occurs at Foltești site¹⁷⁵. Impressions of the same type are also present on the neck of an amphora from Scânteia (Pl. VIII/5). Triangles in “fish scales” (subtype IIb), in correlation with the subtypes Ia (No. 17 in the table from Pl. IV) and If (No. 4 in the same table) appear on pottery dated to the phase II of the GAC in Poland¹⁷⁶.

The vertical bands of lines made by small “crescent-like” impressions (subtype IIIIf) (located in the right field of the correlation table), in association with the decoration of subtype Ia (No. 17 in the table from Pl. IV) and VIa (No. 22 in the same table) adorn vessels dated to

the phase III in Poland¹⁷⁷ (identified with phase IIIa, according to the Al. Koško’ periodization¹⁷⁸). An amphora of type F1 (which, cf. our evaluation, could be connected with the older phase of the Moldavian GAC), decorated in the same manner and with the same decoration motifs as the similar recipients of the eastern group of the GAC, was discovered in a grave at Sandomierz, dated to the phase III¹⁷⁹. T. Wiślański has also ascribed to his phase III (= phase IIIa – Koško) the amphorae of our type B¹⁸⁰. The rows of elongated, “nail-like” impressions, like those attested at Horodiștea (“La Pârâu” site: Pl. VI/5) Scânteia (Pl. VIII/7) and Șcheia-Iași, “Muncel” site (subtype IVc, No. 31 in our correlation table) are dated in Poland to phase IIIa¹⁸¹, too.

Comparable jars as those discovered at Mastacăn (cist) and Scânteia were found in Poland in settlements ascribed to the phases IIIa and IIIb of the GAC. Simultaneous with these phases, it was observed the appearance and gradual reception of the “forest”-East European features by the GAC pottery¹⁸², some of them being also distinguished on the ceramics at Scânteia.

Thus, the available evidence allows a synchronization of the GAC in Moldavia with the “classic” stage of the GAC in Kuiavia (= phases IIb and IIIa). For the time being, neither stylistic features to compare with those tentatively ascribed to the phase I in Kuiavia, the oldest of the culture, nor with those connected with the phase IIa were found. As regards our correlation table (Pl. IV), for the left field would exist more elements comparable with the Polish materials dated to the phase IIb, whereas the right field provides features with good parallels especially in the phase IIIa. However, on the whole, a dating of the Moldavian GAC burials to the Kuiavian phase IIb/IIIa seems to be, as yet, the most reliable, and, at the same time, the most prudent.

In spite of the occurrence of some features connected with the “forest”-East European assemblages, the pottery from Scânteia doesn’t fall into the period of the phase IIIb in Poland¹⁸³. Therefore, we think that the ceramic material from this site cannot overtake the phase IIIa; moreover, here, some stylistic elements of the phase IIb were pointed out. However, among the settlements in Moldavia in which GAC ceramic materials have been identified, that excavated at Scânteia seems to display the youngest pottery. Judging by the presence of ceramic features characteristic for the phase IIb in Poland (Kuiavia), it seems quite reasonably to date the GAC

materials from Suceava-“Parcul Cetății”, Șcheia-Suceava, “Siliște” site and Foltești to the older phase of the GAC in Moldavia.

Another argument to support this synchronization with the GAC development from Poland is the occurrence in the cemetery of Dolheștii Mari, one of the oldest GAC monument in Moldavia, of an animal grave, type of burial which in the area of Kuiavia is well-dated to the phases IIb and IIIa¹⁸⁴.

VIII. Synchronization

VIII.1. With Late Tripolie.

The chronological position of the GAC in the eastern group, included Moldavia, should be placed at least after the beginning of the northern Late Tripolie (C II). Direct and indirect evidence referred even to a chronological parallelism with an advanced stage of the Tripolie CII period. Otherwise, a contemporaneity of the GAC with the latest Tripolie sites was earlier proposed¹⁸⁵. Recently, after the publication of the ¹⁴C dates obtained for the Sofievka group and for the GAC features in western Ukraine, the same chronological correspondence has been claimed again¹⁸⁶.

To support this view, we appeal to the cultural situation in the western part of the Volhynian Plateau, where the GAC has followed after a relatively long evolution of the FBC in this region, evolution divided in two-three phases. Towards the end of the FBC development in this area, a strong absorption of the Tripolie CI/CII (Žvaneč type, Vyhvatinc type) and late Tripolie CII, *i. e.* Listvin-Gorodsk, elements, have been recorded¹⁸⁷.

As regards the ¹⁴C dates for the Polish GAC phases IIb/IIIa and IIIa¹⁸⁸, namely, the phases with which there are best correspondences in the GAC features in western Ukraine and Moldavia, they lie towards the end of the time span presumed for the Tripolie CII/gII period¹⁸⁹ (the ¹⁴C dates for the GAC phase IIb/IIIa, especially) and later (those for the GAC phase IIIa, mainly).

As direct indicators we can mention:

- the occurrence of the GAC pottery or ceramics inspired by the GAC vessels in such settlements as Horodiștea (but only in the second level), Cârniceni and Erbiceni-“Dl. Sărăturilor”. The beginning of the latter two

sites mentioned is later than the foundation of the Horodiștea settlement. At Foltești, the well-known fragment of the A-type amphora decorated with a cord-impressed ornament, has been discovered in a ceramic assemblage which displayed no painted pottery¹⁹⁰. On the other hand, the “loop-like” corded motif which appeared amongst the GAC materials dated to the phases IIb/IIIa and IIIa at Dobieszewice and Piecki (Kuiavia)¹⁹¹, as well as at Świerszczów site 27, in the western part of the Volhynian Plateau¹⁹², is to be found at Foltești¹⁹³, Majaki (Usatovo group)¹⁹⁴, Stena¹⁹⁵ and Trinca¹⁹⁶ (in the Horodiștea-Gordinești area) to a chronological position which seems to be later than the first occupations of the Horodiștea settlement. A similar ornament occurs also on the GAC pottery in Mecklenburg zone, area where the GAC is apparently dated, following the ¹⁴C dates¹⁹⁷ in a period contemporaneous with the end of the GAC phase IIb and beginning of the GAC phase III, according to the Polish chronology¹⁹⁸. A sherd with corded “loop-like” motif was published from the settlement of Dessau-Kleinkühnau (Mittelbe-Saale group of the GAC)¹⁹⁹, settlement which yielded also some GAC ceramic features²⁰⁰ better compare with the ceramics of the phases IIIa and IIIb in Kuiavia.

- the appearance in the tumular graves at Kamenka (on the Middle Dniester) (Grave No. 7/T. 445)²⁰¹ and Boguslav (on the Samara river) (Grave No. 12/T. 23)²⁰² - burials which belong to the Životilovka-Volčansk-Bursuceni monuments, contemporaries with Horodiștea II - of vessels with analogies inside the GAC milieu. As already stated before, the dating of the Životilovka-Volčansk-Bursuceni burials in a period contemporary with the end of the Tripolie CII is supported by the stratigraphical evidence in tumuli²⁰³.

- the identification on the pottery specific for the Sofievka group - whose dating, based on the ¹⁴C dates, has been lowered till to be considered the youngest Tripolian phenomenon²⁰⁴ - of “circumbaltic” stylistic elements, mediated by the GAC²⁰⁵.

In the northern part of the Carpathians-Prut region, materials with parallels in the Horodiștea-Gordinești and Erbiceni cultural units discovered at Sf. Ilie-“Siliște”²⁰⁶, Burdujeni²⁰⁷, Suceava-“Șipot”²⁰⁸ and “Câmpul Șanțurilor”²⁰⁹, Rădășeni²¹⁰, Dobreni²¹¹, Mihoveni²¹² should be considered as chronologically interposed between the Cucuteni B2 stage and the GAC. In this area, a partial contemporaneity of the GAC with these materials seems

to be more likely than the one presumed between the GAC and the end of the Cucuteni B phase. In contrast, in the southern part of the same region, the absence of the direct GAC data gives ground to share the opinion about a longer evolution for the late Cucuteni settlements.

The available contexts concerning the relative chronology could indicate an overlap of the first GAC presence in Moldavia rather with the period after the foundation of the Horodiștea and Foltești sites. Moreover, the opinion that the GAC presence in Moldavia should be seen as a later phenomenon in the cultural contexts of the Moldavian transition period to the EBA was already stated²¹³. A dating of the Moldavian GAC at the end of the transition period to the EBA has been suggested by E. Comșa²¹⁴, S. Morintz²¹⁵ and Vl. Dumitrescu²¹⁶ while V. G. Žbenovič has proposed even a later date for the appearance of the GAC in this region, *i. e.* in a post-Tripolie period, contemporary with the beginning of the Bronze Age²¹⁷.

VIII.2. With the EBA cultural units.

In studying the problem of dating GAC in Moldavia the stratified sequence at Dolheștii Mari²¹⁸ was often quoted. At this site a thin layer dated back to the very beginning of the EBA has overlapped a small cemetery of the GAC. However, our analysis led to the conclusion that the GAC necropolis uncovered at Dolheștii Mari is one of the oldest GAC feature in Moldavia and, consequently, it is most likely that on the Siret tributaries or in the Bârlad river basin to exist GAC complexes of a later date. Some of these latter could be contemporary with the local EBA cultural units, such as Târpești and Aldești, which probably have also assimilated the latest GAC family groups. In the Suceava Plateau, where, except for an area located in the Fălțiceni Plateau, such very early EBA complexes have not been identified as yet, a longer evolution of the GAC seems to accord with the dating evidence from some artifacts (pottery). Indeed, maybe it is not accidental that the latest GAC graves in our periodization scheme (see, Pl.V) are located in this region (Suceava). It is true that the evidence about a synchronization of the GAC with the EBA features in Moldavia is still uncertain or indirect.

We identified a sherd with GAC traits amongst the EBA pottery materials found at Târpești site, but, unfortunately, it is not clearly stratified²¹⁹. At Gârceni, a bowl of Aldești type has been found in the vicinity of a

stone cist, whose content was disturbed and destroyed before the scientific excavations²²⁰. Although the Aldești type monuments (specific for the first part of the Moldavian EBA in the Tutova Hills region) have appeared most likely as a results of cultural (and ethnical?) impulses of pre-Schneckenberg type coming from the south-eastern corner of Transylvania, it is more plausible to explain the cists of Gârceni *via* GAC rather than to seek their derivation from the stone boxes of Sânzieni-Turia type. In these latter, *askoi* Ezerovo II have been discovered²²¹. Moreover, from the perspective of the recently GAC discovery at Sânmartin-Ciuc²²², the interpretation of the Sânzieni-Turia cist burials, attested in the south-eastern Transylvania, as a mixed cultural complexes GAC-Ezerovo II, cannot be rejected.

To establish the chronological connection of the GAC to the Pit-Grave culture (PGC) (Jamnaja), can be cited here some evidence coming from the northern part of the Prut-Dniester interfluve, as well as from the Southern Bug and Middle Dnieper basins.

There is no evidence for the “active contacts” between the GAC and the PGC in the Dniester area, as has been suggested by Al. Koško²²³. In fact, the graves discovered in the tumuli located on the middle courses of the Prut and Dniester rivers in which vessels and flint axes deriving from or specific for the eastern group of the GAC have been encountered²²⁴ belong, by the ritual elements, to the Jamnaja population. These particular PGC burials can be dated within the classical PGC horizon in the north-west Pontic area (or to the Nistrean variant, in the Dergacev’s terminology), belonging more probable to its second part²²⁵. A similar dating and cultural affiliation one must presume for the Grave No.5/T. 2 at Novogrigor’evka (on the Bug river), whose funeral inventory included a decorated amphoreta, reminding the GAC tradition²²⁶. Judging by the ritual components and funeral structure, it seems reasonable for us to claim a PGC affiliation for the tumular grave at Losjatin (in the Middle Dnieper basin), endowed with a GAC amphora²²⁷. The occurrence in the forest-steppe zone between the Prut and Dniester rivers of the pottery connected with the GAC in the PGC graves dated to the final part of the classical Jamnaja period, and, on the other hand, the existence at Târpești of Jamnaja burials belonging to the same PGC horizon, but displaying Târpești vessels²²⁸, indirectly involve an overlap, at least partially, between the Târpești cultural group and the GAC.

In summary, it would seem probable that the first part of the GAC evolution in Moldavia, which corresponds to a later part of the Polish GAC phase II, is contemporary with the Horodiştea II horizon (and with the post-Horodiştea time, maybe), with the Erbiceni-Hăbăşeşti settlements, Folteşti Ib-IIb, and with the beginning of the classical PGC period, but, likely it is earlier than the Dolheştii Mari settlement (EBA) - early stage of the Târpeşti group - Căţelu Nou (= Glina I) - Zăbala horizon. Given some facts, already mentioned, it can be presumed that the end of the GAC in Moldavia occurs at different moments. So, in the Carpathian foothills and in the Central Moldavian Plateau it probably comes during the early stage of the Târpeşti group - the final part of the classical PGC period - Aldeşti, while in the centre of the Suceava Plateau (and probably in the north-eastern part of the Central Moldavian Plateau) it is likely an extension of the GAC evolution beyond this cultural-chronological border.

IX. Attempts of absolute chronology

In the absence of ^{14}C dates, in order to outline the absolute chronology of the Moldavian GAC, we may consider the ^{14}C determinations for the Kuiavian GAC²²⁹ and the ^{14}C date sets published from the GAC contexts in Ukraine²³⁰.

The Polish archaeologists suggest a date by 3150 BC²³¹ or, according to other interpretation, after 3000 BC at the maximum²³² for the appearance of the GAC "on the borders of eastern Europe". Recently, based on different criteria of evaluation, V. Mihăilescu-Bîrliba has claimed that the eastern group of the GAC coagulated by 3000±100 BC²³³. For the GAC phase IIb, M. Szmyt has suggested an interval lying between 3250/3100 BC and 2900/2700 BC²³⁴. It can be observed that the highest GAC ^{14}C dates from Ukraine²³⁵ overlap with the final part of the Kuiavian GAC phase IIb interval. The lowest ^{14}C date from Horodiştea (obtained for a bone sample collected from the second level of the settlement), calibrated (both 1s and 2s), offers also a real calendar age in the period 2900–2700 BC²³⁶ and it is consonant with the occurrence of the GAC materials in the second level of the Horodiştea site. All these suggest that the oldest GAC in the Volhynia-Podolia area might be set around 2900 BC, which is problematic. On the other hand, the highest ^{14}C dates yielded so far for the eastern area of the

GAC are in concordance with the ^{14}C dates of the later part of the classical PGC period in the north-western Black Sea and Balkans²³⁷, but the acceptance of this synchronization causes also the approval of other chronological schemes, which are unconfirmed by the archaeological evidence. Therefore, we suspect the ^{14}C dates obtained for the Ukrainian GAC sites, Sofievka group and Horodiştea settlement to be significantly lower and, consequently, unuseful. They can be used only to establish the general chronological tendencies yielded by the relation of the three data sets ("older", "contemporary" and "later", respectively), especially when they confirm the chronological framework based on the archaeological sources.

In conclusion, the upper chronological limit (in terms of absolute chronology) for the Moldavian GAC is difficult to establish with accuracy as yet, but a date within c. 3250 (?)/3200 BC – 3000 BC for this moment seems to me more reasonable. More difficult is still the determination of the lower chronological border of the Moldavian GAC sites. The final date of the GAC III phase in Poland (2400/2150 BC)²³⁸ and the lowest ^{14}C date of the eastern group of the GAC (Peresopnica, in Volhynia: 3910±50 BP which yields a 1s calibrated date range of 2467–2293 BC and a 2s calibrated date range of 2550–2204 BC²³⁹, with the acceptance of c. 2380 BC²⁴⁰) are, in our opinion based on the archaeological realities revealed so far, unacceptable. In consonance with the available data, a maximum region for the end of the Moldavian GAC might be within the interval 2700–2500 (?) BC.

X. Conclusions

Some brief conclusions can be formulated on the Moldavian GAC, as follows.

- The GAC human groups attested in Moldavia predominant by burial monuments have penetrated this region coming from the north, using especially the Siret river valley and the valleys of its right tributaries. The moment of the first GAC intrusions in Moldavia could be placed after the beginning of the Horodiştea cultural unit.

- From cultural perspective, the GAC complexes in Moldavia can be integrated in the eastern group of the GAC. The existence of a separate Moldavian variant or of local groups within this presumed "Moldavian subgroup" it is not rejected, but still needed clear evidence.

- The GAC assemblages in Moldavia are contemporary with those connected to the "classic" stage of the culture in Kuiavia. So far, there is no evidence to allow neither a synchronization with the older stage (= phases I and IIa), nor with the late stage (= phases IIIb and IIIc) of the GAC from the same Polish region.

- From chronological point of view, in Moldavia, the GAC is also contemporary with the cultural assemblages considered as EBA phenomena (Târpești, Aldești), but the GAC remains, in its essence, a cultural

unit which didn't accumulate or assimilate cultural traits specific for the Bronze Age.

- As regards the absolute chronology, the maximum reasonable limits for the Moldavian GAC evolution are 3250 (?)/3200 to 3000 BC (for the upper limit) and 2700 to 2500 BC (for the lower limit). A more precise determination could be made at least after the processing of the first ¹⁴C dates for samples coming from the Moldavian GAC complexes.

NOTES

1. See, for instance, M. Szmyt, *Globular Amphora Culture in eastern Europe. Present state of research and possibilities for future studies*, B-PS, 4, 1996, p. 3-27; idem, *Die Kugelamphorenkultur und die Gemeinschaften der Steppenwald-und Steppenzonen Osteuropas. Der Forschungsstand und die Forschungsperspektiven im Grundriß*, in B. Hänsel and J. Machnik (ed.), *Das Karpatenbecken und die osteuropäische Steppe*, Rahden/Westf., 1998, p. 221-231.

2. J. Gutter, *Die Hünengräber von Graniczestie*, MCC, 6, 1880, p. 85, note 4; see also, D. Olinescu, *Charta archeologică a Bucovinei*, BSGR, 15, 1894, p. 66; R. F. Kaindl, *Geschichte der Bukowina*, I, Czernowitz, 1896, p. 7. The information recorded in that epoch, spoke about accidental discoveries of two cists at Grănicestii-"DI. Iancului". In the first one, revealed in 1872, two skeletons were found, "ein größeres und ein kleineres, neben einander liegend", oriented N-S, the bigger one being accompanied by two vessels (located between his legs) and by stone and/or flint (?) artifacts (lying on the right side of the bones). Later on, in the nearby, another stone box was discovered, but it was immediately and completely destroyed.

3. In a tumulus excavated by J. Szombathy in 1894 at Horodnicu de Jos (Suceava County), a cist burial with skeleton, but without grave-goods, was found (see, J. Szombathy, *Zweite Recognitionstour in die Bukowina*, MAGW, 24/5, 1894, p. 200; the same text in JBLM, 3, 1895, p. 22).

4. In a short note included in his work *Dacia preistorică* (published posthumous, in 1913), N. Densușianu claimed that sometimes the prehistoric tumuli contain cist burials with skeletons or clay urns with human ashes. Beside the urns, wrote Densușianu, in these stone cists, flint chisels and sherds were found, examples of such burial sites being reported to him from Borlești (Neamț County, Moldavia) and Șotânga (Dâmbovița County, Wallachia) (N. Densușianu, *Dacia preistorică*, IInd

edition, București, 1986, p. 79, note 1). I think it likely that these information were collected by Densușianu from the answers to his "Cestionar" send in 1893 (see, N. Densușianu, *Cestionariu despre tradițiunile istorice și anticitățile țărilor locuite de români, I. Epoca până la a. 600 d. Chr.*, București, 1893, p. 18-19). 5. R. F. Kaindl, *loc. cit.*; see also, N. Ursulescu, M. Andronic, Fl. Hău, *Contribuții la cunoașterea așezărilor de pe teritoriul Siretului înainte de constituirea orașului medieval*, Suceava, 13-14, 1986-1987, p. 88-89.

6. C. Matasă, *Cercetări din preistoria județului Neamț* (extract), BCGM, 31, 97/fasc. 7-9, 1938 (1940), p. 37-38; idem, *Descoperiri arheologice în raionul Piatra Neamț*, Materiale, 5, 1959, p. 723.

7. V. Chirica, M. Tănăsachi, *Repertoriul arheologic al județului Iași*, Iași, 1985, p. 384.

8. C. Matasă, *op. cit.*, Materiale, 5, 1959, p. 723-729.

9. M. Dinu, *Sondajul arheologic de la Dolheștii Mari*, Materiale, 6, 1959, p. 213-214, 216-219; idem, *Șantierul arheologic Dolheștii Mari*, Materiale, 7, 1961, p. 121-122, 125-126.

10. M. Petrescu-Dîmbovița, note to C. Matasă, *op. cit.*, Materiale 5, 1959, p. 733; M. Dinu, *op. cit.*, Materiale, 6, 1959, p. 218-219.

11. M. Dinu, *Contribuții la problema culturii amforelor sferice pe teritoriul Moldovei*, ArhMold, 1, 1961, p. 43-64.

12. Gh. Diaconu, N. Constantinescu, *Cetatea Șcheii. Monografie arheologică*, București, 1960, fig. 10/2, 4, 6; 11/1.

13. Șt. Cucuș, *Cultura amforelor sferice din depresiunea subcarpatică a Moldovei*, MemAntiq, 9-11 (1977-1979), 1985, p. 142-143, fig. 1/1; 5/1-3. Three ceramic fragments recovered from the cist (and decorated with motifs assigned to our subtypes Id or Ic and IIc) are kept in the History Museum in Piatra Neamț.

14. *Ibidem*, p. 141-142, fig. 1/2-4; 2; 4.

15. *Ibidem*, p. 143, fig. 1/5; 3; 5/4.
16. V. Spinei, M. Nistor, *Un mormânt din Iespezi de piatră în nordul Moldovei*, SCIV, 19/4, 1968, p. 621-628. The inventory of the cist from Basarabi is permanently displayed in the exhibition of the Museum in Suceava (No. inv. B/273-275).
17. Gr. Foit, *Două morminte ale culturii amforelor sferice descoperite la Succava*, Suceava, 3, 1973, p. 217-226. I saw some lithic and ceramic artifacts from the Grave No. 2 in the Museum in Suceava (No. inv. B/271-272).
18. M. Dinu and C. Iconomu carried out rescue excavations at this site in 1975; I would like to express my deepest gratitude to Dr. C. Iconomu (Iași) for permission to study the inventory of the two cist burials found at Șcheia-Iași, "Muncel" site. The grave-goods are kept in the History Museum of Moldavia (Iași) (No. inv. 7081-7084, 9995-10005).
19. V. Mihăilescu-Bîrliba, *Mormântul unei tinere căpetenii de la începutul epocii bronzului (Mastacăn), jud. Neamț*, - "cultura amforelor sferice", *MemAntiq*, 22, 2001, p. 157-217. The artifacts recovered from the cist at Mastacăn are kept in the History Museum in Piatra Neamț (No. inv. 7136-7140, 20031/a-c, g-h, 20032).
20. The excavations were made by Gr. Foit and M. Ignat in 1969; see, B. Niculică, S. Ignătescu, D. Boghian, *Recunoașteri arheologice în Podișul Sucevei*, *Codrul Cosminului* S. N, 5/15, 1999, p. 42, fig. XII/1-7, 13.
21. Excavations made by N. Ursulescu in 1975-1976; N. Ursulescu, *Contribuția cercetărilor arheologice din județul Suceava la cunoașterea evoluției neo-encoliticului din Moldova*, Suceava, 13-14, 1986-1987, p. 72-73; *idem*, *Les commencements de l'utilisation du rite de l'incinération dans le monde proto-thrace du nord de la Moldavie*, in P. Roman, S. Diamandi, M. Alexianu (eds.), *The Thracian World at the Crossroads of Civilisations. Proceedings of the Seventh International Congress of Thracology (Constanța - Mangalia - Tulcea, mai 1996)*, București, 1, 1997, p. 447-464.
22. Șt. Cucuș, *Începuturile perioadei de tranziție de la eneolitic la epoca bronzului în zona subcarpatică a Moldovei*, *ActaMN*, 19, 1982, p. 255-258, fig. 1-2; *idem*, *op. cit.*, *MemAntiq*, 9-11 (1977-1979), 1985, p. 141-161.
23. Gh. Dumitroaia, *Comunități preistorice din nord-estul României. De la cultura Cucuteni până în bronzul mijlociu*, BMA, VII, Piatra-Neamț, 2000, p. 68-81.
24. V. Mihăilescu-Bîrliba, *op. cit.*
25. Zs. Székely, *Extracarpethian funeral discoveries in the Early Bronze Age in the South-East of Transylvania* (mss., 2000).
26. A. C. Florescu, *K voprosu o kremnevych toporach v Moldove*, *Dacia*, N. S., 3, 1959, p. 79-102; *idem*, *Depozitul de unelte de caracter neolitic de la Valea Adâncă (com. Uricani, reg. Iași)*, in Omagiu lui C. Daicoviciu, București, 1960, p. 215-224; VI. Dumitrescu, *K voprosu o kremnevych toporach v Moldove*, *Dacia* N. S., 6, 1961, p. 97-103; Al. Păunescu, *Evoluția uneltelor și armelor de piatră cioplită descoperite pe teritoriul României*, București, 1970, p. 197-200; V. Spinei, *Descoperiri de topoare din silix în Moldova*, *MemAntiq*, 3, 1971, 79-141; Dr. Popovici, *Noi descoperiri de topoare de silix din județele Suceava și Neamț*, Suceava, 4, 1977, p. 65-73.
27. O. Necrasov, M. Cristescu, *Étude anthropologique des squelettes énéolithiques de Dolheștii Mari (tombe à ciste)*, *AȘUI*, 5, 1959, p. 47-60; O. Necrasov, S. Antoniu, C. Feodorovic, *Sur la structure anthropologique des tribus néo-énéolithique appartenant à la culture des amphores sphériques.*, *AnnRoumd'Anthr*, 9, 1972, p. 9-25; O. Necrasov, *Les populations de la période de transition du Néo-Énéolithique à l'âge du Bronze roumain et leur particularités anthropologiques*, in *Archives suisses d'anthropologie général*, Genève, 1979, 43/2, 1979, p. 60-63; O. Necrasov, M. Cristescu, D. Botezatu, G. Miu, *Cercetări paleoantropologice privitoare la populațiile de pe teritoriul României*, *ArhMold*, 13, 1990, p. 198-200.
28. N. Ursulescu, *op. cit.*, in *Thracian World...*, 1, 1997, p. 450, fig. 6/10-11, 13.
29. *Ibidem*, p. 452, fig. 9.
30. Șt. Cucuș, *op. cit.*, *Acta MN*, 19, 1982, p. 255.
31. Recently, some new information about the presence of GAC sites in the western part of the Central Moldavian Plateau have been published (S. Ștefănescu, *Cercetări arheologice și istorice în zona mediană a bazinului superior al râului Bârlad*, *Acta MM*, 15-20/1 (1993-1998), p. 159, 166, 178, 208; sites were identified by surface collections). Unfortunately, the illustration of the GAC materials is absent.
32. Al. Păunescu, *op. cit.*, p. 198, fig. 40/9.
33. Cf. Șt. Cucuș, *op. cit.*, *MemAntiq*, 9-11 (1977-1979), 1985, p. 144.
34. Al. Häusler, *Zur Problematik des Bestattungrituals im Äneolithikum Mitteleuropas*, *Prachistorica*, 15, 1989, p. 163. For the archaeological sources, see I. Svešnikov, *Kul'tura šarovidnykh amphor*, *Archeologija SSSR*, B. 1-27, Moskva, 1983, p. 12, 14; about the cultural affiliation of the tumular graves from Losjatin and Kamenka, see below paragraph VIII and the note 224.
35. See, V. Mihăilescu-Bîrliba, *op. cit.*, p. 178.
36. C. Matasă, *op. cit.*, *BCMI*, 31, 97/fasc. 7-9, 1938 (1940), p. 37; *idem*, *op. cit.*, *Materiale*, 5, 1959, p. 723. According to the description of the farmer who made the discovery, inside the cist from Brășăuți/Cut were laid "pots full of ashes and fragments of cremated bones".

37. Gr. Foit, *op. cit.*, p. 218.
38. See, note 4.
39. T. Sulimirski, *Corded Ware and Globular Amphorae North-East of the Carpathians*, London, 1968, p. 43-44; I. Svešnikov, *op. cit.*, p. 29, 31-32, 34-35.
40. In Lower Schleswig (W. Wojciechowski, *Kultura amfor kulistych na Dolnym Śląsku*, Silesia Antiqua, 9, 1967, p. 12-17, fig. 3-5 - a small ground cemetery, without urns), Brandenburg (H. Geisler, M. Teske, *Ein Brandgrab der Kugelamphorenkultur aus Rehfeld, Kr. Kyritz*, AusgrFunde, 16, 1971, p. 128-131 - cremation graves in pits and urns), Thuringia (D.W. Müller, *Ein Urnengrab der Kugelamphorenkultur von Ködderitzsch, Kreis Apolda*, JMV, 60, 1976, p. 217-219, fig. 1 - cremation grave in a cinerary urn), Mecklenburg (E. Nagel, *Die Erscheinungen der Kugelamphorenkultur im Norden der DDR*, Berlin, 1985, p. 22; idem, *Die Kugelamphorenkultur in Mecklenburg*, in Neolit i początki epoki brązu na ziemi chełmińskiej, Toruń, 1987, p. 446 - uncertain); H.-J. Beier, *Die Kugelamphorenkultur im Mittelbe-Saale-Gebiet und in der Altmark*, Berlin, 1988, p. 61.
41. Al. Häusler, *op. cit.*, p. 164.
42. Tamara G. Movša, *O severnoj gruppe pozdnetripol'skich pamjatniki*, SA, 1971/1, p. 48.
43. See, recently, M. Y. Videiko, *Archaeological Characteristics of the Sofievka type Cemeteries*, B-PS, 3, 1995, p. 15-134.
44. V. Mihăilescu-Bîrliba, *op. cit.*, p. 161-165, 183, fig. 1-2; 10. The niche from the tomb in Mastacăn is compared to a *Seclenloch*. Such a ritual "window" is also presumed to be found on the western slab of the cist in Pietra Șoimului (Calu) (*ibidem*, p. 185, 189, fig. 12/1-2).
45. V. Mihăilescu-Bîrliba, *op. cit.*, p. 181, fig. 2/1. For the analogies, in the eastern group of the GAC, see the features I and II found in Turinshchina (the Upper Dnieper basin) (E. A. Shmidt, M. Szmyt, *Ritual complex of the Globular Amphora Culture on the Upper Dnieper basin (Russia)*, B-PS, 4, 1996, p. 79, 81, fig. 2, 5).
46. Recently, V. Mihăilescu-Bîrliba, *op. cit.*, p. 185-187, 189.
47. J. Ścibior, J. M. Ścibior, *Sandomierz 78 - wielokulturowe stanowisko z przełomu neolitu i epoki brązu. Badania ratownicze w 1984 roku*, SprawArch, 42, 1990, p. 181-185, 192-193, fig. 24.
48. J. Ścibior, *Grób kultury amfor kulistych z Rzeczycy Mokrej k. Sandomierza*, SprawArch, 45, 1993, p. 73-82.
49. I. Svešnikov, *op. cit.*, p. 12, 14.
50. J. Ścibior, A. Kokowski, W. Koman, *Zespoły grobowe kultury amfor kulistych z zacodniej części wyżyny Wołyńskiej*, SprawArch, 43, 1991, p. 99 and note 8; M. Szmyt, *Spółeczności kultury amfor kulistych na Kujawach*, Poznań, 1996, p. 146; S. Golub, *Grave of the Globular Amphora Culture from Site no. 2 in Krasnystaw (Prov. Of Chełm, Poland)*, B-PS, 4, 1996, p. 43.
51. H. Priebe, *Die Westgruppe der Kugelamphoren*, JMV, 28, 1938, p. 6, 8-9 and appendix No. 2; U. Fischer, *Die Gräber der Steinzeit im Saalgebiet*, Berlin, 1956, p. 151; V. Weber, *Die Kugelamphoren in Sachsen*, AFSB, 13, 1964, p. 169 - for Sachsen; H.-J. Beier, *op. cit.*, p. 49-50, 66; M. Dobeš, *Gräber der Kugelamphorenkultur in Nordwestböhmen*, SASTUMA, 6/7, (1997-1998), 1998, p. 166 - for Bohemia.
52. See, I. Svešnikov, *op. cit.*, p. 12, 14; T. Wiślański, *The Globular Amphorae Culture*, in T. Wiślański (ed.), *The Neolithic in Poland*, Wrocław-Warszawa-Kraków, 1970, p. 203.
53. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 142.
54. For instance, in the vault No. I in Charthonovy (Podolia), a bone point was found near the skeleton of a woman (I. Svešnikov, *op. cit.*, p. 17, with the references). The presence of the human sacrificies, performed by the "patriarch of the tribal family", was also claimed for the Polish group of the GAC (W. Szafranski, *Praistoria religii na ziemiach polskich*, Wrocław, 1987, p. 442). Moreover, it has been stated the existence of traces which could prove the practice of the ritual cannibalism (T. Wiślański, *op. cit.*, p. 205; W. Szafranski, *op. cit.*, p. 442). The last hypothesis is strengthened, in our opinion, by recent evidence (see the content of the oval pit found in the proximity of the GAC tomb in Tovpižin, Volhynia: Y. Maleyev, B. Pryshchepa, *Grave of Globular Amphora Culture in Tovpyzhyn (District of Rivne, Ukraine)*, B-PS, 4, 1996, p. 68).
55. C. Matasă, *op. cit.*, Materiale, 5, 1959, p. 726.
56. H.-J. Beier, *op. cit.*, p. 67; Al. Häusler, *op. cit.*, p. 164; T. Montag, *Kugelamphorenkultur*, in *Das Neolithikum im Mittelbe-Saale-Gebiet und in der Altmark*, Wilkau-Hasslau, 1994, p. 219.
57. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 146.
58. St. Nosek, *Kultura amfor kulistich w Polsce*, Wrocław, 1967, fig. 166.
59. I. Svešnikov, *op. cit.*, fig. 11/III.
60. See, M. Dinu, *op. cit.*, Materiale, 7, 1961, p. 125.
61. I. Svešnikov, *op. cit.*, p. 15.
62. J. Gutter, *loc. cit.*
63. T. Sulimirski, *op. cit.*, p. 43 (specific for the Sluch group of the Volhynian GAC); I. Svešnikov, *op. cit.*, p. 13.
64. J. Ścibior, J. M. Ścibior, *op. cit.*, p. 161.
65. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 142.
66. Information kindly transmitted to us by prof. M. Dinu.

67. M. Dinu, *op. cit.*, Materiale, 6, 1959, p. 216.
68. T. Wiślański, *op. cit.*, p. 183; I. Svešnikov, *op. cit.*, p. 10; E. Nagel, *Die Kugelamphorenkultur*, Toruń, 1987, p. 445; H.-J. Beier, *op. cit.*, p. 61-63; M. Dobeš, *op. cit.*, p. 138, 166 - a sacrificial pit. There were also discovered true sacrificial pits, contained the remnants of many sacrificed animals, accompanied sometimes by the weapons used to kill them. The most eloquent example is the CAS cemetery at Złota, in Poland (Z. Krzak, *Cmentarzysko na "Gajowiznie" pod względem archeologicznym*, in *Cmentarzysko kultury amfor kulistich w złotej sandomierskiej*, Wrocław, 1977, p. 9-82). Such funeral monuments were also found in the eastern group of the GAC (for instance, Krasnaselski, in Belarus: M. M. Charniauski, *Materials of Globular Amphora Culture in Belarus*, B-PS, 4, 1996, p. 89-91, fig. 2).
69. Gr. Foit, *op. cit.*, p. 218, fig. 2/3.
70. C. Matasă, *op. cit.*, BCMI, 31, 97/fasc. 7-9, 1938 (1940), p. 37; idem, *op. cit.*, Materiale, 5, 1959, p. 723.
71. V. Mihăilescu-Bîrliba, *op. cit.*, pp. 166 sqq.
72. St. Nosek, *op. cit.*, p. 292-295, tab. III-IV.
73. T. Wiślański, *Kultura amfor kulistich w Polsce północno-zachodniej*, Wrocław, 1966, p. 23 and appendix 2 - included in the type II A1; idem, *op. cit.*, in T. Wiślański (ed.), 1970, fig. 57.
74. H.-J. Beier, *op. cit.*, p. 16-18; M. Dobeš, *op. cit.*, p. 159-160; M. Zápotocky, M. Dobeš, *Sídliště kultury kulovitých amfor z Lovosic. K typologii keramiky KKA v Severozápadních Čechách*, PamArch, 91, 2000, p. 140, typ 121 and 122.
75. I. Svešnikov, *op. cit.*, p. 10, pl. III/8; IX/7, 11; XI/10, 13.
76. T. Wiślański, *op. cit.*, 1966, p. 23 and appendix 1 - included in the group I/amphorae B1-type; idem, *op. cit.*, in T. Wiślański (ed.), 1970, fig. 59/6; 63/4.
77. St. Nosek, *op. cit.*, p. 296-297, table V - represents a specific ceramic shape of the Mazuria-Warmia group, according to Nosek's nomenclature; T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, p. 188, fig. 59/10.
78. I. Svešnikov, *op. cit.*, p. 13, pl. I/20; III/10; V/7; XV/1; E. A. Shmidt, M. Szmyt, *op. cit.*, fig. 6/2.
79. I. Svešnikov, *op. cit.*, pl. III/6.
80. V. Mihăilescu-Bîrliba, *op. cit.*, p. 169, fig. 4/2; St. Cucuș, inexactly ascribed this fragmentary vessel to the category of bowls: see, Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 144.
81. In Poland: St. Nosek, *op. cit.*, fig. 3/1, 3-5; T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, p. 188, fig. 59/8; idem, *Dalszy rozwój ludów neolitycznych plemiona kultury amfor kulistich*, in W. Hensel, T. Wiślański (ed.), *Prahistoria ziem polskich*, II, Wrocław, 1979, fig. 158/11. In the eastern group of the GAC it is almost exclusively attested in the graves of Volhynia region (I. Svešnikov, *op. cit.*, pl. IX/1; XIV/7; IV/8 and XI/4 - vessels similar in shape and ornamentation (as motifs and tectonic) with the one of the F1 variant illustrated by M. Dinu, *op. cit.*, *ArchMold*, 1, 1961, fig. 3/5). A vessel which can be ascribed to the F1 variant, but with a rounded (hemispherical) bottom, was found at Sandomierz (A. Kokowski, J. Ścibior, *Beimrkungen zur regionalen Gliederung der Kugelamphorenkultur in Polen*, ActaPrachArch, 22, 1990, fig. 7/d). In the western group of the GAC: H.-J. Beier, *op. cit.*, pl. 2/10; 31/7; 71/6 assigned to the "classic" variant of the *Kugelamphoren* and closer to our F2 variant; M. Zápotocky, M. Dobeš, *op. cit.*, p. 140, fig. 6/1-2 finds from a GAC settlement representing amphorae typ 113, more less frequent in Bohemia, but closer to our F1 variant.
82. St. Nosek, *op. cit.*, fig. 13/2.
83. I. Svešnikov, *op. cit.*, pl. XVII/4.
84. St. Nosek, *op. cit.*, fig. 84/4; 113/7 - assigned to the Mazovia-Lublin group, according to the Nosek's terminology.
85. H.-J. Beier, *op. cit.*, pl. 14/2; 22/1; 44/7.
86. See, I. Svešnikov, *op. cit.*, pl. XXIII/6.
87. H.-J. Beier, *op. cit.*, pl. 41/7; 50/7; M. Zápotocky, M. Dobeš, *op. cit.*, fig. 2/4, a larger pot; E. Nagel, *op. cit.*, 1985, pl. 37/1; St. Nosek, *op. cit.*, fig. 115/4 - at Mierzanowice.
88. V. Mihăilescu-Bîrliba, *op. cit.*, fig. 4/1 = 14/1; 6/1 = 14/3; 8/2 = 14/2. The jar published by Gh. Dumitroaia, *op. cit.*, p. 73, fig. 54/1 did not belong to this grave (see, V. Mihăilescu-Bîrliba, *op. cit.*, p. 157, note 2). Comes it, maybe, from the inventory of the presumed menhirs/dolmens grave (s) discovered nearby (for these, see, Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 144)?
89. Gr. Foit, *op. cit.*, fig. 3/1-3.
90. T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, fig. 60/3-4, 8.
91. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 142, fig. 4/5.
92. I. Svešnikov, *op. cit.*, p. 13.
93. C. Matasă, *op. cit.*, Materiale, 5, 1959, fig. 6/1.
94. B. Niculică, S. Ignătescu, D. Boghian, *op. cit.*, fig. XII/4, 6.
95. T. Sulimirski, *op. cit.*, p. 46; I. Svešnikov, *op. cit.*, p. 15.
96. I. Svešnikov, *op. cit.*, pl. IX/7; X/7; XXIII/4, 6, 9; E. A. Shmidt, M. Szmyt, *op. cit.*, fig. 3/1; 6/1.
97. T. Wiślański, *op. cit.*, in W. Hensel, T. Wiślański (ed.), 1979, fig. 156/12; J. Ścibior, A. Kokowski, W. Koman, *op. cit.*, fig. 15/a; I. Svešnikov, *op. cit.*, pl. VI/3.
98. T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, p. 211, fig. 60/9; 64/1; J. Ścibior, J. M. Ścibior, *op. cit.*, fig. 25/a; M. Szmyt, *Spolecznosci*, 1996, p. 35.

99. I. Svešnikov, *op. cit.*, pl. VII/1, 2, 7; X/6; XIX/2.
100. *Ibidem*, pl. III/5, 8.
101. C. Matasă, *op. cit.*, Materiale, 5, 1959, p. 728–729; fig. 8/7-8.
102. *Ibidem*, p. 726. Doubts about the presence of a such quern in the Piatra Neamț cist, see in V. Mihăilescu-Bîrliba, *op. cit.*, p. 205.
103. J. Gutter, *loc. cit.*
104. T. Sulimirski, *op. cit.*, p. 201; I. Svešnikov, *op. cit.*, p. 16, pl. XIX/6.
105. C. Matasă, *op. cit.*, Materiale, 5, 1959, fig. 8/8
106. P. Chachlikowski, *Stone industry of the Globular Amphorae people in Kuiavia*, in Al. Cofta-Broniewska (ed.), *New tendencies in studies of Globular Amphorae Culture*, Warszawa-Kraków-Poznań, 1991, p. 172, fig. 14, 18.
107. M. Dinu, *op. cit.*, ArhMold, 1, 1961, p. 51, 53, fig. 5.
108. I. Svešnikov, *op. cit.*, pl. XVI/8–9; XVII/1–3; XXII/11, 13, 15–16; XXIII/7.
109. *Ibidem*, pl. XIV/3.
110. Wł. Antoniewicz, *Z dziedziny archeologii ziem Polski, in Światowit*, 17, (1936-1937), 1938, p. 351, 354, fig. 10/321-324.
111. H.-J. Beier, *op. cit.*, p. 102-104, No. cat. 77 and 82, pl. 16/17; 19/4.
112. M. Dinu, *op. cit.*, ArhMold, 1, 1961, fig. 5/7.
113. I. Svešnikov, *op. cit.*, p. 10. By contrast, the “T-shaped” bone adornments are, so far, most numerous in the central (Polish) group of the GAC, where the finds are packed in the Kuiavia zone and in the south-eastern part of Poland (St. Nosek, *op. cit.*, fig. 100/5; T. Wiślański, *op. cit.*, in W. Hensel, T. Wiślański (ed.), 1979, fig. 169/1-4; A. Kokowski, J. Ścibior, *op. cit.*, fig. 5/j). For the time being, in the eastern areas of the GAC distribution, only three fragmentary such pieces have been published (I. Svešnikov, *op. cit.*, Pl. XII/3; XIII/11 - in Podolia; Y. Maleyev, B. Pryshchepa, *op. cit.*, fig. 5/4 - in Volhynia). In the western group of the GAC, “T-shaped” bone objects are missing.
114. Doubts see also in T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, p. 200.
115. H.-J. Beier, *op. cit.*, p. 37.
116. T. Dziekoński, T. Wiślański, *Untersuchung zweier der Kugelamphorenkultur entstammender aus Kupferlegierung bestehender gegenstände*, APol, 10, 1968, p. 118-132 - an awl and an adornment “shell shaped”; R. Maier, *Die Kugelamphore von Holzhausen, Stadt Bad Pyrmont, Ldkr. Hameln-Pyrmont – zur Kugelamphorenkultur in Niedersachsen*, NNU, 60, 1991, p. 20-21 - fragments of *Kupferspiralen*; Z. Hensel, *Copper Alloys in the Globular Amphorae People in Kuiavia*, in Al. Cofta-Broniewska (ed.), *op. cit.*, 1991, p. 202 - a pendant.
117. T. Dziekoński, T. Wiślański, *op. cit.*, p. 123; Z. Hensel, *op. cit.*, p. 202-203.
118. We have no good perspective over the GAC settlements in the other regions of the eastern group of the CAS. As far as we know, the only CAS settlements excavated so far outside Moldavia are located in Volhynia. At Mežireč'e, two semi-dug houses, partially destroyed by a sand quarry, and two domestic pits have been discovered (I. Svešnikov, *op. cit.*, p. 12), while at Peresopnitsa, a ritual or domestic pit has been excavated (S.V. Shelomentsev-Terskij, *Settlement of Globular Amphora Culture in Peresopnitsa, the Volhynia region (Ukraine)*, B-PS, 4, 1996, p. 70-78). Based on the evidence of amount (17) and size of the pots found on Peresopnitsa, its excavator has claimed a stable, permanent character of the settlement (*Ibidem*, p. 78).
119. N. Ursulescu, *op. cit.*, in *Thracian World*, I, 1997, p. 452, fig. 9/1-7.
120. Gh. Diaconu, N. Constantinescu, *op. cit.*, 27, fig. 10/2, 4, 6; 11/1; about the possibility that this material to be somehow associated with the GAC, see N. Ursulescu, *Începuturile istoriei pe teritoriul României*, Iași, 1998, p. 171 and V. Mihăilescu-Bîrliba, *op. cit.*, p. 215, note 189.
121. Excavations: Gr. Foit and M. Ignat (1969). Sec. B. Niculică, S. Ignătescu, D. Boghian, *op. cit.*, p. 42, fig. XII/1-7, 13.
122. N. Ursulescu, M. Andronic, Fl. Hău, *op. cit.*, p. 88-90.
123. B. Niculică, S. Ignătescu, D. Boghian, *op. cit.*, p. 39, fig. VI/1-2.
124. N. Zaharia, M. Petrescu-Dîmbovița, Em. Zaharia, *Așezări din Moldova. De la paleolitic pînă în secolul al - XVIII - lca*, București, 1970, p. 290, site 243/d.
125. Gh. Dumitroaia, *Materiale și cercetări arheologice din nord-estul județului Neamț*, MemAntiq, 18, 1992, p. 85, fig. 19/4.
126. V. Chirica, M. Tănăsachi, *op. cit.*, fig. 6/10.
127. Compare with S. S. Berezans'ka, V. K. Pjasec'kij, *Perše kul'turi kuljstach amphor na Ukraïni*, Archeologija-Kiev, 30, 1979, fig. 1/10; see, also, M.Y. Videiko, *Tripolye and the Cultures of Central Europe. Facts and the Character of Interactions: 4200-2750 BC*, B-PS, 9, 2000, 54, fig. 21/5 - ceramic fragment from the Gorodsk settlement.
128. C. Matasă, *Frumușica. Village préhistorique à céramique peinte dans la Moldavie du Nord Roumanie*, București, 1946, pl. XII/56 - the fifth ceramic fragment on the right column -, 66. The ceramic fragments are kept in the History Museum in Piatra Neamț (No. inv. 1388, 1398, 1650).
129. Kept at the History Museum in Piatra Neamț (No. inv. 7895).
130. I would like to thank dr. C-M. Mantu for her kind permission to study the non-Cucuteni pottery from Scântea.

131. M. Dinu, *Complexul cultural Horodiște-Foltești. Rezumatul tezei de doctorat*, Iași, 1978, p. 5, 19.
132. R. Alaiba, I. Grădinaru, *Stațiunea din perioada de tranziție de la eneolitic la epoca bronzului de la Cărnicești-“Pe Coastă”*, jud. Iași, CAANT, 1, 1995, p. 77, fig. 20/7.
133. Mircea Petrescu-Dîmbovița, M. Dinu, *Nouvelles fouilles archéologiques à Foltești (dép. de Galați)*, Dacia, N. S., 18, 1974, fig. 16/4.
134. *Ibidem*, fig. 33/14.
135. See, *Ibidem*, fig. 32/11; P. Roman, *Die Schnurverzierte Keramik Südosteuropas*, in P. Roman, A. Dodd-Oprîtescu, J. Pál, *Beiträge zur Problematik der Schnurverzierten Keramik Südosteuropas*. Heidelberger Akademie der Wissenschaften. Monographien III, Mainz 1992, pl. 22/12.
136. Al. Koško, *Globular Amphorae Culture versus Funnel Beaker Culture*, in Al. Cofta-Broniewska (ed.), 1991, p. 93.
137. Mircea Petrescu-Dîmbovița, M. Dinu, *op. cit.*, fig. 28/3; 41/11.
138. O. Ph. Lagodovs'ka, *Usativs'ka ekspedicija 1948 r.*, APU, 4, 1952, p. 129, pl. 1/5-6.
139. Gh. Dumitroaia, *op. cit.*, BMA, VII, Piatra-Neamț, 2000, fig. 105/4.
140. I saw this ceramic fragment by the kindness of dr. P.-V. Batiariuc (The National Museum of Bucovina, Suceava). However, it is not exclude a later dating and another cultural affiliation for this sherd (EBA, Corded Ware culture, perhaps?).
141. Information submitted to us by Bogdan Niculică (The National Museum of Bucovina, Suceava).
142. C. Matasă, *op. cit.*, Materiale, 5, 1959, 729, 731, fig. 10/1-11.
143. A. C. Florescu, *op. cit.*, OCD, 1960.
144. This type of mixed economy was, and still is, the most spread point of view among the scholars about the character of the GAC economy. In the Romanian archaeological literature, it was first sustained by M. Dinu (*op. cit.*, ArhMold, 1, 1961, p. 57-58). In reference to the eastern group of GAC, I. Svečnikov, (I. Svečnikov, *op. cit.*, p. 16-17) and, more recently, M. Szmyt (*op. cit.*, B-PS, 4, 1996, p. 25) have brought arguments in favor of “agrarian character” of the economy at the GAC communities.
145. V. Mihăilescu-Bîrliba, *op. cit.*, p. 205-207, 212-214. Earlier, Șt. Cucuș (*op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 148-149) has suggested that the GAC communities were exclusively pastorals.
146. M. Szmyt, *Spolecznosci*, 1996, p. 319; V. Mihăilescu-Bîrliba, *op. cit.*, p. 214-215.
147. T. Sulimirski, *op. cit.*, p. 51, 92.
148. T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, p. 229; M. Szmyt, *Spolecznosci*, 1996, p. 206-207. For the eastern areas occupied by the GAC groups, see I. Svečnikov, *op. cit.*, p. 17; M. Szmyt, *op. cit.*, B-PS, 4, 1996, p. 25.
149. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 149.
150. M. Szmyt, *op. cit.*, B-PS, 4, 1996, p. 4.
151. M. Dinu, *op. cit.*, Materiale, 6, 1959, p. 218; *idem*, *op. cit.*, ArhMold, 1, 1961, p. 53, 55; V. Spinei, M. Nistor, *op. cit.*, SCIV, 19/4, 1968, p. 625-626; T. Sulimirski, *op. cit.*, p. 47-48; E. Comșa, *Quelques problèmes concernant le néolithique final et la période de transition à l'âge du bronze dans les régions Nord et Ouest Pontiques*, Balcanica 3, 1972, p. 89; Gr. Foit, *op. cit.*, p. 224.
152. T. Sulimirski, *op. cit.*
153. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985; V. Mihăilescu-Bîrliba, *op. cit.*, p. 178, 181, 183, 186, 189, 193-201, 214.
154. T. Sulimirski, *op. cit.*, p. 38, 47-48; T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, p. 178 and the map at Fig. 55; I. Svečnikov, *op. cit.*, p. 10 and the map at Fig. 1; Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 149.
155. See, I. Svečnikov, *op. cit.*, p. 6-9, with the history of the problem; recently, also, V. Mihăilescu-Bîrliba, *op. cit.*, p. 201.
156. M. Dinu, *op. cit.*, ArhMold, 1, 1961, p. 53.
157. T. Wiślański, *op. cit.*, 1966, tab. II and III; E. Comșa, *op. cit.*, p. 89; *idem*, *Les relations des communautés du territoire roumain avec celles des territoires voisins pendant la période de transition et au début de l'âge du bronze à la lumière des rites funéraires*, in Die Frühbronzezeit im Karpatenbecken und in den Nachbargebieten. Internationales Symposium 1977, Budapest-Velem, Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften 2, Budapest, 1981, p. 51; I. Svečnikov, *op. cit.*, p. 14-16, and the map at fig. 2; Gh. Dumitroaia, *op. cit.*, BMA, VII, Piatra-Neamț, 2000, p. 71.
158. T. Sulimirski, *op. cit.*
159. O. Necrasov, M. Cristescu, *op. cit.*, AȘUI, 5, 1959, p. 55-57; O. Necrasov, *op. cit.*, in Archives suisses d'anthropologie général, Genève, 1979, 43/2, 1979, p. 60-63, 65.
160. Șt. Cucuș, *op. cit.*, ActaMN, 19, 1982, p. 255-256.
161. V. Mihăilescu-Bîrliba, *op. cit.*, p. 213.
162. T. Sulimirski, *op. cit.*, p. 49, 53 and table 15.
163. Șt. Cucuș, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 149-150.
164. T. Wiślański, *op. cit.*, 1966, p. 210-215, with additional completions and divisions proposed by Al. Koško, *Osadnictwo w Łącku, pow. Inowrocław, stan 12 i 13, PME*, 20, 1979, p. 24-25; E. Czerniak, L. Czerniak, *Z badań nad geneza i rozwojem*

- kultury amfor kulistych na Kujawach*, FoliaPP, 1, 1985, p. 23-62; L. Czerniak, M. Szmyt, *Progress in Studies of Globular Amphorae Culture Periodization*, in Al. Cofta-Broniewska (ed.), *New tendencies in studies of Globular Amphorae Culture*, Warszawa-Kraków Poznań, 1991, p. 53-77; M. Szmyt, *Spoleczności*, 1996, p. 7-78; idem, *op. cit.*, B-PS, 4, 1996, p. 9; Janusz Czebreszuk, M. Szmyt, *Der Epochenbruch vom Neolithikum zur Bronzezeit im Polnischen Tiefland am Beispiel Kujawiens*, PZ, 73, 1998, p. 180-186.
165. L. Czerniak, M. Szmyt, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 54; M. Szmyt, *Spoleczności*, 1996, p. 310.
166. V. G. Petrenko, *Usatovskaja lokal'naja gruppa*, in E. Ph. Patokova, V. G. Petrenko, N. B. Burdo, L. Ju. Poliščuk, *Pamjatniki tripol'skoj kul'tury v Severo-Zapadnom Pričernomor'e*, Kiev, 1989, p. 106-110, fig. 39/1.
167. D. Berciu, *Zorile istoriei în Carpați și la Dunăre*, București, 1966, p. 137. Later on, this route was often quoted (see, V. Spinci, M. Nistor, *op. cit.*, SCIV, 19/4, 1968, p. 625; Gr. Foit, *op. cit.*, Suceava, 3, 1973, p. 224).
168. E. Czerniak, L. Czerniak, *op. cit.*, pl. 1-3; Al. Koško, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 93.
169. Al. Koško, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 92-93.
170. T. Wiślański, *op. cit.*, in W. Hensel, T. Wiślański (ed.), *Prahistoria ziem polskich*, II, Wrocław, 1979, fig. 157/15; E. Czerniak, L. Czerniak, *op. cit.*, pl. 1/1 and fig. 3, from an assemblage dated to the phase IIa.
171. L. Czerniak, M. Szmyt, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 58, fig. 8/1; Al. Koško, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 93, fig. 6; M. Szmyt, *Spoleczności*, 1996, p. 35.
172. H.-J. Beier, *op. cit.*, pl. 55/14; 57/6.
173. See, *Ibidem*, pl. 55/15.
174. Polanowice: E. Czerniak, L. Czerniak, *op. cit.*, pl. 4/4, 6.
175. Mircea Petrescu-Dîmbovița, M. Dinu, *op. cit.*, fig. 32/11 - unstratified. At Foltești, the bordered bands are made using the two-fold cord, as on a GAC ceramic fragment discovered at Gródek Nadbużny (W. Gumiński, *Gródek Nadbużny. Osada kultury pucharów lejkowatych*, Wrocław, 1989, fig. 55/1).
176. T. Wiślański, *op. cit.*, in W. Hensel, T. Wiślański (ed.), *Prahistoria ziem polskich*, II, Wrocław, 1979, fig. 158/13.
177. T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, fig. 65/5.
178. See, Janusz Czebreszuk, *Late Horizon of the GAC versus other Cultural Structures of the Neolithic-Bronze Age Interstage. Problem of System Disintegration*, in Al. Cofta-Broniewska (ed.), *New tendencies in studies of Globular Amphorae Culture*, Warszawa-Kraków Poznań, 1991, p. 114.
179. A. Kokowski, J. Ścibior, *op. cit.*, 52, fig. 7/d.
180. T. Wiślański, *op. cit.*, in T. Wiślański (ed.), 1970, fig. 60/3-4, 8; 63/4.
181. For parallels, see Przybranowo/site 10: L. Czerniak, M. Szmyt, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, fig. 9/4; Al. Koško, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, fig. 10/5.
182. Al. Koško, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 95-96, fig. 10.
183. For the peculiarities of this phase, see Janusz Czebreszuk, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 114-115, after the observations made by J. Bednarczyk and colab.).
184. M. Szmyt, *Spoleczności*, 1996, p. 63; M. Szmyt, E. Gajda, M. Mackowiecka, J. Rola, *Obiekt obrzędowy ludności kultury amfor kulistich na stanowisku 17 w Straduniu, gm. Trzcianka, woj. piłskie (Z badań nad kulturą amfor kulistich w strefie wielkodolinnej Niżu Polskiego)*, SprawArch, 49, 1997, p. 136; Janusz Czebreszuk, M. Szmyt, *Der Epochenbruch*, 1998, p. 180.
185. V. G. Zbenovič, *Pozdnee Tripol'e i ego svjaz' s kul'turami Prikarpat'ja i Malopol'si*, AAC, 16, 1976, p. 45-46; D. Ja. Telegin, *Dereivka. A Settlement and Cemetery of Copper Age Horse Keepers on the Middle Dnieper*, BAR, 287, 1986, p. 106 and fig. 54. The theory about a synchronization of the GAC complexes in Podolia, Volhynia and northern Moldavia with or still with the late Tripolie CI and, implicit, with the final Cucuteni B2 stage (see, T. Sulimski, *op. cit.*, p. 52-53; M. Dinu, *Quelques problèmes concernant la période de transition de l'énéolithique à l'époque du bronze dans les régions extrakarpatiques de la Roumanie*, in J. Filip (ed.), *Actes du VII^e Congrès International des Sciences Préhistoriques et Proto-historiques* (Praha 1966), Praha, 1970, p. 473; I. Svecnikov, *op. cit.*, p. 18; Șt. Cucuș, *op. cit.*, ActaMN, 19, 1982, p. 256; idem, *op. cit.*, MemAntiq, 9-11 (1977-1979), 1985, p. 150-151; D. Monah, Șt. Cucuș, *Așezările culturii Cucuteni din România*, Iași, 1985, p. 38; Cornelia-Magda Mantu, *Cultura Cucuteni. Evoluție, cronologie, legături*, Piatra-Neamț, 1998, p. 148-149; Gh. Dumitroaia, *op. cit.*, BMA, VII, Piatra-Neamț, 2000, p. 81; V. Mihăilescu-Bîrliiba, *op. cit.*, p. 209, 212) was based mainly on the problematic or less secure arguments. We can mention here: a GAC ceramic fragment decorated with "fish scales" found at the beginning of the XXth century at Koszyłowce (Košílovcey), some incised decoration motifs on the pottery uncovered at Kolomiščina I, the ceramic sherds claimed to be GAC from Bodești. To accept this chronological connection means to take into consideration the fact of concomitant appearance of both FBC and GAC elements in the Volhynian area in the late Tripolie CI period (on the relation FBC - Tripolie CI in this region, see, S.

Jastrzębski, *Some Remarks on the Investigations into Cultural Relations in the Volhynian Plateau in the First Half of the IIIrd Millennium BC*, in *Interregional Cultural Relations between Polish Territories and Adjacent Regions of Central and Eastern Europe*, Warszawa, 1990, p. 106; J. Ścibior, *Die TRBkultur und die Tripolje-Kultur auf der Wolynien-Hochebene*, in J. Pavúk (ed.), *Actes du XII^e Congrès International des Sciences Préhistoriques et Protohistoriques* (Bratislava 1991), Bratislava 1993, II, p. 524, 526). In this case, however, the quasi-absence of the GAC pottery in the subsequent sites of Trojaniv (eastern Volhynia) and Brânzeni-Žvaneč type (the Tripolie CI/CII stage), where the FBC imports are quite well-represented (Tamara G. Movša, *Vzajemovidosini Tripillja-Kukuteni z sinchronnimi kul'turami Central'noi Evropi*, *Archeologija-Kiev*, 51, 1985, p. 22-27, fig. 2-4; VI. A. Kruts, S. M. Ryzhov, *Tripolye culture in Volhynia (Gorodsk-Volhynian group)*, B-PS, 9, 2000, p. 109, fig. 4/23-24), would seem curious and difficult to explain. On the other hand, the relations between the FBC and the Tripolie CI sites in Volhynia at this chronological level don't indicate the occurrence of clear mutual influences (S. Jastrzębski, *op. cit.*), being hard to think that the GAC would have in the same chronological contexts a greater impact on the local Tripolie development. Therefore, it must be assumed that in the case of Kolomiščina I, Koszyłowce (Košilovcy) and Bodești it is about either FBC ceramic fragments (or FBC decoration elements on Tripolie pottery) or mixed materials we are dealing with. The identification only of decoration motifs of FBC origin on the pottery found in the settlements of Kolomiščina I type (see, M.Y. Videiko, *op. cit.*, B-PS, 9, 2000, p. 27, fig. 11/1-2, 4-8; 12/3-7; 13/4) strengthens this speculation.

186. M. Szmyt, *op. cit.*, B-PS, 4, 1996, p. 11, 19 and fig. 5; Sł. Kadrow, Ju. Malecev, M. Szmyt, *Schidna grupa kul'turi kuljastich amphor za danimi radiovglecevego datuvannja*, *Archeologija-Kiev*, 2000/1, p. 31 and tab. 3.

187. S. Jastrzębski, *op. cit.*, p. 103-111; Al. Koško, *The Vistula-Oder basins and the North Pontic Region*, JIES, 1991/3-4, p. 244, 246; J. Ścibior, *op. cit.*, in *Actes CISPP Bratislava II*, 1993, p. 522-528; idem, *Kulturni piz'nogo Tripillja ta liščastogo posudu na Volini*, *Archeologija-Kiev* 1994/4, p. 30-48; VI. A. Kruts, S. M. Ryzhov, *op. cit.*, p. 109.

188. J. Ścibior, J. M. Ścibior, *op. cit.*, p. 192; Al. Koško, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, p. 88-89; M. Szmyt, *Spółczesności*, 1996, tab. 17, nr. 30-44.

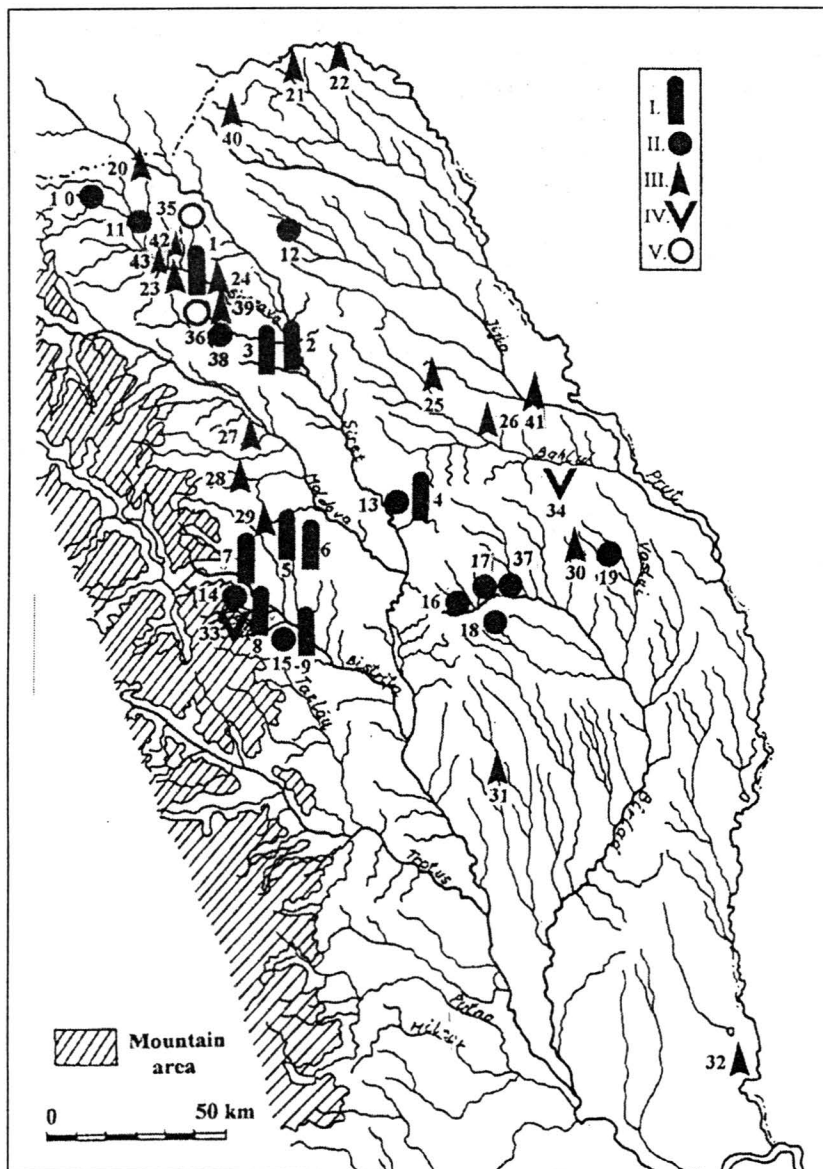
189. N. Kovalyukh, M. Videiko, V. Skripkin, *Chronology of Sofievka type Cemeteries: Archaeological and Isotopic one*, B-PS 3, 1995, tab. 1; Cornelia-Magda Mantu, *Cultura Cucuteni*, 1998, p. 132 and tab. 7. One must observe, however, that the

two sets of ¹⁴C dates (Polish GAC and Late Tripolie) are mainly obtained on two different kind of samples, namely, bones (short-lived samples) for the GAC and charcoal (long-lived samples) for the Tripolie (except for the Horodiștea site, where the dates are from bone samples). It can be also added that in both sets are ¹⁴C determinations which have important standard errors.

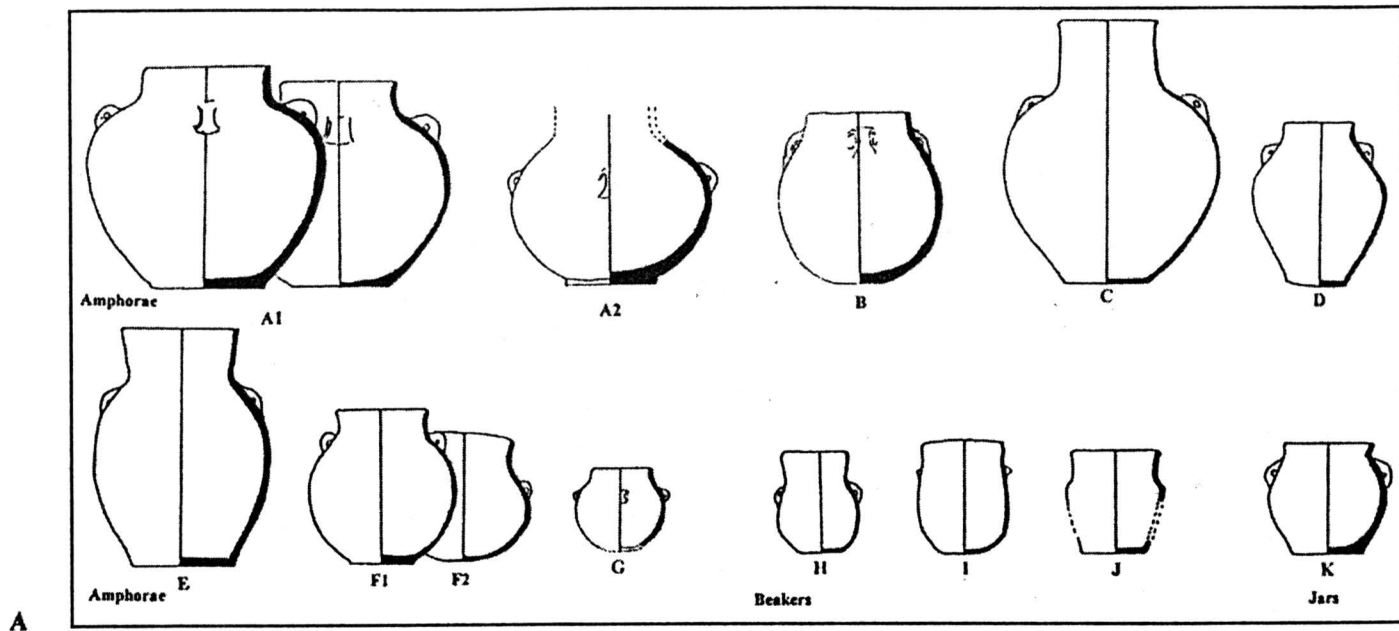
190. See, P. Roman, *op. cit.*, pl. 53/17-29.
191. L. Czerniak, M. Szmyt, *op. cit.*, in Al. Cofta-Broniewska (ed.), 1991, fig. 11/8; Janusz Czebreszuk, M. Szmyt, *Der Epochenbruch*, 1998, fig. 12/1.
192. J. Ścibior, A. Kokowski, W. Koman, *op. cit.*, fig. 3/a.
193. P. Roman, *op. cit.*, pl. 22/10.
194. V. G. Zbenovič, *Keramika Usativs'kogo tipu*, *Archeologija-Kiev*, XXI, 1968, fig. 9/1.
195. T. G. Movša, *Periodizacija i chronologija seredn'ogo ta piz'nogo Tripillja*, *Archeologija-Kiev*, 5, 1972, fig. 2/8.
196. R. Alaiba, *Cercetări arheologice la Trinca-"Izvorul lui Luca", R. Moldova (1994-1995), cultura Horodiștea-Gordinești*, CAANT, 2, 1997, p. 40, fig. 14/7.
197. E. Nagel, *Die Kugelamphorenkultur*, Toruń, 1987, 447-448, fig. 3/5.
198. The ceramic fragment with "loop-like" corded motifs, published earlier from the Gdansk area (Max Ebert, *Reallexikon der Vorgeschichte* 11, Berlin, 1927/1928, pl. 39/b) probably belonged also to the GAC.
199. H.-J. Beier, *op. cit.*, pl. 48/2.
200. For instance, *ibidem*, pl. 46/33; 47/30.
201. N. K. Kačalova, *Ermitažnaja kolekcija N. E. Brandenbura. Epoca bronzii*, *Arheologija SSSR*, Moskva, 1974, B 4-12, p. 18, pl. 7/2.
202. A. V. Androsov, Z. P. Marina, D. I. Zavgorodnij, *Eneolitičeskij kurgan u sela Boguslav v Prisamar'e*, PAP (1991), p. 13-14, 18, fig. 1/2.
203. Ju. Ja. Rassamakin, *On early elements of the Globular Amphora culture and other central European cultures in the late eneolithic of the Northern Black Sea Region*, B-PS, 4, 1996, p. 119-120, 128.
204. N. Kovalyukh, M. Videiko, V. Skripkin, *op. cit.*, p. 140.
205. Sł. Kadrow, A. Koško, M. Videiko, *Pottery stylistics of the Sofievka type, Genetic-cultural qualification*, B-PS, 3, 1995, p. 209-213, fig. 5; M.Y. Videiko, *op. cit.*, B-PS, 9, 2000, p. 55.
206. I. Mareș, *Sondajul arheologic de la Sf. Ilie "Siliște" (1991)*, in *Suceava 17-19 (1990-1992)*, 1993, 496-502; Gh. Dumitroaia, *op. cit.*, BMA, VII, Piatra-Neamț, 2000, fig. 17-18.
207. P.-Victoria Batoriuc, *Un mormânt din perioada de tranziție de la neolitic la epoca bronzului descoperit la Suceava*, Suceava, 10, 1983, pl. 1/3.

208. B. Mitrea, Gh. Diaconu, M. Matei, A. Alexandrescu, N. Constantinescu, *Şantierul arheologic Suceava-Cetatea Neamţului*, SCIV, 6/3-4, 1955, p. 777, fig. 22; P.-Victoria Batariuc, *op. cit.*, p. 840, pl. 1/2.
209. Unpublished, in the National Museum of Bucovina, Suceava.
210. V. Ciurea, *Aperçu des antiquités préhistoriques du département de Baia, Dacia*, 3-4 (1927-1932), 1933, pl. 2/4-7.
211. C. Matasă, *op. cit.*, BCMI, 31, 97/fasc. 7-9, 1938 (1940), fig. 59/in the right corner.
212. N. Ursulescu, P.-V. Batariuc, *Cercetările arheologice de la Mihoveni (Suceava)-1973*, Suceava, 5, 1978, p. 90, fig. 8/9-11, 9/1-5.
213. M. Dinu, *op. cit.*, ArhMold, 1, 1961, p. 56; P. Roman, *Despre unele aspecte ale perioadei de tranziție de la epoca neolitică la epoca bronzului în regiunile extracarpatice ale RPR*, RevMuz, 1, 1964/4, p. 320-321; D. Berciu, *op. cit.*, p. 138. Unfortunately, this view was replaced with the one which claimed a contemporaneity of the GAC with the beginning of the Horodiştea cultural unit (see, M. Dinu, *Quelques considérations sur la période de transition du néolithique à l'âge du bronze sur le territoire de la Moldavie*, Dacia, N. S., 12, 1968, p. 138).
214. E. Comşa, *op. cit.*, Balcanica, 3, 1972, p. 90, using, however, lame arguments.
215. Sebastian Morintz, *Probleme privind originea tracilor în lumina cercetărilor arheologice*, RevIst, 30/8, 1977, p. 1470.
216. Vl. Dumitrescu, *Perioada de tranziție de la eneolitic la epoca bronzului*, in Vl. Dumitrescu, Al. Vulpe, *Dacia înainte de Dromihete*, Bucureşti, 1988, p. 53-54.
217. V. G. Zbenovič, *op. cit.*, p. 46.
218. M. Dinu, *op. cit.*, Materiale, 6, 1959, p. 219; *idem*, *op. cit.*, Materiale, 7, 1961, p. 124-125.
219. See note 129. The fact that the microregion of the Moldova river basin was inhabited by the Târpeşti communities can offer a possible explanation for the absence in this zone of the cist burials belonging to the GAC (see Map I).
220. A. Florescu, Marilena Florescu, *Sondajul de la Gîrceni (r. Negreşti, reg. Iaşi)*, Materiale, 6, 1959, 221-224, fig. 1 and 3.
221. Zs. Székely, *Date noi privind ritul de înmormântare al culturii Schneckenberg în judeţul Covasna*, Aluta, 10-11 (1978-1979) 1980, p. 39-41, fig. 1; *idem*, *Contribuţii la dezvoltarea culturii Schneckenberg în judeţul Covasna*, Aluta, 14-15, 1983, p. 62, fig. 3; P. Roman, *Perioada timpurie a epocii bronzului pe teritoriul României*, SCIVA 37/1, 1986, p. 35, fig. 1/1, 4.
222. Zs. Székely, *op. cit.*, mss., 2000.
223. Al. Koško, *op. cit.*, JIES, 1991/3-4, p. 248.
224. Grave No. 3/T. 444 Kamenka (N. K. Kačalova, *op. cit.*, p. 18, pl. 7/1); Grave No. 7/T.2 Corpaci (E.V. Jarovoj, *Pogrebal'nyj obrjad nekotorych skotovodčeskich plemen Srednego Pruta*, in *Kurgany v zonach novostroek Moldavii*, Kişinev, 1984, p. 44, fig. 4/3); Grave No. 8/T. 3 Mărculeşti (V. S. Bejlekči, *Raskopki kurgana 3 u s. Mărculeşti*, AIM (1986) 1992, p. 76, 78, fig. 3/2); Grave No. 12/T. 25 Badragii Vechi, Grave No. 14/T.3 Ocnîţa (I. V. Manzura, E. O. Kločko, E. N. Sava, *Kamenskie kurgany*, Kişinev, 1992, p. 28-29, 91, fig. 12/6).
- On the basis of archaeological sources, E. V. Jarovoj has suggested that the active part in the establishment of the cultural contacts GAC-TRB was played by the PGC tribes (E.V. Jarovoj, *op. cit.*, p. 71). The fact of the absence of typical GAC graves in the northern part of the actual Republic of Moldavia certainly strengthens the Jarovoj's interpretation. Moreover, the custom to use ochre in the burial practice, recorded in the GAC burials from Volhynia, seems also to be connected somehow with the Steppe burial tradition.
- As indicators of the presence of the GAC into the PGC distribution area in Bugceac were often invoked some artifacts (the vessels at Bolgrad, the flint axes from Grigor'evka, Semenovka and Alkaliya, the cist discovered at Tatarbunar) (see, L.V. Subbotin, N. M. Šmaglij, *Rozkopki kurgannogo mogil'nika v m. Bolgrad Odes'koj oblasti*, in *Archeologija-Kiev*, XXIV, 1970, p. 124, 127; L.V. Subbotin, *Dva kurgana epochi bronzy v Bugo-Dnestrovskom mezhdureč'e*, in *Archeologičeskie pamjatniki Severo-Zapadnogo Pričernomor'e*, Kiev, 1982, p. 105-105). However, we think that these materials must be differently explained than through GAC. Doubts were also expressed earlier (V.G. Zbenovič, *op. cit.*, AAC, 16, 1976, p. 48; M. Szmyt, *op. cit.*, B-PS, 4, 1996, p. 24). Moreover, except the cist, all the other burial elements and grave-goods specific for the EBA cist graves in the north-western Black Sea zone are quite typical for the Jamnaja. Therefore, in this context, the cist must be interpreted not as a cultural marker, but rather as a social one, reflecting the high social status of the Jamnaja deceased buried in these particular funeral constructions. On the other hand, it must be observed that there are good arguments placing all the tumular graves in the north-western Black Sea region endowed with presumed GAC elements quite reasonably into a late (or even final) period of the PGC evolution. To give an example, at Grigor'evka, the grave in which a flint axe has appeared was stratigraphically subsequent to late Jamnaja burials; moreover, one of these latter, the primary grave, had in its inventory a corded cup of Bugceac type (L.V. Subbotin, *op. cit.*, p. 105; fig. 1/3, 7-8). Certainly, the lowest ¹⁴C dates from the GAC features discovered in the eastern areas (St. Kadrow,

- M. Szmyt, *Absolute Chronology of the Eastern Group of Globular Amphora Culture*, B-PS, 4, 1996, tab. 1) would sustain a chronological parallelism of the GAC also with the late PGC period, but for the moment, this synchronization has no archaeological ground. On the contrary, in the late PGC tumular graves discovered in the Prut-Dniester area (Bursuceni, Crihana Veche, Trapovka) were recorded cultural elements with parallels in the west Ukrainian corded ware cultures of the EBA period, cultures which, generally, are younger than the GAC.
225. I. V. Manzura, E. O. Kločko, E. N. Sava, *op. cit.*, p. 91-92.
226. O. G. Šapošnikova, V. N. Phomenko, *Pogrebal'nyj obrjad*, in O. G. Šapošnikova, V. N. Phomenko, N. D. Dovženko, *Jamnaja kul'turno-istoričeskaja oblast' (Južnbugskij variant)*, Kiev, 1986, p. 56, fig. 26/6-8.
227. I. Svešnikov, *op. cit.*, p. 36, pl. XIV/1.
228. S. Marinescu-Bîlcu, *Unele probleme ale perioadei de tranziție de la neolitic la epoca bronzului din Moldova în lumina a trei morminte plane de înhumare descoperite la Tîrpești*, SCIV, 15/2, 1964, p. 241-250.
229. M. Szmyt, *Spoleczności*, 1996, p. 64-65, 75, tab. 17, nr. 30-44.
230. Sl. Kadrow, M. Szmyt, *op. cit.*
231. Al. Koško, *op. cit.*, JIES, 1991/3-4, p. 246.
232. Sl. Kadrow, M. Szmyt, *op. cit.*, p. 108.
233. V. Mihăilescu-Bîrliba, *op. cit.*, p. 212-213.
234. M. Szmyt, *Spoleczności*, 1996, p. 75.
235. Sl. Kadrow, M. Szmyt, *op.cit.*, Table 1/No. 1-2 and Table 2, with the calibrated date ranges.
236. Cornelia-Magda Mantu, *Câteva considerații privind cronologia absolută a neo-eneoliticului din România*, SCIVA, 46/3-4, 1995, Appendix 2, nr. 105.
237. Fl. Burtănescu, *Epoca timpurie a bronzului între Carpați și Prut*, București (in print), cap. IV.1, *Elements of absolute chronology*, sect. II and Table XIII/No.11/12-18/19.
238. M. Szmyt, *Spoleczności*, 1996, p. 75; Janusz Czebreszuk, M. Szmyt, *Der Epochenumbbruch*, 1998, p. 180.
239. Sl. Kadrow, M. Szmyt, *op.cit.*, p. 106.
240. M. Szmyt, *op. cit.*, B-PS, 4, 1996, p. 11.



Map I. Sites of the GAC in Moldavia. I. Burials: Suceava-"Spital" (1); Dolhești Mari (2); Basarabi-Preutești (3); Șcheia-"Muncel" (4); Șerbești (5); Bârgăoani (6); Piatra Neamț (7); Piatra Șoimului (-Calu)-"Deleni" (8); Mastacăn (9). II. Uncertain burials: Horodnicu de Jos (10); Grănicești (11); Stâncești (12); Șcheia-"Humărie" (13); Brășăuți/Cut (14); Borlești (15); Oniceni (16); Băcești (17); Gârceni (18); Tăcuta (19); Dumestii Vechi (37); Uncești (38). III. (Certain and uncertain) settlements and GAC features in local sites: Siret (20); Darabani-"Iazul lui Cusin" (21); Horodiștea (22); Suceava-"Parcul Cetății" (23); Suceava-"Cetatea Șcheia" (24); Ceplenița (25); Erbiceni-"Dl. Sărăturilor" (26); Răucești-"Chetriș" (27); Târpești-"Râpa lui Bodai" (28); Bodești-"Frumușica" (29); Scânteia (30); Țigănești (31); Foltești (32); Groapa Vlădichii-"Vatra satului" (39); Ibănești-"Dl. Crucii" (40); Cărnicieni (41); Mihoveni-"Cahla Morii" (42). IV. Flint hoards: Piatra Șoimului (-Calu) - "Horodiște" (33); Valea Adâncă (34). V. Others finds: Adâncata (35); Liteni-Moara (36).



B

		SHAPES													
		A		B	C	D	E	F		G	H	I	J	K	L
		1	2					1	2						
Suceava Plateau	Suceava	T1								○					
		T2		?											?
	Basarabi										○				
	Dolheștii Mari	T _A	○												
		T2	○					●	○		○	○			
T3								○							
Șchela	T1	○	●		○		○			○					
	T2	○				●									
Carpathian foothills	Mastacăn	Cisl	○		○				○					●	
		Menh												?	
	Platra Neamț	○	○												
	Șerbești											○			
	Bărgăoani		●												

Plate I. Ceramic shapes of the Moldavian GAC funeral features (A) and their territorial distribution (B) (○ - once; ● - 2-4 times)

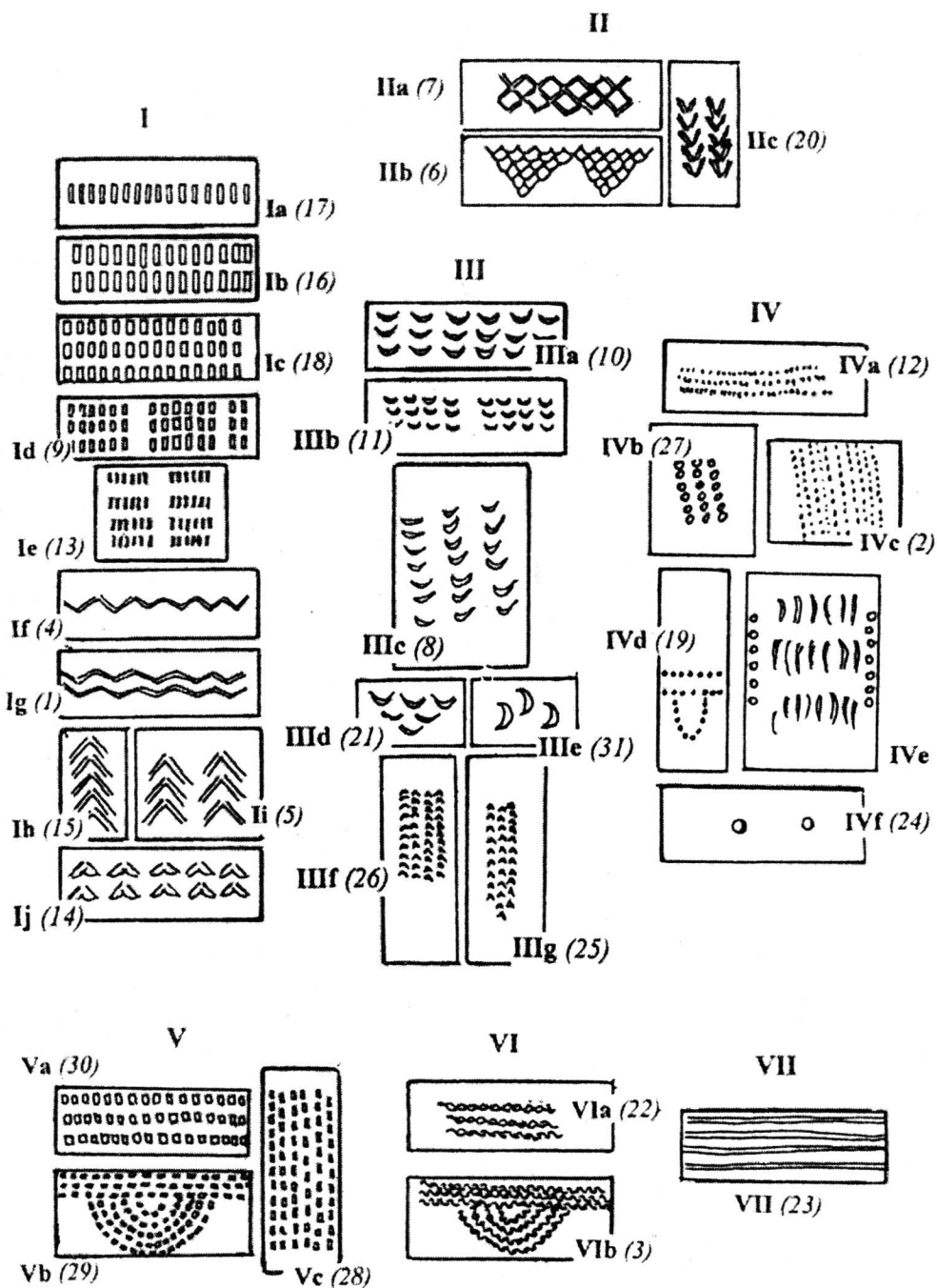


Plate II. Catalogue of the decoration motifs on the GAC funeral pottery in Moldavia (the numbers in brackets correspond to those in the Pl. IV and V).

A

			DECORATION MOTIFS																															
			I									II				III					IV					V			VI		V			
Suceava Plateau	Suceava	T.1	a	b	c	d	e	f	g	h	i	j	a	b	c	a	b	c	d	e	f	g	a	b	c	d	e	f	a	b	c	a	b	II
		T.2																																
	Basarabi	AT	o													o		o																
		T.2	e		o	e				o						o	o	o																
		T.3	o			?																												
	Șcheia	T.I	e	o	o	o	e	o	o	o		o														o	o	o						
T.II		o			o				o																									
Carpathian foothills	Mastacăn	e				o			o	o			o	o							o													
	Calu				?								o	o																				
	Piatra Neamț											o	e	o	o						o										e	o	o	
	Bârgăoani			e		o		e	o																									

B

			DECORATION MOTIFS																												No. decor		
			I									II				III					IV					V			VI			V	
Amphorae	A	A1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		A2	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
	B																																
	C																																
	D																																
	E																																
	F	F1																															
		F2																															
	G																																
	H																																
Beakers	I																																
	J																																
Jars	K																																
Bowls	L																																

PLATE III. The territorial distribution of the ornamental motifs on the pottery discovered in the GAC burials in Moldavia (O - once; ● - 2-4 times) (A) and correlation shapes/decoration in the case of the GAC funeral pottery discovered in Moldavia (no border: Suceava Plateau; with border: Carpathian foothills; symbols: ■ - Suceava/T 1; □ - Suceava/T 2; ◇ - Basarabi; ○ - Dolheștii Mari/animal grave; ● - Dolheștii Mari/T 2; □ - Dolheștii Mari/T 3; ▲ - Șcheia/T I; ► - Șcheia/T II; ■ - Mastacăn; — - Piatra-Neamț; ◀ - Șerbești; ▼ - Bârgăoani) (B).

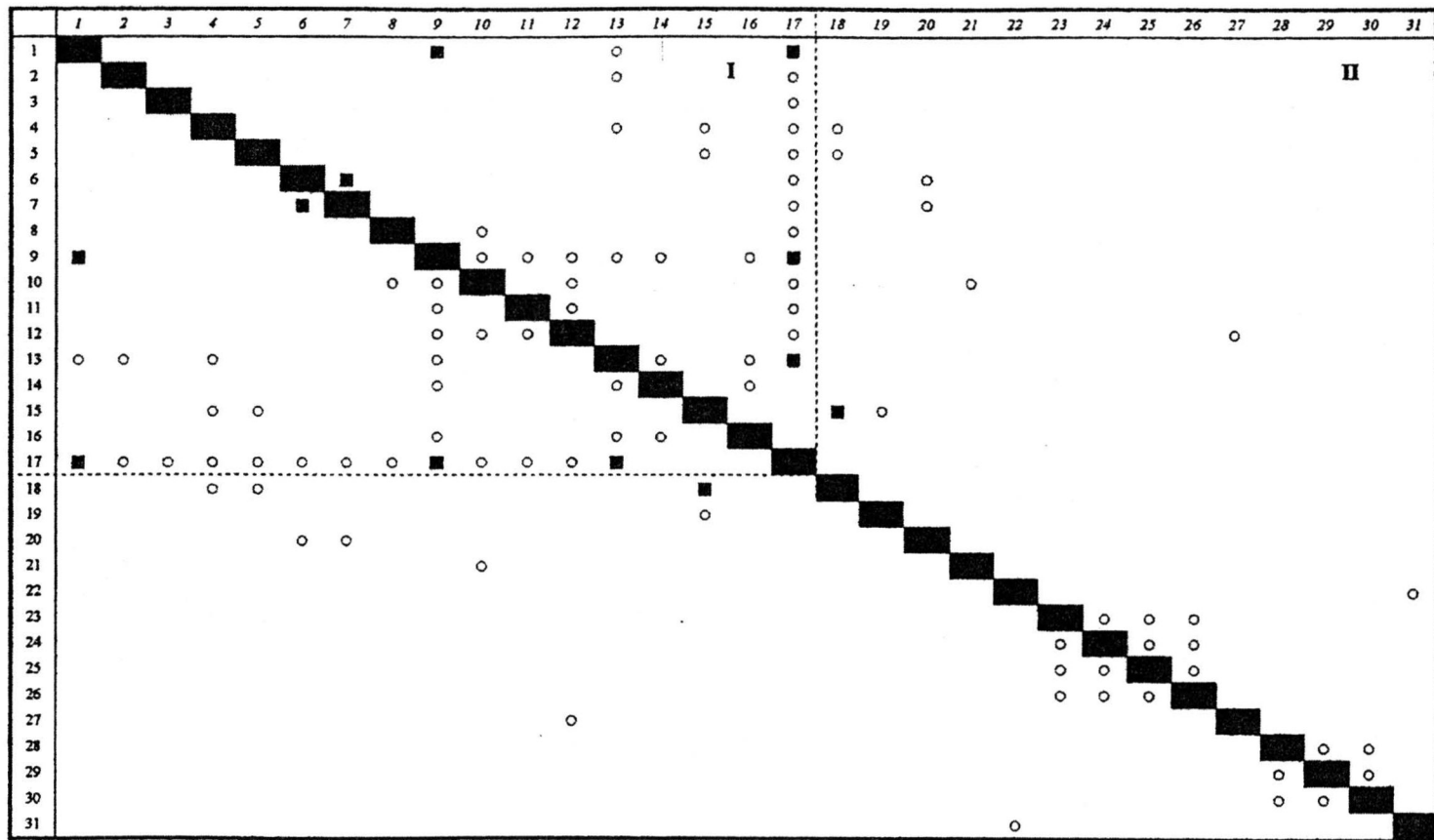


PLATE IV. Periodization attempt of the Globular Amphorae Culture in Moldavia. The mutual appearance of the decor types specific to the ceramics found in the graves (○ - once; ■ - 2-4 times).

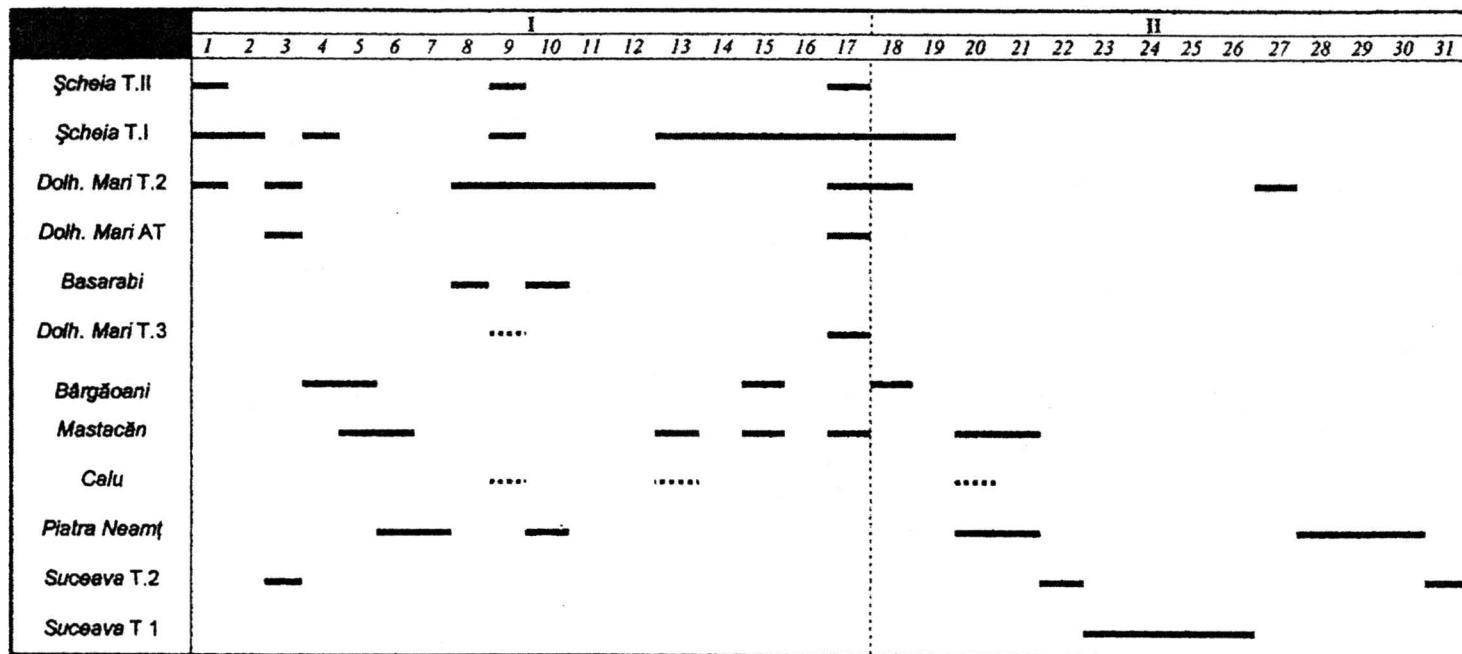


PLATE V. Periodization attempt of the Globular Amphorae Culture in Moldavia. The synchronization scheme of the funeral complexes based on the mutual appearance of the decor types.

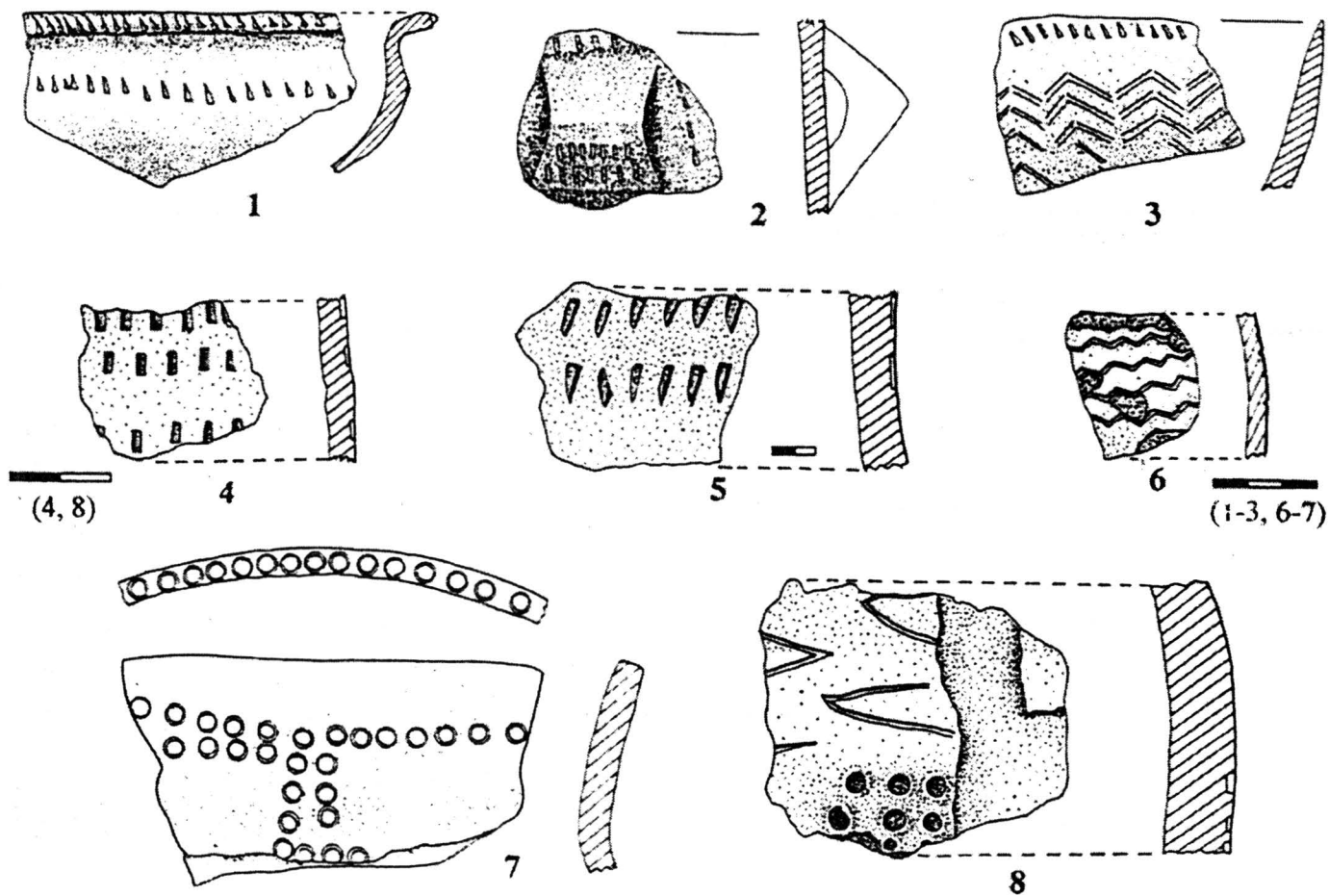


Plate VI. Ceramic fragments from Bodești-*Frumușica* (1-3); Horodiștea-*Mălăiște* (4, 6) and La pârâu (5), Țigănești-Vultureni (7), Darabani-*Iazul lui Cusin* (8).

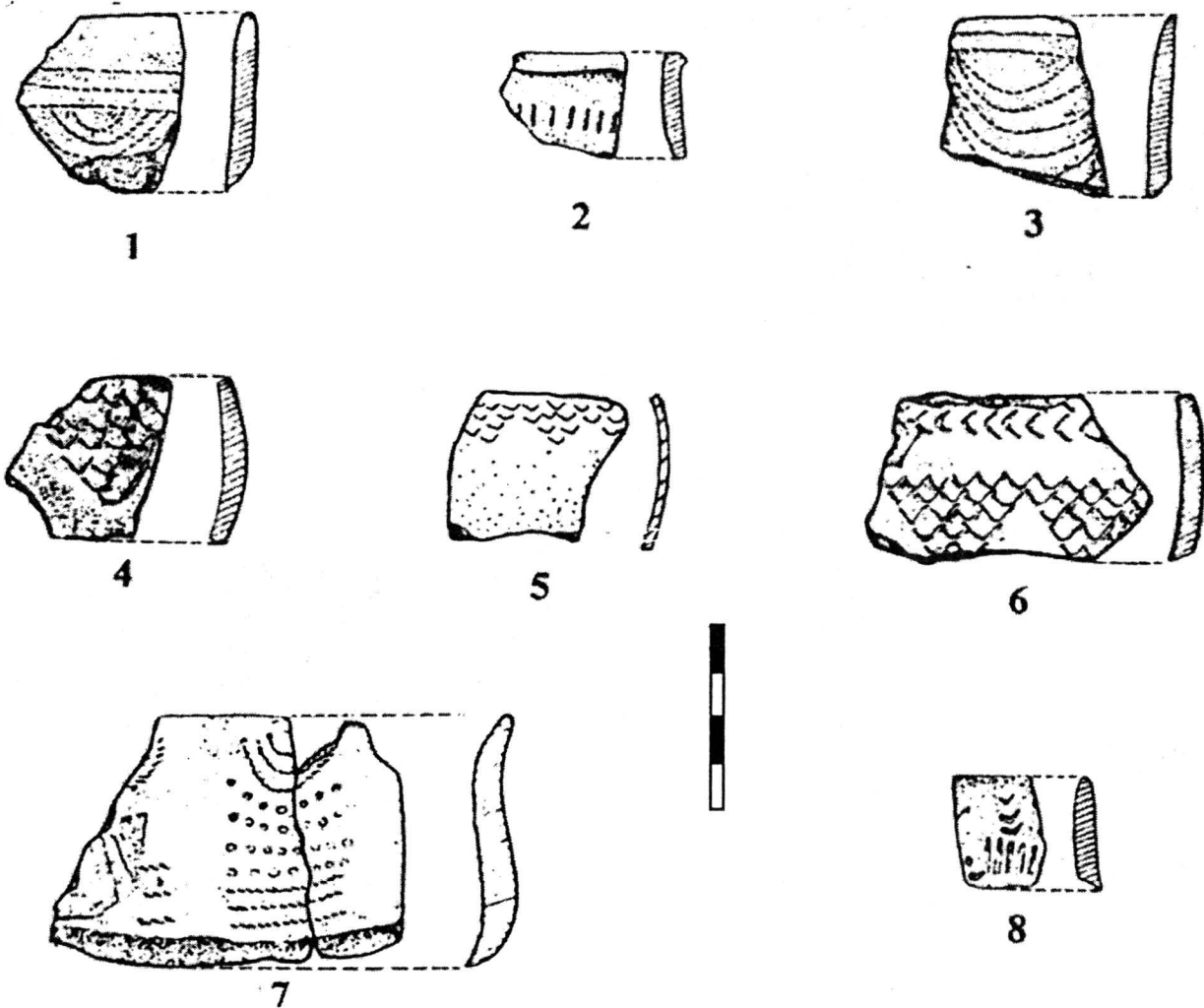


Plate VII. GAC ceramic fragments from Șcheia-Siliștea. After B. Niculică, S. Ignătescu, D. Boghian (1999).

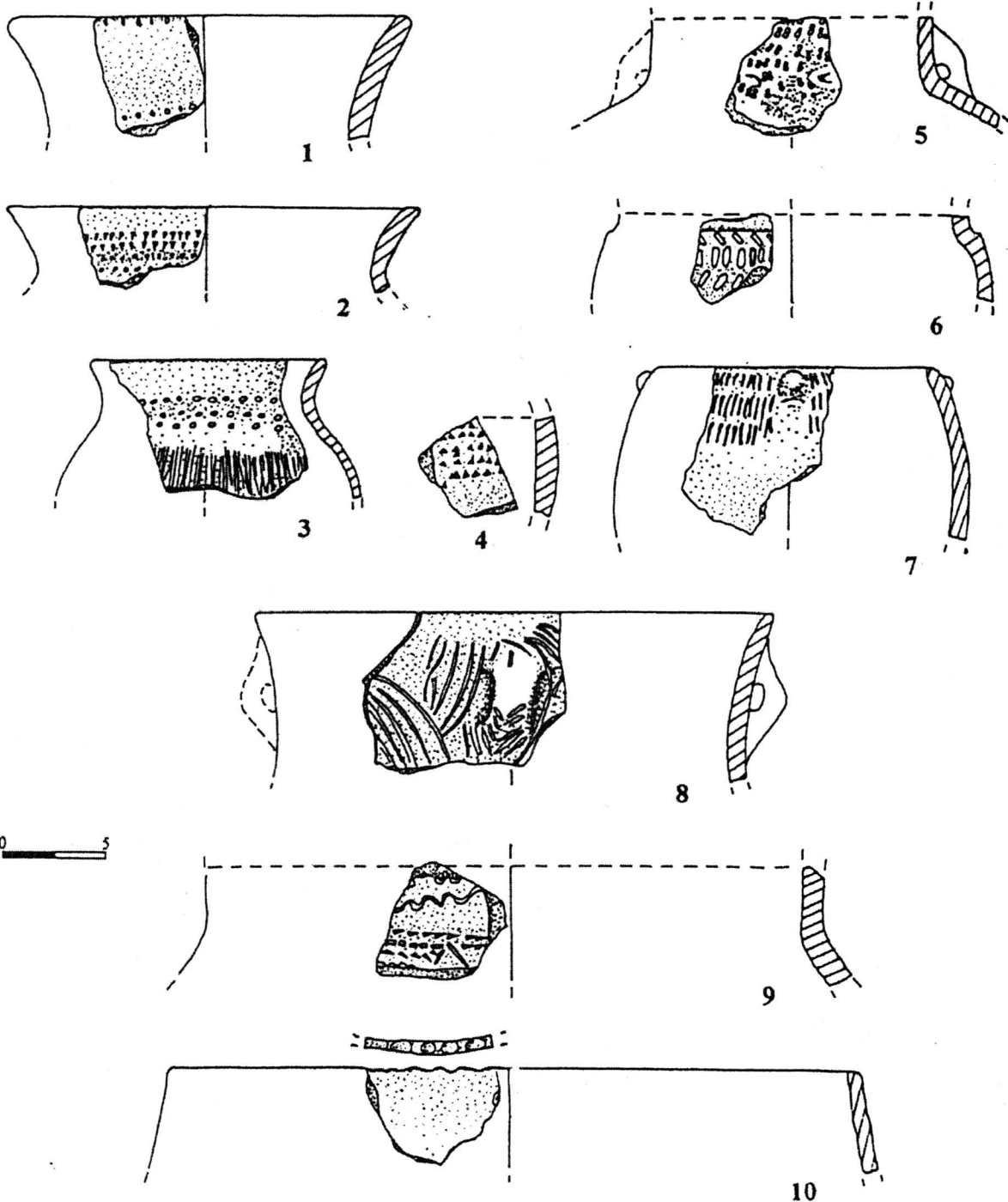


Plate VIII. Scânteia-Di. Bodeștilor. Selected ceramics. After C-M. Mantu, N. Boroffka (1996).