

**Ghenadie Sîrbu\*, Dariusz Król\*\*, Serghei Heghea\*\*\***

## THE LATE ENEOLITHIC GROUPS FROM THE DNIESTER-PRUT INTERFLUVE: SOME QUESTIONS OF THEIR EXTERNAL CONTACTS AND CHRONOLOGY

\* ORCID 0000-0002-4525-1239; Academy of Sciences of the Republic of Moldova, Center for Archaeology, Institute of Cultural Heritage, 2001, Chişinău, Ştefan cel Mare bd., 1, Moldova; ghen\_a\_ipc@yahoo.com

\*\* ORCID 0000-0001-7696-1308 University of Rzeszów; Institute of Archaeology, 10 Moniuszki str., 35-015 Rzeszów, Poland; kroldrk@gmail.com

\*\*\* ORCID 0000-0003-1315-6410; Academy of Sciences of the Republic of Moldova Center for Archaeology, Institute of Cultural Heritage, 2001, Chişinău, Ştefan cel Mare bd., 1, Moldova; sheghea@gmail.com

### ABSTRACT

In this article we would like to point out some issues related to a series of ceramic materials found in sites attributed to the Late Enolithic groups of Brînzeşti and Gordineşti in the Dniester-Prut interfluve. In terms of technology and stylistics in the case of pottery from the Brînzeşti type sites and stylistics in the case of pottery from the Gordineşti type sites, we can see some analogies in the cultural environment of the central European area. For the Brînzeşti group the clearest analogies tend to be seen in eastern, southern and south-eastern areas of the Funnel Beaker culture, whereas for the Gordineşti group this seems to be visible within the Złota culture in the Sandomierz Upland, Middle Vistula region. Another issue of our study concerns the chronological frames of these two groups. Analyses of

the radiocarbon data series obtained so far allow us to make some careful corrections in the chronological scheme of the Late Eneolithic for eastern Europe. Both mentioned issues fit into socio-cultural relations in the East Carpathian area in the context of the cultural transformations in the second half of the 4th millennium BC.

**Keywords:** Late Eneolithic, Dniester-Prut interfluve, Brînzeni group, Gordinești group, Funnel Beaker culture, Złota culture, cultural influence, chronological frames, radiocarbon data

## INTRODUCTION

The second part of the 4th millennium BC is marked by a series of complex processes that changed socio-cultural relations in the East Carpathian region. The movements of populations over large areas, caused by various factors, had a major impact on the communities of farmers in this vast area. The outcome of these changes is well visible in the settlement patterns, in the architecture of dwellings, in the technique of ornamentation of ceramics and more expressively – in funeral practices. At the time, a number of the local Late Eneolithic groups of the Tripolye CII phase evolved there. Our attention is focused on two of them: the Brînzeni and Gordinești group widespread in the Dniester-Prut forest-steppe.

Determining the place of these groups in the final phase of the Eneolithic is a problem that requires a complex approach, but most of the time it is treated superficially by researchers. The factor influencing this problem is the lack of an extensive database containing all the necessary components such as: area of spread, the type of settlements and dwellings, ceramics and inventory, funeral rite, and not least – the chronological frames.

A few decades ago, Valentin Dergachev encountered this problem during his analyses of artefacts related to the Tripolye CII phase. He stressed that regardless of the number of recognized sites, their typological determination is caused by the following circumstances: many of the settlements are known to be based on a small collections of ceramics, sources from the excavated sites are not published or access to them is restricted and the materials considered as specific to the local groups often have common characteristics [Dergachev 1980: 123-124].

A frequently discussed issue is the presence in the ceramic collections from the East Carpathian region of vessels made in a completely different technique than the local one. In the collection of archaeological finds discovered at sites of Brînzeni and Gordinești groups, a number of materials characteristic for central European communities were also observed. Here we refer to the Funnel Beaker culture (FBC) and Brînzeni group, and the Złota culture and Gordinești

group. Starting from existing discoveries, as well as the views based on them, we aimed to present an overview of these materials in the context of their discoveries and some ideas regarding the problem of chronological frames of both local groups.

## THE BRÎNZENI GROUP

The issues concerning this group were included into the research literature in the early 1980's in the form of two monographs written by V. Dergachev [1980] and V. Markevich [1981] that present research of the Late Eneolithic/Tripolye CII sites from the Dniester-Prut interfluvium. As a result of rescue excavations carried out on the settlement of Brînzani III-*Țiganca*, it was possible to determine the specificities of this group's settlement, internal organization, architecture of dwellings, categories of ceramics and their elements of decoration, and other finds made of various materials. Thus far, 18 sites<sup>1</sup> of the Brînzani group have been documented in the Dniester-Prut forest-steppe (Fig. 1). These sites are located in the upper basin of the Prut River and in the Middle Dniester River. They are mainly represented by open and less fortified settlements and their common feature is the location in highly exposed places, often with naturally defensive qualities. The appearance of a large number of naturally or intentionally fortified sites in the Late Eneolithic in the East Carpathian forest-steppe could have been associated with movements of people from outside or internal conflicts. According to V. Markevich, if such situations occurred, this would lead to the fortification of sites not only in the northern area, but throughout the territory of the Dniester-Prut interfluvium [Markevich 1981: 72].

The internal organization of these sites is well illustrated by the settlements in Costești IV and Brînzani III-*Țiganca*. In the first case, dwellings were arranged radially [Markevich 1981: Fig. 66-67], while in the second they were located in groups of four or more dwellings [Markevich 1981: Fig. 42], without the possibility for a surprising regularity.

Various materials made in technology, which seems to be specific to the cultures of central European communities have been known in the discussed area since the start of rescue excavations in the sites of Costești IV and Brînzani III-*Țiganca* in the beginning of the 1970's. The first information on central European analogies for ceramics identified in these settlements was presented in the article written by V. Titov and V. Markevich, who interpreted them as imports from

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<sup>1</sup> Some of the information about these sites was taken from the archive of Professor Valentin Dergachev. We would like to thank him deeply for his help.

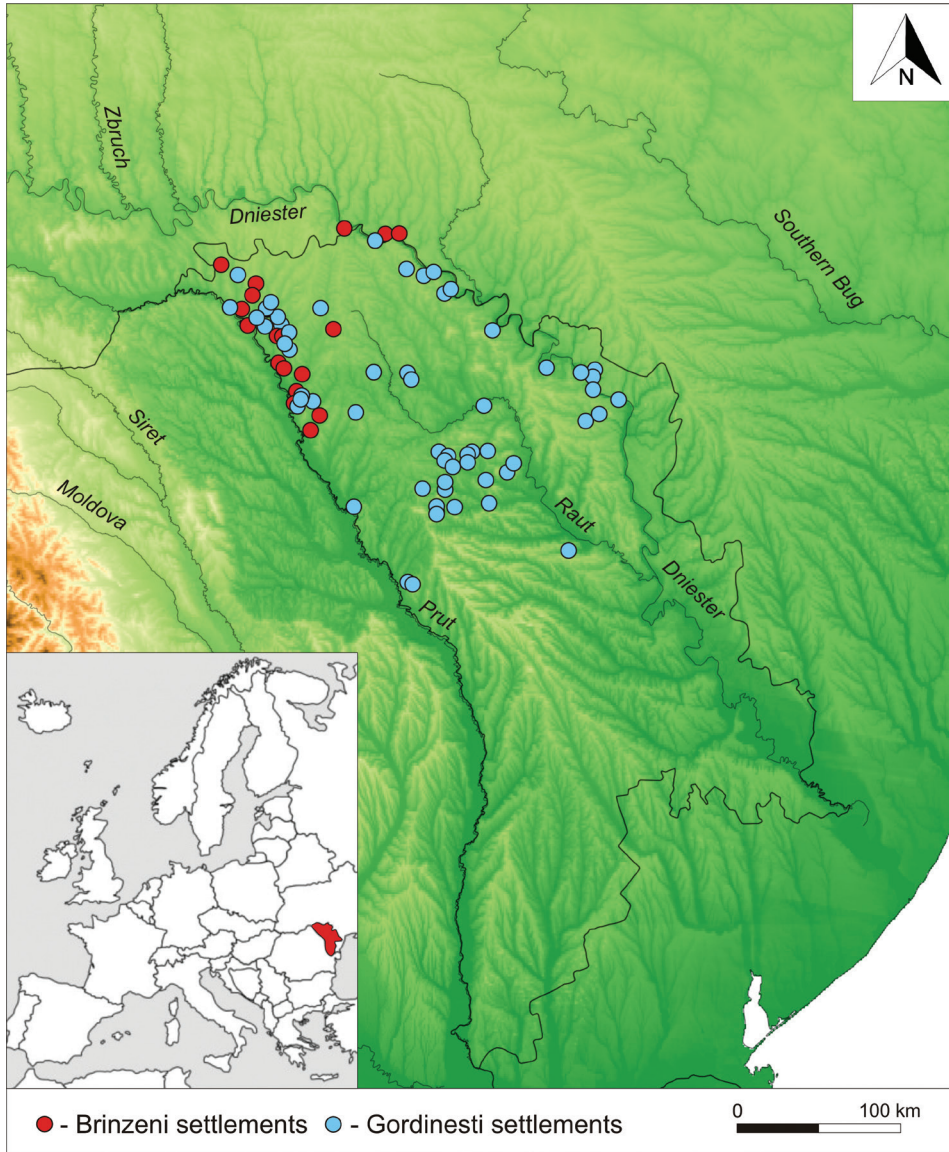


Fig. 1. Distribution of Brinzeni and Gordinești sites on the map of Republic of Moldova

the Tiszapolgár and Bodrogkeresztúr cultures [Titov, Markevich 1974: 150-164]. V. Markevich maintained this opinion regarding the cultural attribution of these materials in his monograph [Markevich 1981: 177-178].

#### THE BRÎNZENI TYPE SITES WITH FUNNEL BEAKER POTTERY

The infiltration of some groups of populations with a different way of life than the locals in the northern area of the Dniester-Prut forest-steppe took place at various stages of the Eneolithic. These communities were characterized by an absence of funeral complexes and differences in the architecture of the dwellings, pieces of inventory and not least in ceramics. In the case of the Brînzeni group, the contact with central European communities is materialized first of all through ceramics. Artefacts of this kind were discovered in four settlements, all located in the upper basin of the Prut River.

#### BRÎNZENI III-ȚIGANCA SETTLEMENT

The site is located 2 km north of the Brînzeni village (Edineț District), on the left bank of the Racovăț River (Fig. 2: I). It occupies the flat surface of a limestone rock hill, which rises over the riverbed by 50-70 m. The place occupied by the settlement is named by local villagers *Țiganca*.

The site was discovered by N. Chetraru in 1968 and excavations were undertaken during the period 1970-1972, by a group coordinated by V. Markevich [1972; 1981: 33-42]. Thus, the west part of the site, on about one third of the area (circa 1.5 ha) has been destroyed by quarrying and the remaining part, in the east zone of the settlement, comprising 37 above-ground dwellings [Markevich 1981: 33-34; Țerna, Heghea 2017: 312]. Nearby the settlement, six burial tombs left by the bearers of the Edineț culture from the early Bronze Age were investigated [Titov 1975: 447; Dergachev 1986: 111].

The primary analysis of the situation within the settlement as a result of field research allowed V. Markevich to formulate some ideas regarding the system of dwellings placement inside the settlement (Fig. 2: II). Thus, the housing complexes were not built in a circle or radially but in a group of two or more dwellings [Markevich 1981: 33]. They were represented by burnt clay platforms with dimensions of about 5-12 × 5 m, consisting of two layers of daub 25-28 cm, which differed according to the consistency of the filling (Figs. 3-5).

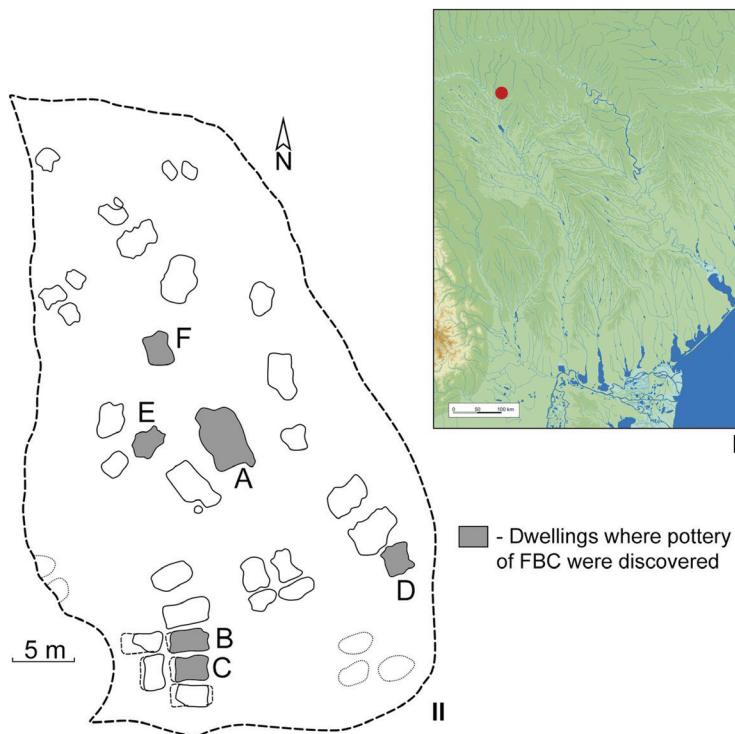


Fig. 2. Brînzani III-Țiganca site. I – location on the map of Republic of Moldova; II – distribution of dwellings on the schematic plan of the settlement (after Markevich 1981; redrawn by the authors)

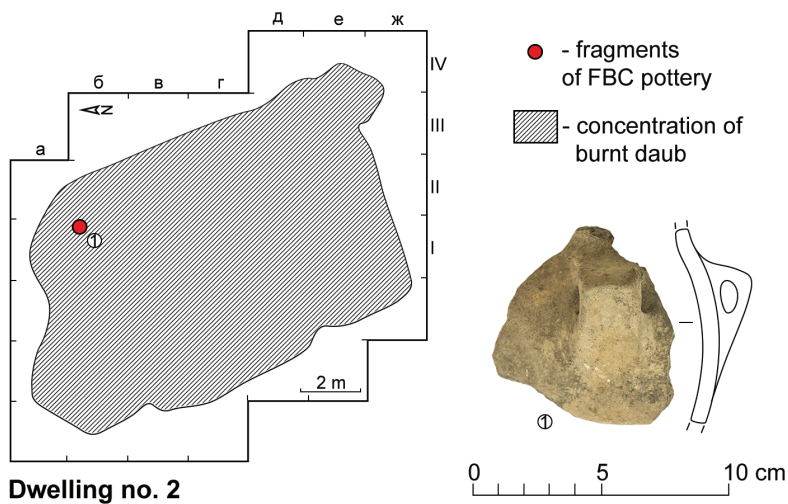


Fig. 3. Brînzani III-Țiganca site. The schematic plan of the dwelling no. 2 (after Markevich 1981; redrawn by the authors) and the context of the Funnel Beaker culture pottery

Inside some dwellings square ovens were found in the plan with a dome-shaped top, with approximate dimensions of 1-1.10 m (Figs. 4: A; 5: A-B).

The Brînzeni type collection includes a large number of tools made from deer antler such as: hammers, axes, spuds, polishing, daggers, etc. The stone pieces are smaller in number, being represented by grinders and axes. Copper objects are also small in number, consisting of an axe and an adze. Exemplars made of clay

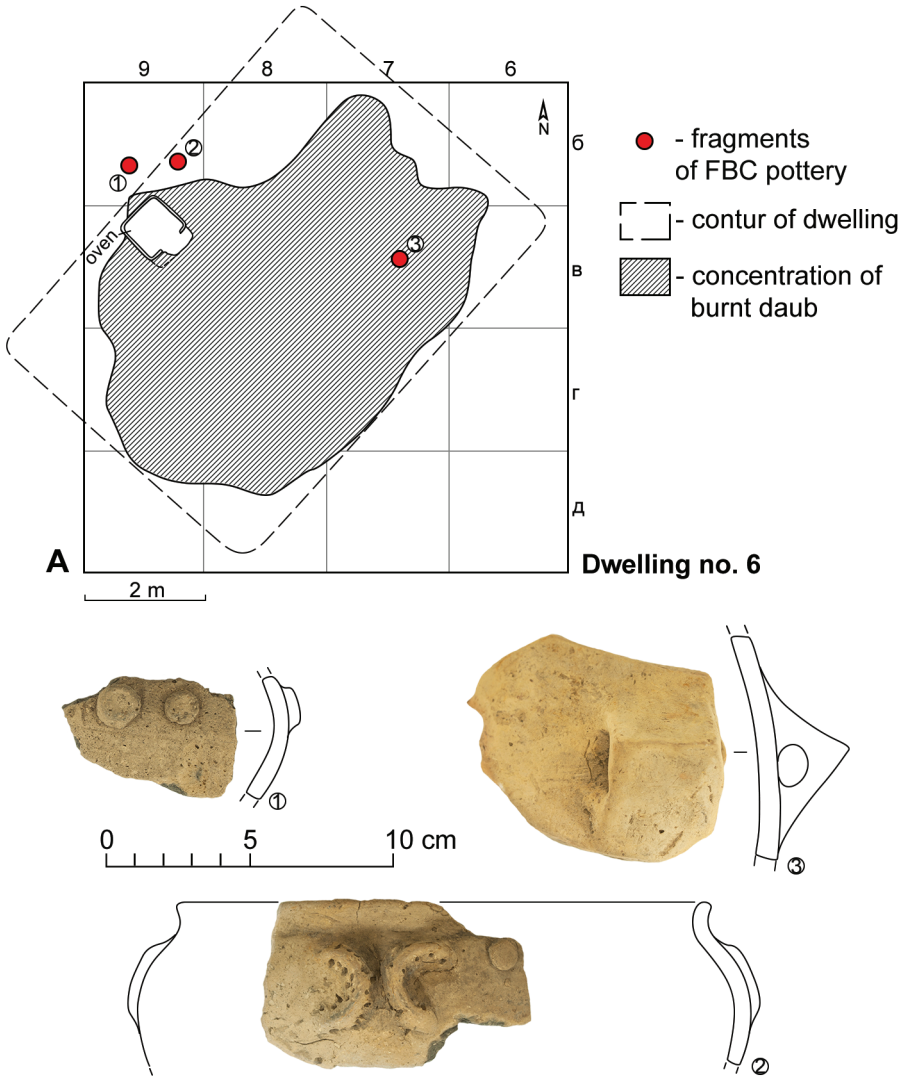


Fig. 4. Brînzeni III-Țiganca made in intalics site. A – the schematic plan of the dwelling no. 6 (after Markevich 1981; redrawn by the authors) and the context of the Funnel Beaker culture pottery

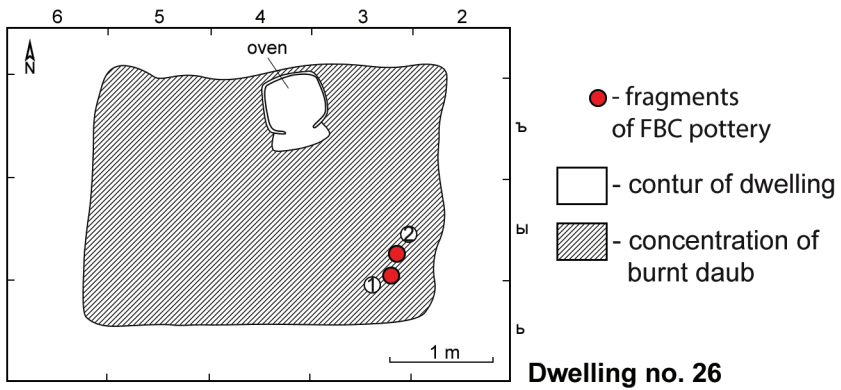
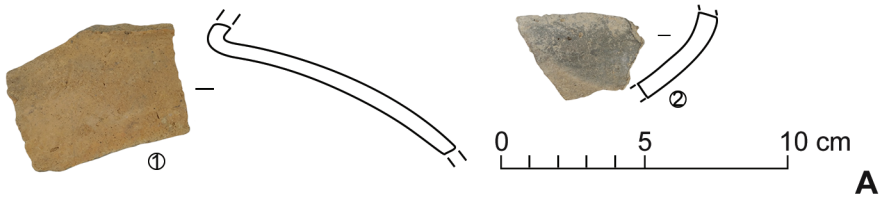
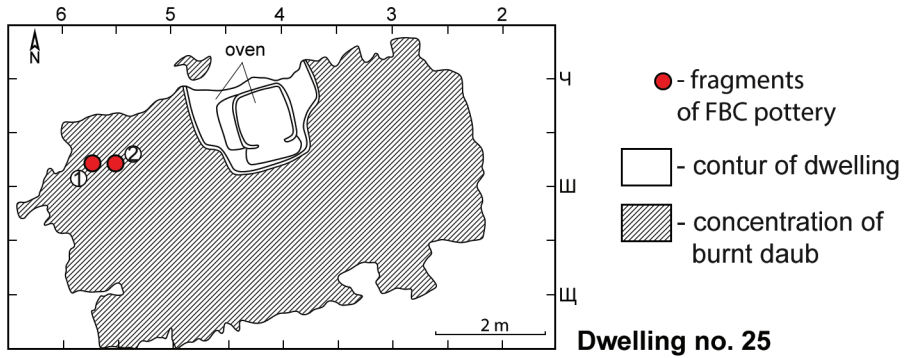


Fig. 5. Brînzei III-*Țiganca* site. A – the schematic plan of the dwelling no. 25 (after Markevich 1981; redrawn by the authors) and the context of the Funnel Beaker culture pottery; B – the schematic plan of the dwelling no. 26 (after Markevich 1981; redrawn by the authors) and the context of the Funnel Beaker culture pottery



contain a rich material made up of loom weights, spindle whorls, anthropomorphic and zoomorphic figurines.

The ceramic assembly includes an impressive range of shapes that comprise both the fine and the coarse category. The fine pottery was modelled from compact paste without admixtures, the decoration is diverse being composed of oval with tangents, festoons, strips of parallel lines, zigzag lines, symbols in the form of the letter *W*, less commonly *M* or *V*, anthropogenic and zoomorphic figures, while paintings in the form of mesh are rarely encountered (Fig. 6: 3-6). The coarse pottery was modelled from clay often with fragments of shell in admixture, with the profile of *S*-shaped vessels, mouth wide open.

*FBC pottery.* The assemblage of the ceramics discovered at the Brînzeni III-*Țiganca* site also contains fragments of pottery different from the local one. The technology of modelling the paste, the way of processing the surfaces and the decorative elements direct our attention towards the regions of central European cultures and mostly to the FBC. It is important to note that for some of these fragments the context of their discovery has been highlighted, which, in our opinion, is important.

Most of the ceramics are in a fragmentary state and only one intact vessel was discovered (Figs. 6: 1-2; 7 and 8). For the reconstruction of the shapes we took into account the profile of the walls and the decoration applied on them; as a result we managed to delimit *amphorae*, *cups* and one form of *bowl*.

*Amphorae.* They are represented by vessels made from clay degreased with chamotte mixed with sand, which have a slightly flattened spherical body, a funnel shaped neck, a rounded rim, a straight bottom, while some fragments have a brick colour on both sides and others black. The applied decoration is represented by vertical impressions placed on the outside immediately under the rim (Figs. 6: 1; 7). On the shoulders of the vessels four vertical profiled handles have been placed on the maximum diameter (Figs. 3; 7; 8: 2-3). Some exemplars contain, at the transition from the neck to the shoulder, two handles with a raised edge (Fig. 8: 7-8). Possibly reliefs were applied also on the amphorae in the form of a crescent (Fig. 8: 5).

Of particular interest are two fragments of wall with an angular shaped handle (Figs. 4: 3; 6: 2). Such a form of handles is specific to FBC pottery, but the paste from which the vessel was modelled and the manner of surface processing is typical to Brînzeni type tradition. This, in our opinion, is a particularly interesting phenomenon, which develops the idea of cohabitation of groups with various ways of life and traditions at the same site. V. Markevich affirmed that the discovery in the area of the Late Eneolithic communities from the East Carpathian region, of some ceramic recipients, modelled in Cucutenian technology and with handles, supports or decorative elements executed in a different way than the local one, is an argument for the existence not only of a simple exchange between communities, but also the infiltrations of ethnic character in the local milieu [Markevich 1981: 178].

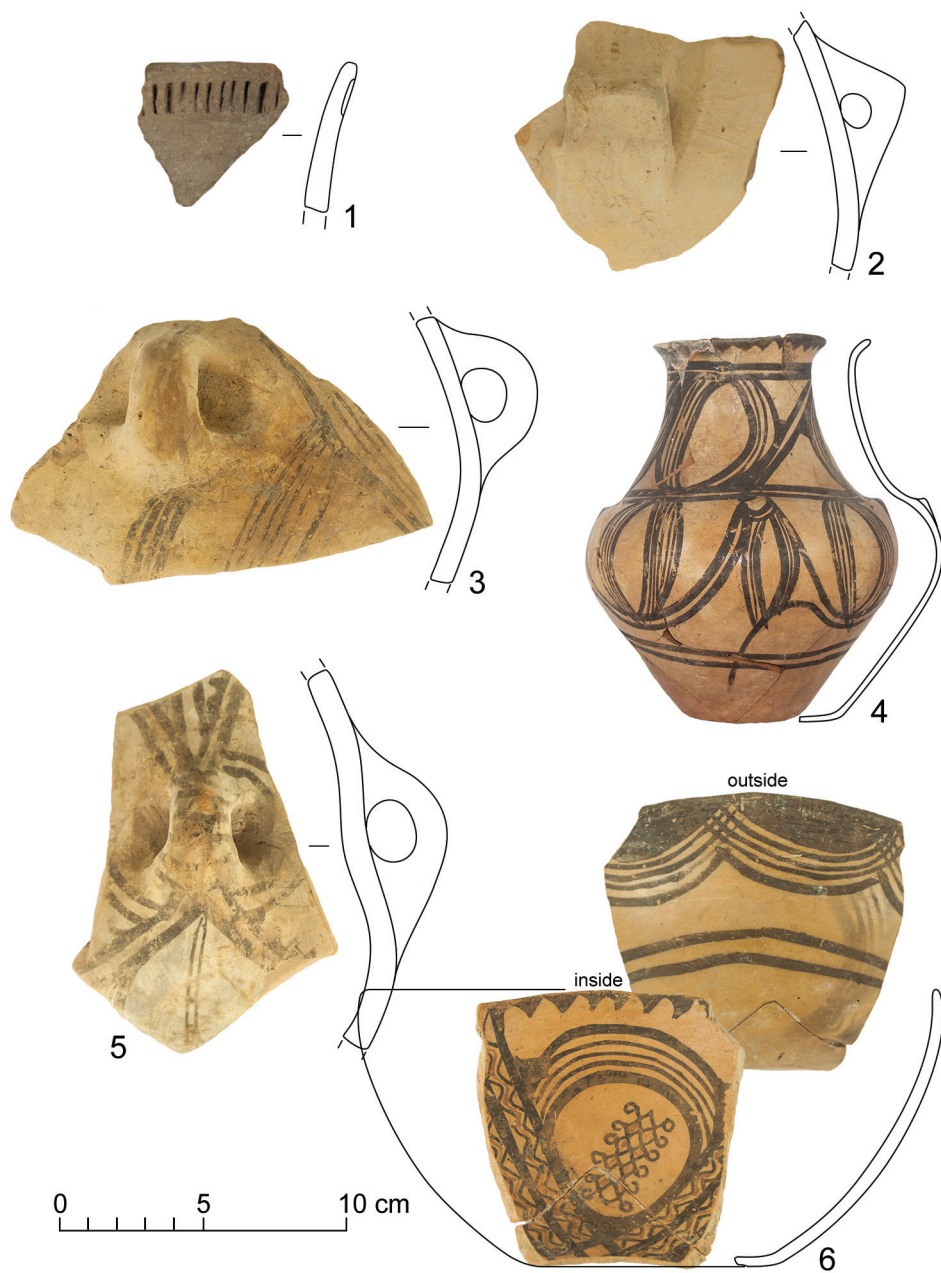


Fig. 6. Brinzeni III-Țiganca site. 1-2 – Funnel Beaker culture pottery; 3-6 – Brinzeni type fine pottery



Fig. 7. Brinzeni III-*Tiganca* site. Amphora of the Funnel Beaker culture

The intact four-handled amphora decorated with vertical stamps under the rim from Brinzeni III-*Tiganca* (Fig. 7) [see also Rybicka 2017: 45, Fig. 21] is a common form of vessels in the FBC pottery assembly, being including in type III [Koško 1981: 27].

Such amphorae were widespread in FBC territory during the 4th millennium BC, although they were often varied in shapes and ornamentations [cf. Rybicka 2017]. Also, they do not belong to the precision chronological indicators and moreover, the more accurate radiocarbon dates of the settlement features in the context of which they were discovered are also unknown in many cases. In Kujawy and nearby areas, one of the closest shaped four-handle amphorae are known, for instance, from Wilkostowo 23/24 [Rzepecki 2014: 246, Fig. 5.75: 1] and Zarębowo [Wiślański 1979: 180, Fig. 93:6; cf. Rybicka 2017]. According to S. Rzepecki's simulations of the numerous  $^{14}\text{C}$  dates the settlement in Wilkostowo 23/24 could have existed between 3523-3450 BC [Rzepecki 2014: 335].

In the south-eastern group of the FBC, however, similar vessels were identified, for example, in Zawarża [Kulczycka-Leciejewiczowa 2002: 37, Fig. 28: 11], Pawłosiów 52 [Rybicka *et al.* 2014: 215, Plate LXXVII: 3] and what is interesting, at the settlement in Kotoryny in the Upper Dniester area [Hawinskyi *et al.* 2013:

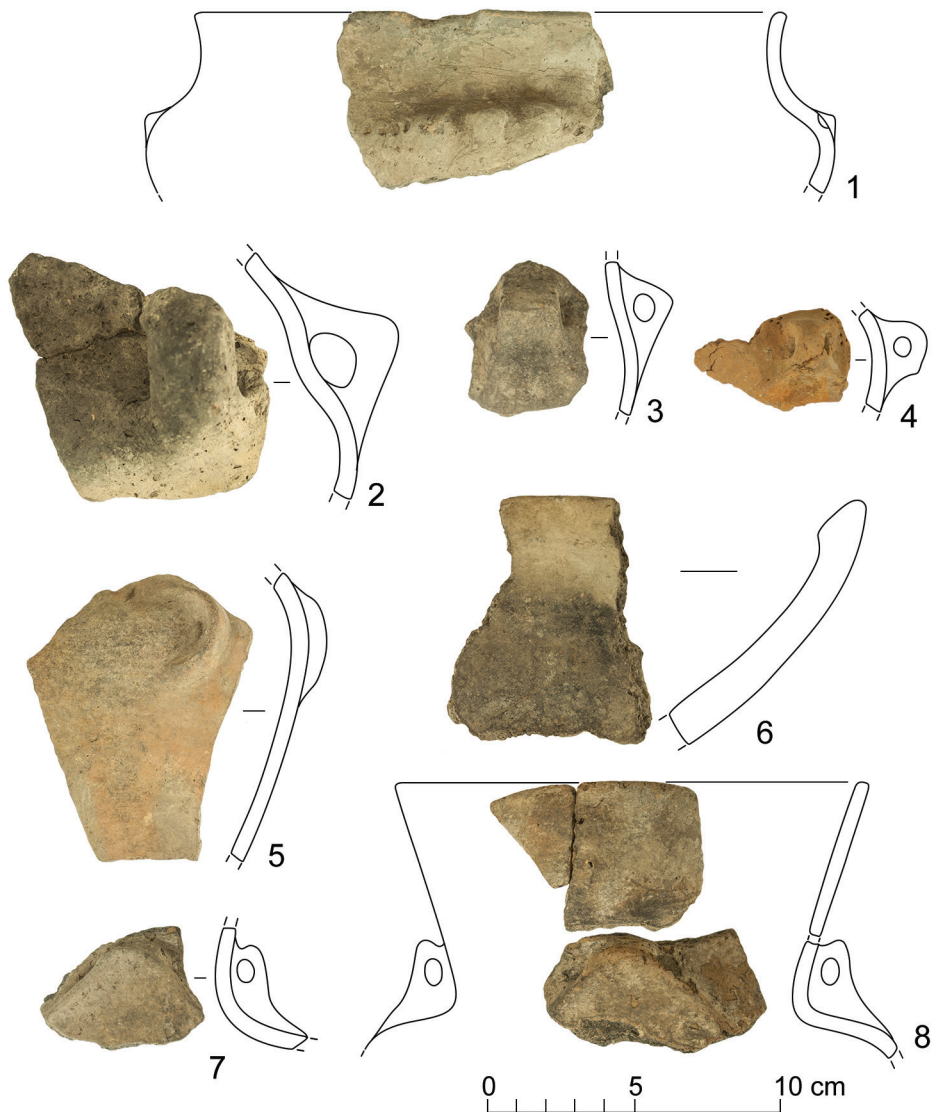


Fig. 8. Brinzeni III-Țiganca site. Funnel Beaker culture pottery

236, Pl. XXXI: 6], that seems to mark the extremely south-east settlement of FBC territory in the light of current state of research [Hawinskyi *et al.* 2013; *cf.* Król 2019a: 222, Fig. 2].

Nevertheless, not only the amphorae of type III had been used over a long period of time by the communities of this culture, but also other types [Koško 1981: 27]. It cannot be excluded that a series of the above mentioned shards

could be carefully associated with them. Among those shards, especially interesting seem to be fragments with handles situated in the part between the belly and neck of vessels (Fig. 8: 7-8). Such materials are known from almost the entire FBC territory [Wiślański 1979: 178-184; Rzepecki 2004]. In the south-eastern group, they were registered for example in Bronocice 1 [Kruk, Milisauskas 1983: 271, Fig. 4: 10-12], Chłopice 11 [Król 2018: 50, Fig. 7], Vynnyky-*Lysivka* [Diachenko *et al.* 2019: 23, Fig. 7: 2], and Kotoryny [Hawynski *et al.* 2013: 244, Plate XXXIX: 6]. In Bronocice this type of vessels was discovered, for instance, in the homogenous pit no. 21-A1 dated DIC-2265 4700±60 BP, i.e. 3626-3375 BC (68.2%) and 3635-3367 BC (95.4%) [Kruk, Milisauskas 1990: 202, Fig. 7], while in Chłopice 11, it was discovered at the bottom of the trapezoidal pit no. 3/2015 in the context of animal bones, from which two dates were obtained: Poz-100648 4625±30 BP and Poz-100647 4600±40 BP [Król 2018: 47, Table 2]. Their calibrated combination (R\_Combine) is 3493-3361 BC (68.2%) and 3500-3352 BC (95.4%) [Król 2018: 50, Fig. 6].

The *cups*, as well were made from paste degreased with chamotte, have an S-shaped body, rounded rim, while the predominant colour was brick. On the maximum diameter there are decorative elements modelled in relief, represented by flattened circular double buttons (Fig. 4: 1), in some cases they are complemented with relief elements in the form of a crescent (Fig. 4: 2). Another decorative composition is represented by conical buttons, arranged in sets of three each, combined with a strip of circular imprints that mark the maximum diameter (Fig. 8: 1). There are exemplars that contain a small size handle, modelled vertically, with the lower part extended as a swallowtail and the upper part is marked with punctiform impressions (Fig. 8: 4).

Various kinds of plastic decorations were noted in many FBC sites in the basin of Vistula and Oder [e.g. Wiślański 1979: 177; Rzepecki 2004: 46-57; *cf.* Rybicka 2017: 45]. These were characteristic for various types of vessels. Although, it is not easy to find identical vertical crescent decorations in those areas, it is worth emphasising the presence of similar horizontal motifs of various sizes, in which the arms of the crescent (and/or arched shaped sign) are directed downwards.

There are many quite comparable ornaments in sites of the south-eastern FBC group, such as Zawarża [Kulczycka-Leciejewiczowa 2002: 32, Fig. 23: 3-4], Gródek 1C [Zawiślak 2013: 172, Plate XXII: 7], Skołoszów 31 [Sieradzka, Głowacz 2017: 81-83], and Vynnyky-*Lysivka* [Diachenko *et al.* 2019: 26, Fig. 10: 2]. According to Piotr Włodarczak the arched-shaped signs were present in the south-eastern group of FBC in the period 3710-3360 BC [Włodarczak 2006: 50, Fig. 15: 1; *cf.* Rybicka 2017].

The presence of plastic decorations in the FBC also applies to flattened circular buttons, which are well recognized in Kujawy and neighbouring areas, for instance in Annapol 1 [Papiernik, Rybicka 2002: 85, Fig. 68: 1], Nowy Młyn 6 [Grygiel 2016: Fig. 211:5], that can be dated not earlier than 3650 BC [Papiernik,

Rybicka 2002: 96-100; Grygiel 2016: 257]. They are, however, known also in the south-eastern zones of FBC, from Bronocice 1 [Kruk, Milisauskas 1990: 202, Fig. 21], Zawarża [Kulczycka-Leciejewiczowa 2002: 31, Fig. 22: 14], Chervonohrad [Peleshchyshyn 1999], and Kotoryny [Hawinskyj *et al.* 2013: 232, Pl. XXVII: 3]. In regard to Bronocice 1, one fragment with flattened circular double buttons was identified in the same homogenous context as above-mentioned shard of amphora fitted with handles situated in the part between the belly and neck, in pit no. 21-1A [Kruk, Milisauskas 1990: 202, Fig. 7: 21].

The *bowl*, made from the paste mixed with chamotte and reconstructed on the basis of a fragment from the upper part of the vessel, had a truncated body, the rim sloping obliquely inside and thickened. It does not feature any decoration (Fig. 8: 6).

*The context of the discovery of FBC pottery.* After detailed consultation of the documentation and excavation reports, the context for a series of materials that served as the theme for this article has been highlighted. It should be noted that less was mentioned about the context of such discoveries. V. Markevich in the monograph published in 1981, refers to the discovery of an intact vessel and of some fragments that were near the oven in dwelling no. 20 [Markevich 1981: 176]. Information being retrieved by other researchers [Rybicka 2017: 44], serves to this moment as the only source of information about the location of where these materials are found. Our intention to distinguish other contexts led us to resume careful checks of the marking number applied on the fragments of pottery and to consult all the documentation of excavations. Thus, out of the 37 dwellings investigated during three excavation campaigns, in six of them (nos. 2, 6, 7, 20, 25, and 26) there were discovered fragments of FBC pottery. Of course, our research is only the first step; the collection with ceramics from the eponymous site is rich in materials that still await exhaustive processing.

We have set out to show only a few details about the context of these discoveries, especially for some of the dwellings that interest us where we do not have any plans or technical descriptions. The ones noted, however, can serve as a benchmark for updating the issues related to the mobility of groups of populations with different cultures and their impact on local communities in the East Carpathian area.

Thus, the situation with the discoveries is as follows: in dwelling no. 2, a Funnel Beaker pottery was discovered in the northeast corner (Fig. 3); in dwelling no. 6, the ceramics of the same type was found in the northwest corner, near the oven (Fig. 4: A); in dwelling no. 25, FBC pottery was found, in the northwest corner, near the oven (Fig. 5: A); in dwelling no. 26, ceramics of this type were discovered near the south-east corner (Fig. 5: B). For dwellings no. 7 and no. 20, it is difficult to comment on this information because we do not have their excavation plans.

Summing up the data and following the general picture with their location on complexes we can see that practically in all the dwelling groups investigated in the settlement of Brînzeni III-*Țiganca* there is one, in the best case two, with artefacts specific to the FBC. Accordingly, we agree with the opinion of

Małgorzata Rybicka, who affirmed that the cups or amphorae had a special significance in the household, being part of the whole set of dishes used by all members of the community or that their presence can only be associated with a single family [Rybicka 2017: 73].

#### THE BRÎNZENI XI-VALEA BUCȘEI SETTLEMENT<sup>2</sup>

This site is located in the same Brînzeni macrozone, at the south-east periphery of this village (Edineț District). It occupies a surface on a high promontory flanked by the meanders of the Bucșa River, a tributary of the Racovăț River, in *Valea Bucșei*. The site was discovered in 1974 by V. Markevich [Markevich 1987: 296]. As a result of the archaeological investigations undertaken in 1981, two above-ground dwellings were investigated [Markevich 1982; Markevich, Ryndina 1983: 398-399]. The ceramic collection recovered from dwelling no. 1 also contained a fragment of pottery that was made in the FBC type technique.

The material of the FBC type is represented by a fragment of bowl, made of compact paste degreased with chamotte and sand, and bitronconic body; it is brown-grey, being carefully smoothed on the outside and inside.

#### THE COSTEȘTI IV-STÎNCA COSTEȘTI SETTLEMENT<sup>3</sup>

The site was located 1.6 km southwest from the southern edge of the Costești village (Rîșcani District), 300 m from where the Ciugur River flows V. Markevich into the Prut River. The site was discovered by N. Chetraru in 1958 [Ketraru 1964: 255-272] and E. Chernish excavations were undertaken by a group coordinated by V. Markevich and E. Chernysh 1973-1974 [Markevich, Chernish 1974a; 1974b: 423-424]. The site occupies a surface on an elongated limestone promontory oriented towards a southeast-northwest direction, in *Stînca Costești*. Currently, the site is under the waters of the Costești accumulation lake.

In the excavation process, 25 above-ground dwellings were identified. Due to the inclined angle on which the settlement was located, during the construction of the houses the land was levelled, applying the terrace method.

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<sup>2</sup> In the specialized literature that site is known differently as Brînzeni IX [Markevich 1982; Markevich, Ryndina 1983: 398-399] or Brînzeni X [Markevich 1987: 296].

<sup>3</sup> The older name is Costești II [Markevich, Chernysh 1974b: 423-424].

The ceramic collection includes an impressive range of shapes that contain both the fine and coarse category. According to the modelling and decoration technique, it is not different from the ones found at the Brînzeni III-*Țiganca* site, where the same painted elements were used in the decoration of fine ceramics. Most often there are compositions whose elements contained figures that imitate dancing women – scenes of a fertility dance and maybe with a sacred character. The fragments of pottery containing crushed shell paste, have been ornamented with various forms of imprints and elements modelled in relief. In the ceramic assembly discovered in the Costești IV-*Stînca Costești* site there are also fragments of pottery modelled in the FBC type technique.

*FBC pottery.* In this case, it is difficult to estimate what would be the actual quantity of this material given that we cannot conduct a detailed analysis based on excavation documentation. However, fortunately, we managed to make some findings but without contextualizing the fragments on site complexes, emphasising the form of vessels coming out of the typology specific to the Brînzeni aspect. The amount of pottery analysed was mostly fragmentary and only one intact vessel was present. For the fragmentary material, when delimiting the forms of the vessels, as in the case of those from the Brînzeni III-*Țiganca* site, the profile of the walls was taken into account and as a result of the graphic reconstruction, *amphorae* and one *bowl* were delimited.

*Amphorae.* These were modelled from paste degreased with chamotte and small-grained sand and have a spherical body, a short cylindrical neck with simple rounded lip (Fig. 9: 1) or in the funnel with a slightly thickened lip inside (Fig. 9: 2); the bottom, in the case of the whole pot, is straight. The maximum diameter of the vessels is marked with simple vertical handles (Fig. 9: 3) or in an angle form (Fig. 9: 1,4). Also, in the category of amphorae there were included two fragments of handles with grooves that cover practically all the handle (Fig. 9: 6-7). Unlike the amphorae discovered in the Brînzeni III-*Țiganca* site, those from the Costești IV-*Stînca Costești* site show intense traces of polishing on external surface.

As pointed out by M. Rybicka some of these shards could be referred to typical FBC materials [Rybicka 2017: 47-48]. This is particularly the case with the handles with a knee-shaped cross-section, which could be treated as nearly “mass” ceramic artefacts in the eastern and south-eastern groups of the FBC [e.g. Wiślański 1979; Kruk, Milisauskas 1983; Jastrzębski 1991; Papiernik, Rybicka 2002; Rzepecki; Zawisłak 2013; Grygiel 2016].

Of the materials referred to above, the well-preserved vessels fitted with such handles seem to be interesting due to the presence of a short cylindrical neck (Fig. 9: 1). Although cylindrical necks of amphorae were not as common as the slightly funnel-shaped in the FBC, we can carefully accept this vessel as a pottery of the mentioned culture due to its other features. In terms of general form, a relative similar to this vessel seem to be amphorae (containing handles in the upper part of the belly)



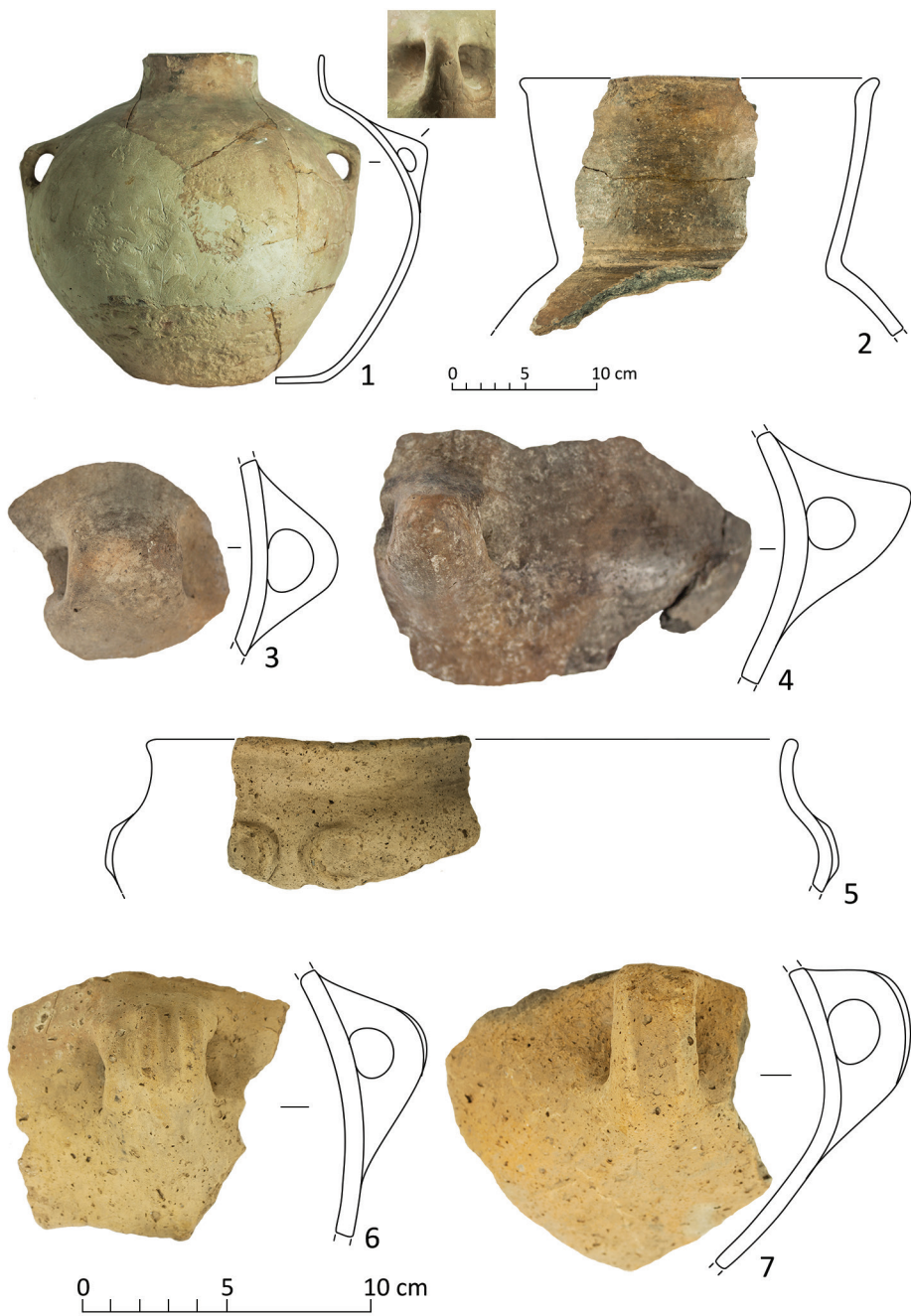


Fig. 9. Costești IV site. Funnel Beaker culture pottery

discovered in Wilczkowice in the area of Lower Silesia [Wiślański 1979: 183, Fig. 96: 16] and Wilkostowo 23/24, however, it should be stressed that the neck of the last vessel was not well-preserved [Rzepecki 2014: 260, Fig. 58.6: 5]. Equally intriguing is the shard of presumed amphora with a long and gently arrow-shaped neck [*cf.* Rybicka 2017: 47].

The *bowl* was made from paste degreased with organic material, with S-shaped walls, a simple rounded rim and grey surfaces. The decoration is composed of two crescent-shaped elements deepened in the wall of the vessel, imitating a handle-button (Fig. 9: 5).

#### THE PARCOVA SETTLEMENT

The site is located 0.35 km southwest of the outskirts of the Parcovă village (Edineț District), on a rocky promontory with steep slopes, formed by the confluence of the Ciugur River with a right tributary [Bodean 2016: 7]. In the pottery assembly recovered from this site, which is specific for the Bădragii Vechi aspect, there were also some fragments from an amphora decorated under the rim, on the outside part, with vertical imprints.<sup>4</sup>

The exposed ones show us that the presence of FBC pottery in Brînzești type sites is not accidental, the contact between these communities was a dynamic one and the effect of this process is found in archaeological material that is extended over large areas. Of particular interest is the pottery fragment found in the ceramic assembly from the Parcovă site, suggesting that the contact between the FBC community with Eastern Carpathian Late Eneolithic farmers took place at an earlier stage than the Brînzești type. This view should be treated with caution, one that requires further research based on discovery of new materials.

#### THE GORDINEȘTI GROUP

Sites with archaeological relics specific to the Gordinești group have been known since the very beginning [Moroșan 1928: 117-121; Ambrojevici 1933: 24-45], only that their cultural-chronological framing was different. The typological argumentation was obtained only at the beginning of the 70's [Zakharuk 1971: 183-

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<sup>4</sup> We would like to thank our colleague S. Bodean for the information concerning pottery from Parcovă.

186; Movsha 1971: 31-54], when T. Movsha proposed for this group of sites the name *The Northern Local Variant* [Movsha 1971: 35-36, Fig. 1]. In one of the articles, Y. Zakharuk proposes that the given aspect be called the Kasperovsk type [Zakharuk 1971: 183-186]. Both formulations, in the opinion of V. Dergachev, are not suitable for the targeted local variant, arguing their position by the small number of publications with materials from eponymous settlements [Dergachev 1980: 119]. The archaeological material provided by the excavation undertaken in 1971 in the settlement near the Gordinești village (Edineț District), from *Stînca goală* site, being put in a cultural and chronological connection (based on ceramic analogies) with those from the well-known Horodiștea-Dealul Mălăiște settlement [Petrescu-Dîmbovița 1950: 120-121] allowed V. Dergachev to establish a new name for the assembly of monuments charted under the syntaxes brought above, namely that of the *Late Tripolye sites of the Gordinești type* [Dergachev 1973: 90-100].

The variant of sites that we are analyzing is part of a much more massive cultural group, the area of which is currently spread over the territory of three states. The small number of sites investigated by systematic excavation in the Dniester-Prut interfluvium has led to a diversity of opinions regarding the taxonomic status of these settlements, launched in the research literature. Thus, some scholars consider them as: a special type of monuments that fall chronologically in the last stage of Tripolye culture evolution [Dergachev 1980: 119-123]; the Gordinești local variant within the Cucuteni-Tripolye culture [Levițki 1995]; the Gordinești-Horodiștea group that ends the evolution of the Cucuteni-Tripolye culture [Sava *et al.* 1995: 297]; the Gordinești stage of Late Tripolye period [Larina 2003: 57]; the Gordinești culture or the Gordinești-Horodiștea culture [Larina 2003: 57, 61, 67]; the Gordinești aspect of the Horodiștea/Erbiceni-Kasperovsk cultural group [Alaiba 2007: 17]; Tripolye CII-Horodiștea-Gordinești [Bicbaev 2006: 52]; a component of the Tripolye CII stage [Bodean 2004: 28] and the Gordinești type [Topal, Țerna 2010: 281; Țerna 2011: 356-376].

At the moment for the Gordinești group, 60 settlements are mapped in the Dniester-Prut interfluvium (Fig. 1). From the point of view of the location, according to some researchers, the communities of the Gordinești type have kept practically the same *mosaic* in the population of certain regions, which was characteristic of the previous populations of the Brînzeni type [Dergachev 1980: 119; Larina 2003: 66].

Following the map (Fig. 1), we can make some findings regarding the population density of the territory, so that the communities preferred four regions, better assured from the point of view of hydrographic resources and raw material necessary for daily life. The first region corresponds to the Northern Moldavian forest-steppe plateau and part of the Middle Prut forest-steppe plain. The second largely occupies mostly the Dniester forest-steppe plateau with small infiltrations in the North Moldavian forest-steppe plateau. The third group of sites is located in

the middle area of the Dniester forest-steppe plateau and respectively, the fourth group of sites occupies the area between the steppe plain of the Lower Cubolta River and the steppe hills of the Ciuluc River. The physical-geographic regionalisation, within which the above mentioned groups are located, was made on the basis of recently published research [Boboc, Castraveț 2010: 90-93].

V. Markevich considered that the topography of Gordinești type settlements and other specificities were conditioned by the direction of the activity of the settlement, by the character of the region, by the natural and social factor and their mutual relation [Markevich 1981: 72].

We cannot blind ourselves to an exhaustive description of this cultural group because it is not the purpose of this study, our attention is directed to two essential aspects, one being related to the presence in the ceramic assembly of some pottery fragments modelled in a various technology than the local one and the second concerning the problem of chronological framing for this group.

Pottery is the largest category of relics that serves as a support for cultural and chronological framing. For the Gordinești group there are two specific categories: fine and coarse, the latter predominating.

The *fine category* was modelled from compacted paste with small inclusions of sand and chamotte. The stylistic aspect is rendered by painting, mainly monochrome in brown, consisting of geometrical motifs with rhomboid, triangular or line strips arranged in the network, which were applied both directly to the vessel and to a layer of yellowish engobe. In some cases, together with the painted motifs, conical prominences on the vessels are applied or one horizontal groove marks the transition from the neck to the shoulder.

Also, in the fine category we included a sub-category called *fine grey pottery*, which was made from paste with fine sand in the admixture. The ornament used for the decoration of this category is the incised one, the same in geometric style. Such a decoration appears especially on small and medium-sized vessels with thin walls, with carefully polished surfaces or covered with grey ash engobe. Sometimes the incised decoration appears in combinations with strings formed from punctured impressions made with the end of a tubular instrument, arranged in the same way.

The *coarse category* was modelled from skimmed paste with chamotte, limestone and sand, and only in rare cases with weighed shell. The decoration applied to this category is complex, having its specificity for each type of vessel. As an example, on the rim and upper body, bowls are decorated with strips of parallel lines, made by imprinted cord, sometimes with incised motifs. In some cases, the outside edge of the rim is ornamented with notches or alveoli, usually obliquely arranged. In other cases, the ornament made with the cord is also present inside the vessel. Another example of bowl of this type, in the upper part of the body, directly under the rim, is decorated by three horizontal, parallel rows, formed of alveoli.

For the amphorae the ornament is exclusively deep, made by incisions, printing, notches, pinching, alveoli or stitches of various shapes. The outside part of the amphorae rim is decorated with a series of round stitches, the base of the neck and shoulders being covered with printed motifs of twisted cord. The handles were sometimes ornamented with elements, made with the cord or with imprint of various forms. The pots, in most cases, have the upper part of the rim decorated with notches, alveoli, round shaped punctures and the base of the neck or shoulders – with one or more horizontal parallel rows of oval, triangular or round imprints.

In the case of the Gordinești group, there is also pottery worked in another technique, only that the vector of its origin is different from the one for the Brînzeni type aspect. Materials of this kind were discovered in the multi-layered Mereșeuca I-*Cetățuie* site, being largely unpublished [Vlasenko, Sorokin 1981].

On some bowls with the obliquely bevelled rim inside and with external part pulled out smoothly or accentuated outside [Type B1 after Dergachev 1980; Type IAb after Sîrbu 2019] the ornamentation is composed of a strip of four rows of cord applied to the rim. Immediately under it, on the outside, another strip is imprinted horizontally as well as four rows of cord, under which a bit lower, a meander composed of four rows of cord is placed. All of this cord composition is completed with alveoli marking the outside of the rim (Fig. 10: 1).

Another stylistic register consists of three strips of four rows of cord, the first being applied on the rim, the second arranged in the lower half of the rim on the outside of the vessel and the third imprinted vertically on the inside, making the connection between the rim and the bottom of the bowl. In this case too, the cord composition is completed with alveoli applied on the outside of the lip (Fig. 10: 2).

As for the meandering corded decoration (Fig. 10: 1; 11) we can bring analogies from the area of the Złota culture, from such sites on the Middle Vistula as: *Złota-Nad Wawrem* and *Złota-Grodzisko I* [Krzak 1970: Figs. 12a; 13a; 17a; 18a, d; 24e; 27h; 30a; 31a-b; 37a; 45a; 47a; 53a-c; 54e; 56c; 57a; 71b; 72d; 75a; 78c, f; 87b-d; 97b; 98c; 104a; 105c; 113b; 114a; 124b; 129b; 130a; 135a-b; 142a; Krzak 1976: Fig. 10c; 11b; 14f; 17e; 19h; 23a; 48a-b, d-e; 49c-d; 50b-d; Szmyt 2001: Fig. 21:5,8,10], Samborzec 1 [Burchard, Włodarczak 2012: Figs. 4:4-5; 5:1,4-5,7], Książnice 2 [Wilk 2007: Fig. 7F; 2014: Figs. 14:B,C12; D29; Wilk *et al.* 2008: Fig. 15F]. Such decoration is included by Stanisław Wilk in type D and D1 from the decorative table applied to ceramics from the early phase of the Złota culture [Wilk 2013: Figs. 10:4; 22:1; 39:3; 43]. The last mentioned vessels of type D and D1 were identified in the graves for which several reliable datings were obtained from human bones: Poz-34694 4220±40 BP, Poz-34693 4200±40 BP, and Poz-27533 4195±35 BP [Wilk 2013: Figs. 9; 21; 39].

A similar situation is encountered on some small *amphorae with an elongated cylindrical neck*, rounded or slightly thinned and pulled out rim, the spherical body narrowing slightly towards the right bottom of the vessel [Type IVA af-

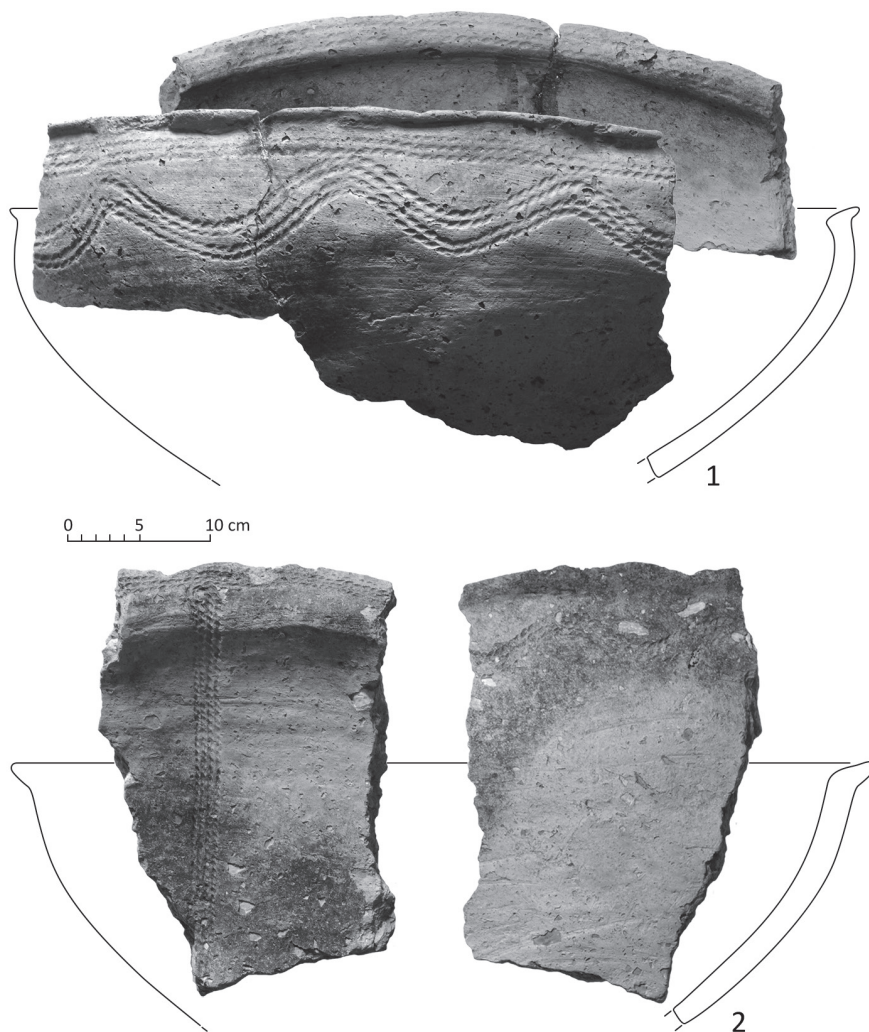


Fig. 10. Mereșeuca I-Cețățuie site. The Gordinești type pottery with cord decoration

ter Sîrbu 2019]. The ornament applied to the rim is exclusively deep, represented largely by small alveoli or pinches. There are cases when on the outside, at the base of the neck and on the shoulders the amphora is covered with a strip composed of rows grouped in three and completed both at the top and bottom mander-shaped bands (Fig. 11: 1-6).

For the corded decoration arranged in the same way we can find analogies on the amphorae found in complexes attributed to the Złota culture in the south-eastern

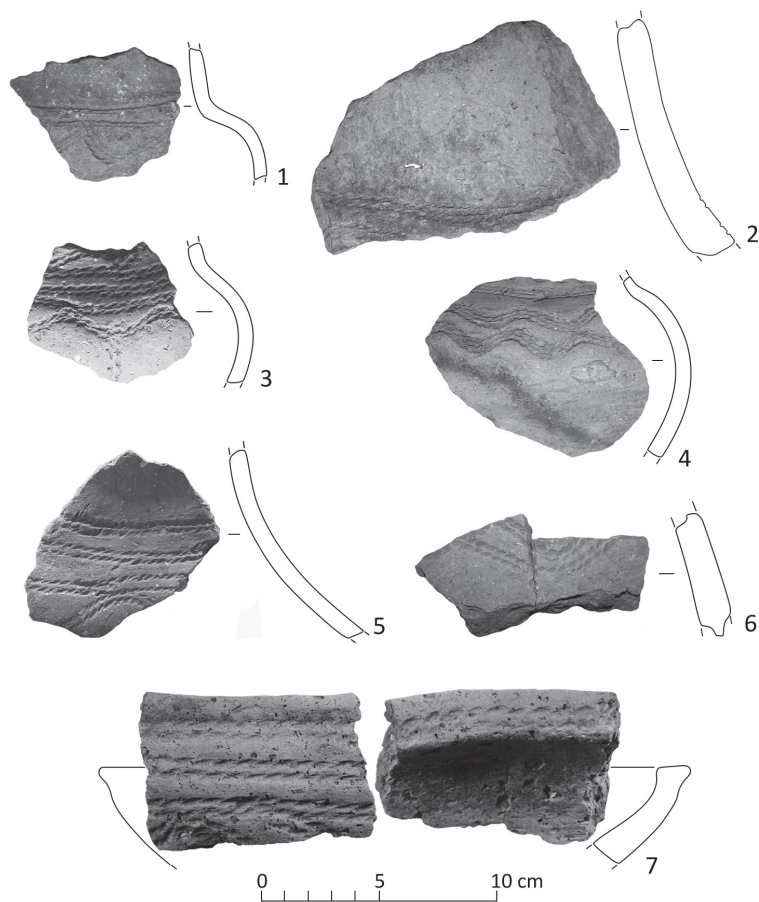


Fig. 11. Mereșeuca I-Cețățuie site. The Gordinești type pottery with cord decoration

region of Poland [Włodarczak 2008: Fig. 4:1-3,7,10; Burchard, Włodarczak 2012: Figs. 4:2-3, 6-8; 5:2-3, 6; 11:3; Wilk 2013: Figs. 10:1-3, 5-7; 22:2-6; 29:7; 39:1-2].

From the ones presented, we can see that the cord imprints, in various ornamental compositions, represent one of the characteristics of decoration applied on the Gordinești type coarse ceramics. The cord appears especially on bowls, less often on other forms and it can be met either alone or in combination with other impressions. Moreover, this decoration serves as a possible short-term chronological correspondence between the group analysed and the Złota culture in the mentioned region. This brief chronological correspondence may indicate the moment when the Gordinești group enters its final phase of evolution.

As the discoveries that provided information about more or less direct contacts between two or more culturally different communities proliferated on the one hand, and with the increase in the number of radiocarbon datings and their processing possibilities on the other, the opportunity for designing general chronological schemes has emerged. In this respect, the process of  $^{14}\text{C}$  database augmentation initiated in the past decades and further developed, cannot yet be considered completed. The multitude of studies [Mantu 1995: 213-235; Lazarovici 2010: 71-94; Rassamakin 2011: 80-100; 2012: 19-69; Diachenko, Harper 2016: 81-105], to which corrections can be made, is only a necessary step towards the general chronological scheme of south-east European Eneolithic, in general, and of local cultural groups, in particular. In our case these are the Brînzeni and Gordinești types, which in part have been indirectly contributing to the establishment of strict methodological criteria in the complex approach to the problems of absolute chronology.

Although the set of radiocarbon data obtained for some sites of both groups and the other cultural phenomena of the Late Eneolithic is still unsatisfying, it may allow for a slightly more precise dating of the final phase of the Eneolithic in the region between the Carpathians in the west and the Dnieper River in the east. This may even lead to discussions on the modifications of its chronology, especially by shifting it more towards the end of the 4th millennium BC. This chronological positioning (here with regard to the Gordinești-type cultural group) puts into question the alleged chronological relationship with the Early Bronze Age (Early Bronze I) in the Balkans [Nicolova 1999: 175] and the final Copper Age in central Europe [Horváth 2016: 51-112]. This whole situation fits with the concept of the *radiocarbon revolution* (and its package of various consequences) formulated by Colin Renfrew [Renfrew 1979: 15-69; 2009: 121-122].

Obviously, we need to bear in mind the fact that current radiocarbon dating has the ability to change the picture of the period under discussion, but at the same time we ought to treat these indicators with some caution. These, like any other absolute determinations obtained from a variety of prehistoric sites, may be unencumbered by some unfavourable circumstances (unclear contexts, quality of samples, laboratory methods, etc.). These issues have been repeatedly noted in the literature [e.g. Czebreszuk, Szmyt 2001; Włodarczak 2013: 374; Nowak 2009: 265; Nowak *et al.* 2017: 189; Rzepecki 2014; Rybicka 2017; Kruk *et al.* 2018; Król 2019b: 43-47]. Here, we would not want to discuss this issue further. They require relevant and detailed studies. However, we have sought to emphasize the essence of this problem for constructing chronological models.

As regards the chronological situation of the two groups we are interested in, we attempted to analyze it on the basis of a series of 19 radiocarbon determinations, among



Radiocarbon dates related to the Late Eneolithic groups from Dniester-Prut forest-steppe. Calibration in OxCal v.4.3.2 [Bronk Ramsey 2017] and CalPal v1.5

No.	Name of sites	Lab no.	Samples	Age BP	Age BC		
					OxCal v4.3.2		CalPal v1.5
					68,2% (1 $\sigma$ )	95,4% (2 $\sigma$ )	
<b>The Brînzani type</b>							
1	Brînzani IX(XI)	Poz-81797	Animal bone	4770±40	3636-3524	3644-3381	3573±48
2	Costești IV	Poz-81803	Animal bone	4710±35	3627-3378	3632-3373	3504±100
3	Vărătic V-Holm	Poz-81798	Animal bone	4690±35	3519-3376	3629-3369	3469±69
4	Costești IV	Poz-81799	Animal bone	4635±35	3498-3364	3517-3354	3436±57
5	Brînzani III-Țiganca	Poz-81800	Animal bone	4560±35	3368-3124	3489-3104	3255±104
<b>The Gordinești type</b>							
6	Hancăuți I-La Frasin	Hd-17959	Charcoal	4621±95	3626-3122	3636-3092	3348±166
7	Pocrovea V-Dealul Munteanu*	MAMS-35076	Human bone	4579±25	3484-3196	3494-3125	3292±80
8	Pocrovea V-Dealul Munteanu*	MAMS-35078	Human bone	4562±28	3366-3136	3487-3110	3257±103
9	Pocrovea V-Dealul Munteanu*	MAMS-35077	Human bone	4560±25	3365-3136	3484-3114	3257±102
10	Gordinești-La izvor*	MAMS-35079	Human bone	4511±25	3342-3115	3350-3101	3229±88
11	Gordinești II-Stînca goală	Poz-83658	Calcined seeds	4480±35	3331-3096	3342-3029	3208±96
12	Gordinești II-Stînca goală	Poz-83659	Calcined seeds	4480±35	3331-3096	3342-3029	3208±96
13	Gordinești II-Stînca goală	Poz-83660	Calcined seeds	4475±35	3331-3093	3341-3027	3203±99
14	Gordinești-La izvor*	Poz-81804	Human teeth	4460±35	3326-3030	3341-3017	3179±116
15	Hancăuți I-La Frasin	Poz-81806	Animal bone	4445±35	3321-3022	3335-2931	3161±122
16	Gordinești II-Stînca goală	Poz-83728	Animal bone	4430±35	3308-2941	3328-2925	3131±126
17	Gordinești II-Stînca goală	PLD-36215	Animal bone	4425±25	3262-3015	3315-2926	3058±42
18	Obileni T4/M8*	Lu-2455	-	4410±50	3261-2925	3331-2909	3103±139
19	Gordinești II-Stînca goală	PLD-36214	Animal bone	4315±20	2920-2899	3011-2889	2915±9

Note: Funerary complexes marked with a star (\*).

which five applied to the settlement contexts of the Brînzenești group while the others came from the settlement and cemetery contexts of the Gordinești group (Table 1). These dates anchor both groups in the chronological picture of the final Eneolithic in the Dniester-Prut forest-steppe – in the mesoregional perspective, and the Eastern Carpathians – in the macroregional one.

The probability distribution of available radiocarbon dates shows a very interesting, but disputable situation (Fig. 12). If we consider Brînzenești and Gordinești ceramic assemblages, then we can see a fairly clear difference between them. Let us note that chronological models for the Eneolithic of the Eastern Carpathians (and not only) were usually designed based on the diverse ornamentation of pottery, which is a generally acceptable and logical approach. From this perspective, we could also approve desynchronization between the studied groups of the Late Tripolye culture. However, if we literally treat the analyzed  $^{14}\text{C}$  dates, then this picture may not seem so obvious (Fig. 12).

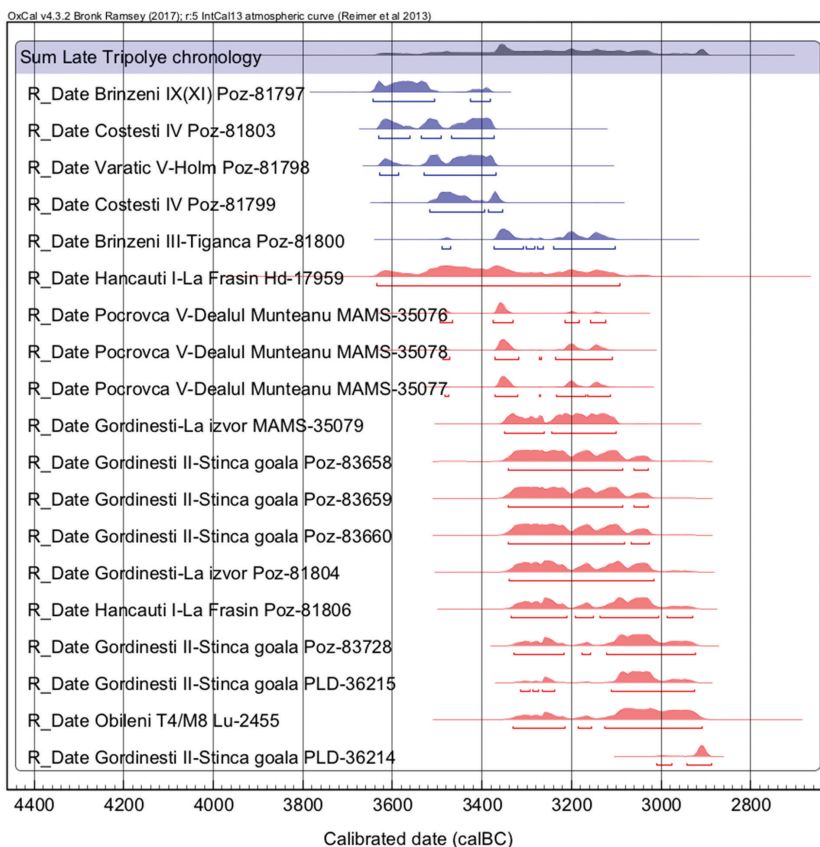


Fig. 12. Probability distribution of the  $^{14}\text{C}$  dates. Non-model (Sum). Blue band – Brînzenești group; red band – Gordinești group

The set of five absolute dates from Brînzeni group contexts has various values. Taking them into account as a simple summation of probabilities would generate time spans of 3636-3124 BC (68.2%) and 3644-3104 BC (95.4%) (Fig. 12). This simple summation, however, cannot be interpreted literally. It is only a banal distribution of probabilities and the cultural phenomenon in question did not have to extend over such a long period. In the case of these determinations, the last and the youngest date Poz-81800 4560±35 BP obtained from one of the dwellings in Brînzeni III-*Țiganca* (Table 1), deserves special attention. Its position on a vast plateau of the calibration curve of the period ca. 3350-3100/3000 BC creates problems with determining its probability level [Walanus, Goslar 2009]. In this situation, it is difficult to decide what stage it refers to. However, if we were to accept that the Brînzeni group functioned until about 3100 BC, it would turn out that it could partly overlap with the Gordinești group.

The same non-model probability sum was used for samples from the Gordinești group. As a result, the following ranges were obtained: 3626-2899 BC (68.2%) and 3636-2889 BC (95.4%) (Fig. 12). We should be cautious also in this case due to some circumstances. Particular attention is paid to the oldest date Hd-17959 4621±95 BP, which was obtained from charcoal in Hancăuți I-*La Frasin* (Table 1; Fig. 12). Due to the serious standard deviation of this determination and the classic risk of charcoal redeposition, it is difficult to treat this date uncritically. Therefore, it seems that the more probable beginning of the Gordinești group phenomenon should be placed not earlier than 3360 BC.

The probability summations presented above can shed general light on the problem of the chronology of the evolution of the Brînzeni and Gordinești groups. It is, however, only a starting point for more complex simulations for which we need more absolute chronometry data and not general (cultural) contexts of samples, but their very precise coordinates within specific features, layers, etc. In this way, it will be possible to apply more complex statistical methods, such as the Bayesian Approach [Buck et al. 1996] and Kernel Density Estimation [Bronk Ramsey 2017]. Currently, we can show only a general calibration framework for these groups: Brînzeni (ca 3620-3100 BC) and Gordinești (ca 3360-2900 BC), but with a question mark in the case of the decline Brînzeni phenomenon.

In relation to these dates, we cannot clearly determine the exact beginning of the inflow of imports from the FBC into the areas of the Late Tripolye culture in Moldova. It seems that, in order to overcome these problems, it will be necessary to obtain numerous valuable chronometric data from the *key-sites* of the Late Tripolye culture in south-western Ukraine (e.g. Zhvanets) [cf. Rybicka 2017]. With regard to the similarities between pottery decorations in the Złota culture and Gordinești group, the situation is even more complicated. According to P. Włodarczak: *Radiocarbon dates obtained for the graves of the Złota type are unambiguous and point to the years 2900/2800 to 2600/2500 calBC* [Włodarczak 2017: 300]. The minimal overlapping of absolute

dating about 2900/2800 BC as well as a distance of several hundred kilometers between the eponymous settlements in Gordinești II-*Stînca goală* and the enclave of the *Złota* culture prompt a cautious approach to the relationship between these phenomena. However, it is also difficult to falsify unequivocally this concept.

## CONCLUSION

In general, it can be concluded that the development process of the Late Eneolithic communities, and especially those representing the Brînzeni and Gordinești groups in the Dniester-Prut interfluvium, could have been one of the most dynamic, which in many cases influenced the evolution of cultural manifestations in other regions. The relationship between the cultural groups in the mentioned area allows us to characterize the Late Eneolithic/Tripolye CII not only as a simple manifestation of contemporary evolution, in various regions, of several local variants, but also as a unit, relatively independent within the whole Late Eneolithic. As such it can also be treated as a cultural-historical community. This is supported by the similarity in the specific ceramic assemblage from the period, being considered by some specialists as a Late Tripolye common cultural horizon [Dergachev 1980: 143; Dergachev, Manzura 1991: 17].

As a result of contacts with neighbouring communities or ones from more remote regions, local populations (in our case, the Brînzeni and Gordinești groups) took an active part in the extensive migrations that led to assimilation or ethnic exchange. The end of these processes may be synonymous with the transition from the Late Eneolithic to the Early Bronze Age in central Europe. However, as stated several times, we need further detailed research and an increase in valuable contextual data that will help us decode the picture of complicated intercultural relations occurring in the second half of the 4<sup>th</sup> millennium BC and at the turn of the 4<sup>th</sup>/3<sup>rd</sup> millennium BC in the lands between the Dniester and Prut.

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