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# VYNNYKY-LYSIVKA, LVIV DISTRICT. CERAMIC RATTLE FROM A FUNNEL BEAKER CULTURE VILLAGE

#### ABSTRACT

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A clay rattle, made using the technology of the Funnel Beaker culture, was discovered during research conducted in 2024 on the settlement of this culture in Vynnyky-Lysivka. It was found in Feature 3/2024, which contained pottery with the style of its eastern and southeastern groups, as well as fragments of tableware with characteristics of the Brînzeni group of the Trypillia culture. Clay rattles are very rarely recorded in the Funnel Beaker culture, but are more commonly found in the Trypillia culture. A distant analogy for this rattle from Vynnyky-Lysivka is found in the graves of children from the Vykhvatintsy cemetery. The settlement of the Funnel Beaker culture from Vynnyky-Lysivka dates, which are similar to those of Brînzeni and Vykhvatintsy. The presence of pottery imports from the Brînzeni group's environment suggests that the clay rattle is associated with the Funnel Beaker culture. It is probably the result of contacts with the Trypillia Culture groups.

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### INTRODUCTION

In 2024, during archaeological field research in Vynnyky-Lysivka, a ceramic rattle was recovered from the upper level of a feature attributed to the Funnel Beaker Culture (FBC). Sound instruments have never been a frequent find in the artefact assemblages found in Neolithic and Chalcolithic villages throughout Central Europe. The oldest ones in the lands of Poland are associated with the Neolithic (Tatoń 2021, 193). Another type that can be included in this group of artefacts is drums, which are a distinctive feature of archaeological cultures dating back to the second half of the 4<sup>th</sup> millennium BC in the Elbe River region. Communities of the Salzmünde Culture, the Deep Stitch Pottery Culture (die Tiefstichkeramik-Kultur) and the Walternienburg-Bernburg Culture are known to have used drums (Preuss 1980; Behrens 1973; 1981). Several drums are also reported to have been found east of the Oder River, in Beaker-Baden contexts of Kuyavia (e.g., Radziejów Kujawski, Site 4; Gabałówna 1959, 111; Rybicka 1995), and some others belong to the Globular Amphora Culture (Gabałówna 1959, 111). They can be interpreted as the result of contact between past human groups inhabiting the Elbe River region and those living in the Polish Lowlands.

Rattles are rare artefacts to be found in the FBC. Such artefacts are also characteristic of the Trypillia culture (Voytyuk *et al.* 2022; Oliynyk 2024). They are relatively standard items in household inventories, including those from the Late Bronze Age, such as the Lusatian culture (Gedl 2007; Tatoń 2023).

Therefore, the discovery of a rattle in materials from the settlement in Vynnyky-Lysivka may arouse interest. The question of the investigated find's cultural affiliation is fundamental. An attempt to provide the correct affiliation is presented below.

## LOCATION OF THE SITE IN VYNNYKY-LYSIVKA

The site in Vynnyky-Lysivka is situated on the plateau of Mount Lysivka in the south-eastern part of the Roztochchia hills (Kondracki 1998). The plateau is 321 m above sea level (Fig. 1) and extends a distance of up to 400 m from west to east. Its usual width is from 80 to 100 m, and the maximum width reaches even 130-150 m (Fig. 2). The topography of the plateau is remarkable for its outstanding exposure. The difference in height between the level of the flat plateau and the bottom of the valley located to the east of the hill is about 80 m (The GPS coordinates are N49 48'43.9488" E24 7'55.0884" and N49 48'46.2564" E24 7'38.0172" for the eastern and western parts, respectively). At the southeastern foot of Lysivka is the broad valley of the Marunka River, a tributary of the Western Buh.





Fig. 1. Geographic location (1) of the prehistoric village in Vynnyky-Lysivka (2), Lviv district

# EXCAVATIONS IN VYNNYKY-LYSIVKA, 2016-2024

Since 2016, excavations have been systematically carried out in the north and south of the site known as Vynnyky-Lysivka, located in the Lviv district. In the southeastern portion, the remains of a Funnel Beaker homestead were recovered (House No. 1; Hawinskyi and Rybicka 2021) (Fig. 2). In 2021-2023, exploratory units oriented east and west expanded to the northern and central portions of the village (Hawinskyi *et al.* 2024). As a result of these works, a ditch and a rampart were identified in the western part of the site, while in the centre, a feature of the Malice culture and a series of waste and storage pits of the FBC were revealed (Fig. 2; Hawinskyi *et al.* 2024). In 2024, another excavation unit was dug to expand the research area containing exploratory units developed in 2022-2023 further to the east (Fig. 2). Similarly to 2023, an occupation layer rich in finds was uncovered there, the bottom level of which was found at a depth of *ca.* 70-80 cm (Hawinskyi *et al.* 2024). In the unit of 2024, at a level of *ca.* 70 cm below the occupation layer, the remains of Feature No. 3/2024 were revealed (Figs 3-5), covering a relatively large expanse, from the upper level of which a ceramic rattle was recovered (Figs 6 and 7); the findspot was in the southwestern part of the Feature.

### FEATURE NO. 3/2024

Feature No. 3/2024 had an irregular shape, approximately 12 m long and 2-6 m wide. The dark black filling of the feature was visible against the light-brown sediment layer. To clarify as many details as possible, five cross-sections were made every two meters (Figs 3-5). At a level of about 0.9 m below the present-day surface, the feature broke up into several smaller, irregularly shaped features up to 1.5 m long. The filling here was no longer as uniform as at 0.7 m depth. It was now often mixed with light-brown sediments marked by animal burrows and spotted with black-grey humus soil (Fig. 4). The outlines of one of them (No. 3/2024/7) were most distinct in the horizontal plane: 1.8 m in diameter with a flat bottom 15 cm deep (Figs 3-5). The shape and size of the features were similar to those characteristic of clay daub platforms at this site. The construction was not exposed to its limits, as it came up against the southern and eastern margins of the excavation area (Figs 4 and 5). On the upper level, in the southwestern sector of the feature, a ceramic rattle was discovered along with a rich sample (about 3000 sherds) of the Funnel Beaker pottery (Figs 8-13) and several sherds of Trypillia Culture vessels (Fig. 14). The findspot was at a depth of about 55 cm.

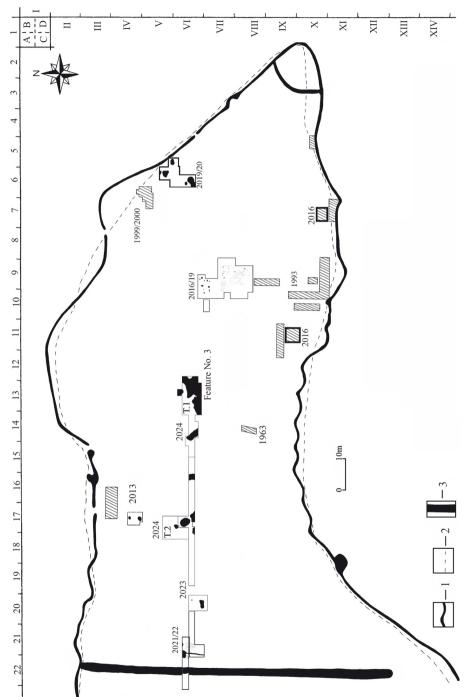


Fig. 2. Vynnyky-Lysivka, Lviv district. Location of excavation units. 1 – military trenches; 2 – Mount Lysivka; 3 – ditch

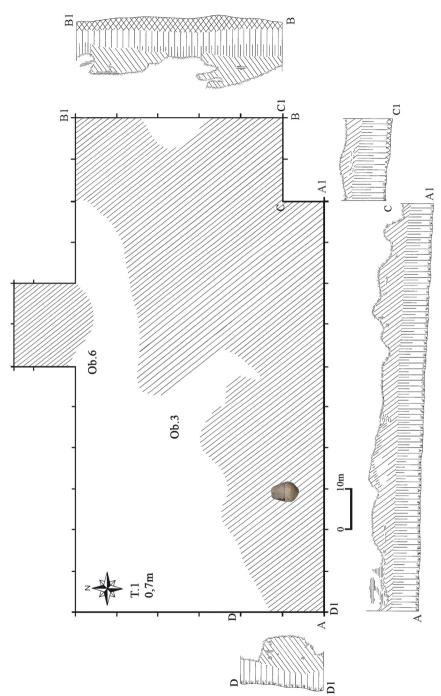


Fig. 3. Vynnyky-Lysivka, Lviv district. Plan and stratigraphy of prehistoric features covered by Trench 1/2024. A-A1, C-C1 – southern section of Feature 3; B-B1 – eastern section of Feature 3. 1 – topsoil, 2 – tree roots, 3 – grey sandy loams, 4 – dark grey sandy loams, 5 – natural ground, 6 – stones, 7 – filling of features, 8 – yellow soil filling, 9 – animal burrows



Fig. 4. Vynnyky-Lysivka, Lviv district. View from the west of Feature 3/2024 in Trench 1



Fig. 5. Vynnyky-Lysivka, Lviv district. Southern section of Feature 3/2024

#### THE RATTLE

The oviform rattle is 4.3 cm in height. The maximum width is approximately 1/3 of the artefact's height and reaches 3.3 cm. The top part is 1.0 cm wide and flat. The thickness of the walls surrounding the inner cavity of the rattle is 0.4-0.65 cm. There is a pair of small ceramic balls (pellets of clay) in the cavity (Figs 6 and 7: 5). There is no decoration on the surface of the artefact. From a technological point of view, the fabric of the rattle is similar to that of the Funnel Beaker pottery.

# POTTERY OF THE FUNNEL BEAKER CULTURE

The exploratory units excavated by us in 2022-2023 provided a rich sample of the FBC pottery from both the occupation layer and the features (Hawinskyi *et al.* 2024). Fragments of the Trypillia Culture pottery were regularly observed here and there, whereas the Mierzanowice Culture was not represented by a single identifiable artefact. Between 2016 and 2024, several pottery fragments of this culture were discovered (Hawinskyi and Rybicka 2021; Hawinskyi *et al.* 2024). Feature No. 3/2024, on the upper level of which the rattle was discovered, yielded a total of over 3000 fragments of vessels attributed to the FBC.

The ceramic sample consisted of fragments of beakers with flat and arched rims, under which there were motifs based on stamp impressions, or engravings, arranged in single or double row patterns (Figs 8: 1, 2, 8, 9, 11; 9: 1, 2; 10: 1). There were some fragments from undecorated vessels of the same type (Fig. 8: 3-7, 10). The sample contained numerous fragments of pots, on the rims of which were located one or, less often, two plastic cordons decorated with finger impressions (Fig. 10: 3, 4; 11). Fragments of undecorated jars and bowls are also present (Fig. 10). Of note are the *ansa lunata* cups (Fig. 13: 1-2) and cordoned flasks (Fig. 13: 3-5). Of particular interest is the body of a vase decorated with a segmented pattern of furrowed stitches arranged as vertical lines (Fig. 12: 1). Also worthy of attention is the rim fragment of the pot decorated with a notched plastic cordon and a rounded knob (Fig. 7: 3). Another noteworthy artefact is a fragment of a pot with a rim thickening inside (Fig. 10: 2). The shapes and decorations of the vessels described above have many similarities in Funnel Beaker settlement samples from the loess areas of Rzeszów and Przemyśl (*e.g.*, Pawłosiów, Site 52; Rybicka *et al.* 2014), as well as from the Western Bug region (Lezhnytsia-Chub; Rybicka *et al.* 2019).

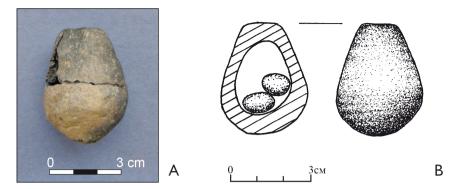


Fig. 6. Vynnyky-Lysivka, Lviv district. Ceramic rattle. A: photo; B: drawing

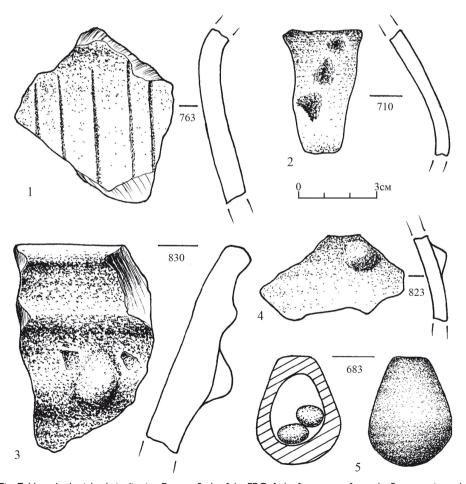


Fig. 7. Vynnyky-Lysivka, Lviv district. Pottery finds of the FBC. 1-4 – fragments of vessels; 5 – ceramic rattle

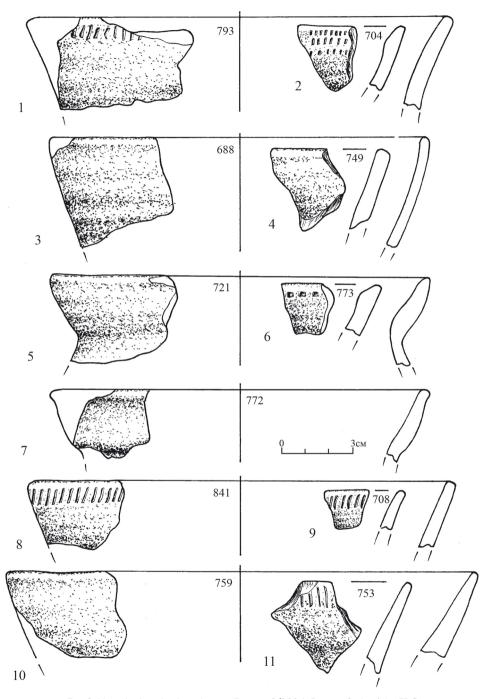


Fig. 8. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the FBC

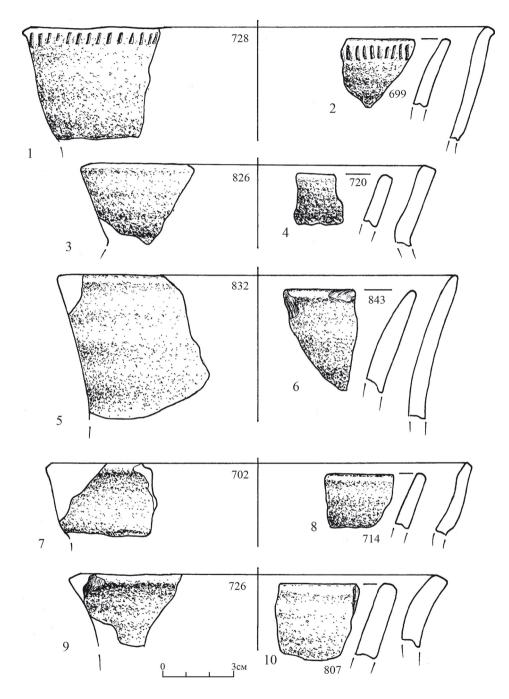


Fig. 9. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the FBC

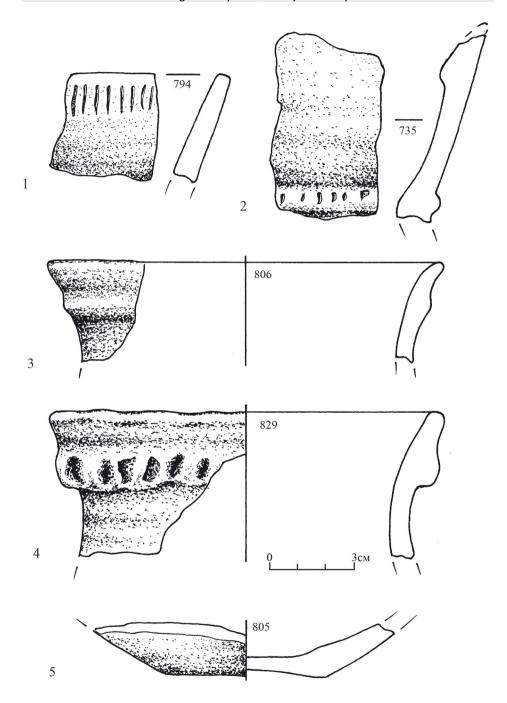


Fig. 10. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the FBC

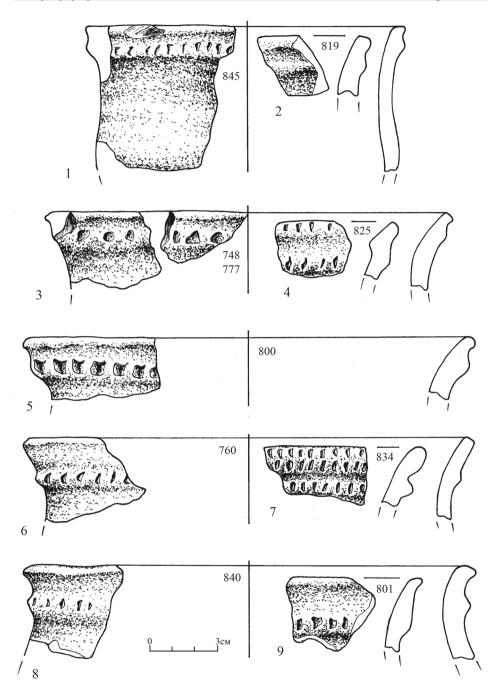


Fig. 11. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the FBC

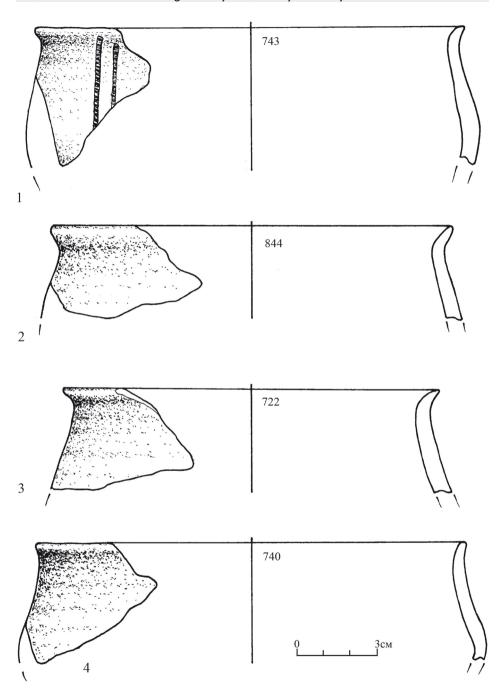


Fig. 12. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the FBC

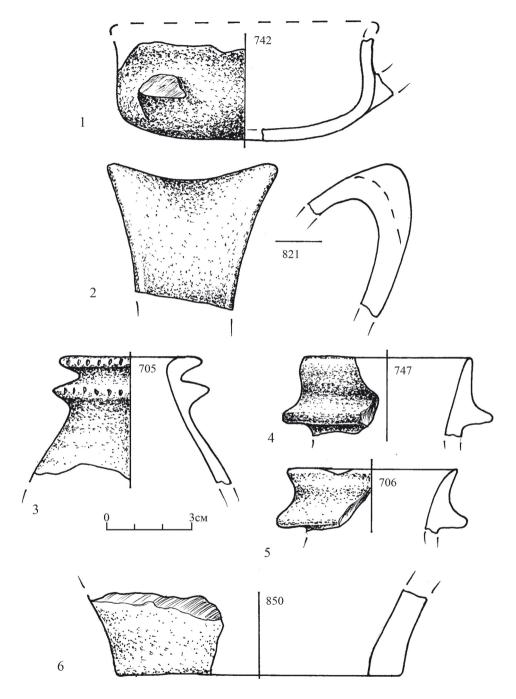


Fig. 13. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the FBC

## DATING OF THE FUNNEL BEAKER CULTURE POTTERY FINDS FROM FEATURE NO. 3/2024

The shapes and decorations of the FBC pottery found in Feature No. 3/2024 are similar to those observed in the finds from House 1 in Vynnyky-Lysivka (Hawinskyi and Rybicka 2021). Numerous type IB beakers decorated with engraved, impressed, or cut columnlike figures, as well as the cordoned flasks, are good representatives of the Wiórek phase of the eastern Beaker group (Jażdżewski 1936; Kośko 1981; Rybicka 2004; Grygiel 2016), while the *ansa lunata* cups are among the most recognisable signatures of the southeastern Beaker group (Włodarczak 2006; Kadrow 2009).

The above stylistics were previously identified on vessels found in the FBC Feature 2/2013 in Vynnyky-Lysivka (Havinskyj et al. 2021, fig. 5). This is a <sup>14</sup>C-dated sample to 4650±35 BP (Poz-111073), which, after calibration, yields a range of 3506-3368 (62.2%) and 3516-3365 cal. BC (95.4%) (Havinskyi et al. 2021, table 1). Pottery finds with the same features were also found in Features 1/2019 and 3/2019 at the same site (Havinskyi et al. 2021, fig. 6). The available <sup>14</sup>C values are as follows: (Ua-68160) 4566±34 BP: 3368-3119 cal. BC (68.2%) and 3487-3102 cal. BC (95.4%); (Ua-68162) 4639±33 BP: 3498-3367 cal. BC (68.2%) and 3516-3360 cal. BC (95.4%); (Ua-68163) 4660±33 BP: 3509-3371 (68.2%) and 3518-3367 cal. BC (95.4%) (Havinskyi et al. 2021, table 1). We also have a 14C value for Feature 2/2023 (Poz-171023 4555±35 BP: 3368-3114 cal. BC (68.3%) and 3486-3102 cal. BC (95.4%). The stylistic attributes of the pottery finds from there are similar to those characteristic of the rest of the 14C-dated features (Havinskyi et al. 2024, fig. 12). In general, the Beaker culture pottery discovered in Vynnyky-Lysivka can be placed within the time range of 3550-3350 cal. BC (Havinskyi et al. 2021, figs 4-6). This range of dates is entirely consistent with the chronology of the pottery finds of similar stylistics discovered in Pawłosiów, Site 52, in the loess area of Rzeszów and Przemyśl (Rybicka et al. 2014).

#### THE TRYPILLIA CULTURE

Both in Feature 3/2024 and in the occupation layer, tableware fragments of the Trypillia Culture were found (Fig. 14). In total, no less than 10 fragments of vessels were recorded.

Of the entire sample, the most notable are fragments of painted vessel bodies and a fragment of a bowl rim. The rim fragment represents a hemispheric bowl, both the outer and inner surfaces of which were painted. This technique is reminiscent of the style characteristic of the Brînzeni Group of the Trypillia CII stage (Markevich 1981; Verteletskyi 2016; 2020; Sĭrbu *et al.* 2020; Dergachev 2021, 34-56). Prehistoric settlements with ceramics imitating Brînzeni ornamentation and vessel shapes have been discovered in Ostroh and its vicinity in Western Volhynia (Verteletskyi 2016, 2020). However, the method of decoration

they used to adorn the bowl from Vynnyky has no direct relation to the ornamentation used on the hemispheric bowls in Western Volhynia. We can only point out some indirect stylistic parallels in Novomalyn-Podobanka (Verteletskyi 2016; 2020) and Khoriv-Pidluzhzhia (Fig. 14; Verteletskyi 2020; fig. 8). Bowls decorated similarly are associated with the Trypillia component at the FBC site in Lezhnytsia-Chub (Rybicka *et al.* 2019).

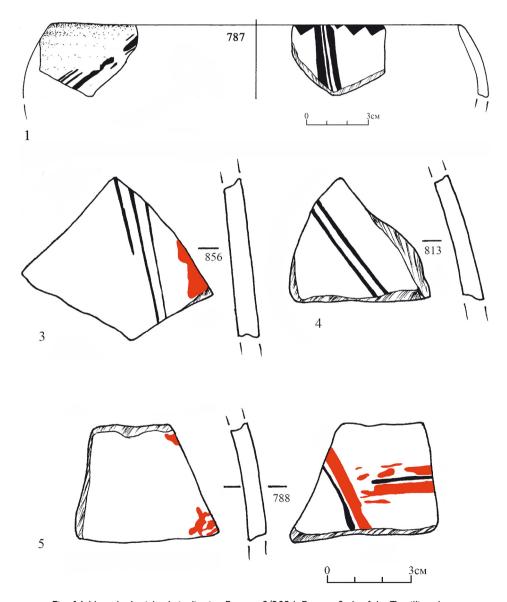


Fig. 14. Vynnyky-Lysivka, Lviv district. Feature 3/2024. Pottery finds of the Trypillia culture

### DATING OF THE BRÎNZENI GROUP

The most notable syncretism is observed in the pottery finds from Novomalyn-Podobanka, where the features of the Trypillia Culture are combined with those of the FBC. Radiocarbon values were calculated from a sample of a beaker whose surfaces were painted red (Król and Rybicka 2016). This design is most likely associated with the Trypillia Culture. The <sup>14</sup>C value for Poz-55979 yields 4670±40 BP, which translates to 3516-3372 cal. BC (68.2%) and 3627-3363 cal. BC (95.4%). It is precisely the syncretism of the pottery finds observed in Novomalyn-Podobanka that we have in mind when extrapolating the values we have just mentioned to the dating of the village representing the Brînzeni component at this site.

According to A. Diachenko and T. Harper (2016, fig. 3), the analysis of currently available radiocarbon dates indicates that the Brînzeni Group of the Trypillia Culture can be dated to the range 3600-3300 BC. In recent years, a new series of radiocarbon dates have been obtained from habitation contexts in Northern Moldova, and these values fit perfectly into the above range (Rybicka *et al.* 2020; Sîrbu *et al.* 2020). Because the house debris in Brînzeni – Ţiganca and Costeşti contained specific Beaker pottery, it should be attributed to the same chronological range (Rybicka 2017; Sĭrbu *et al.* 2020). The dates of the Funnel Beaker and the Trypillia Culture pottery are closely interrelated.

## SOME REMARKS ON THE CULTURAL AFFILIATION OF THE VYNNYKY-LYSIVKA RATTLE

Ceramic rattles are unlikely to have been the kind of devices that Beaker people used regularly. The only known example is a conical rattle (height = 8.2 cm; base diameter = 3.5 cm) from the Funnel Beaker habitation context in Kietrz, Opole Voivodeship (Piwko 1987-1988).

Sound instruments of this type appeared more frequently in various subsequent phases of the Trypillia Culture (Balabyna 1998; Voytyuk *et al.* 2022; Oliynyk 2024). They vary in shape and ornamentation and were recorded in sacral contexts, particularly in graves. The rattle from Vynnyky-Lysivka has no direct parallels in the published pottery record of the Trypillia Culture. Some indirect associations can still be observed among the toys recovered from children's burials in Vykhvatintsy (Georgieva and Milanov 2005, fig. 2: 3-4; Oliynyk 2024). The body of one of the rattles from there has no decoration, and its shape is similar to the shape of the rattle we are now publishing. The difference is that the rattle from Vykhvatintsy has a knob with a hole on top. According to well-founded scientific proposals, the necropolis in Vykhvatintsy corresponds to the younger phase of the Brînzeni group (Dergachev 2021; Diachenko and Harper 2016).

Considering both the manufacturing techniques and the depositional context, it can be inferred that the rattle is associated with the FBC component of the site. However, it is

worth noting that the idea of rattles could have arisen after contacts between the inhabitants of Mound Lysivka and the people of the Brînzeni Group of the Trypillia Culture: it is not without reason that tableware imports and syncretic pottery types combine features of both formations.

#### **CONCLUSIONS**

Between 3600 and 3300 BC, direct contact between the communities of the FBC and those of the Trypillia Culture was by no means rare (Rybicka 2017). The now-visible result of this interplay is that imported Trypillia tableware is identified within the FBC framework, and FBC pottery is regularly found in Trypillia features (Rybicka 2017; Hawinskyi and Rybicka 2021). In the border areas, as a result of prehistoric contacts, innovative syncretic pottery types have emerged, combining features of both traditions under study, providing evidence of communication between their representatives. The site in Novomalyn-Podobanka, Western Volhynia, may serve as a good example of this process (Rybicka 2017).

Various evidence of FBC-Trypillia interactions can also be observed at Vynnyky-Lysivka, either in the form of syncretic pottery types or several tableware imports from the Trypillia milieu of the Brînzeni Group (Rybicka *et al.* 2018; Hawinskyi and Rybicka 2021).

Regarding the rattle from Vynnyky-Lysivka, it is worth mentioning that a ceramic whistle with a most distinctive bird-like shape was identified in a ceramic assemblage from the site of the eastern Funnel Beaker group in Kiełczewo, Western Poland (Sobkowiak-Tabaka *et al.* 2023). The avianomorphic design is nonetheless associated with the zoomorphic statuettes of the Trypillia Culture (Jakubenko 1998; Kiosak *et al.* 2014; Ovchynnykov 2014). The fact that the FBC contains artefacts with non-utilitarian functions (*e.g.*, rattles) allows one to assume that interactions between the communities of the cultures in question could have been very diverse and included both economic relations, such as exchange for artefacts made of Volhynian flint, pottery and copper goods, and direct contacts between the participants of those groups.

#### References

Balabyna V. Y. 1998. Fyhurky zhyvotnykh v plastyke Kukuteny-Trypolia. Moskva: Nauka.

Behrens H. 1973. *Die Jungsteinzeit im Mittelelbe-Saale-Gebiet*. Berlin: Deutscher Verlag der Wissenschaften.

Behrens H. 1981. Der Walternienburger und Bernburger Keramikstil und der Walternienburg-Bernburger Kultur. *Jahresschrift für mitteldeutsche Vorgeschichte* 63, 11-17.

Dergachev V. A. 2021. *Late Tripolye and Maykop*. Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.

- Diachenko A. and Harper K. T. 2016. The absolute chronology of Late Tripolye sites: a regional approach. *Sprawozdania Archeologiczne* 68, 81-106.
- Gabałówna L. 1959. Rekwizyty czarowników sprzed 4000 lat. Z otchłani wieków 25/2, 110-116.
- Gedl M. 2007. Gliniane grzechotki na cmentarzysku z epoki brązu w Zbrojewsku. In W. Dzieduszycki (ed.), *Opusculum Archaeologica. Opera dedicata in Professorem Thaddeum Malinowski*. Zielona Góra: Oficyna Wydawnicza UZ, 141-148.
- Grygiel R. 2016. Podstawy źródłowe. Charakterystyka obiektów i materiałów ze stanowisk badanych wykopaliskowo w rejonie Brześcia Kujawskiego i Osłonek. In R. Grygiel, T. Łapińska and P. Papiernik (eds), Neolit i początki epoki brązu w rejonie Brześcia Kujawskiego i Osłonek 3. Środkowy i późny neolit. Kultura pucharów lejkowatych. Łódź: Fundacja Badań Archeologicznych Imienia Profesora Konrada Jażdżewskiego, Muzeum Archeologiczne i Etnograficzne w Łodzi, Łódź, 17-596.
- Georgieva P. and Milanov P. 2005. Eneolithic clay rattles from Bulgaria ways of interpretation. *Archaeologica Bulgarica* 9/3, Sofia, 13-22.
- Hawinskyi A. and Rybicka M. 2021. *Konstrukcje budowlane kultury pucharów lejkowatych ze stanowiska Winniki-Lisiwka na zachodniej Ukrainie*. Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.
- Hawinskyi A., Rybicka M. and Król D. 2021. Radiocarbon dating of the Funnel Beaker culture settlement in Vynnyky-Lysivka (Western Ukraine). *Materiały i Sprawozdania Rzeszowskiego Ośrodka Archeologicznego* 42, 15-24.
- Hawinskyi A., Przybyła M. M. and Rybicka M. 2024. Vynnyky-Lysivka, Lviv district. Comparison of the results of archaeological and geomagnetic research. *Sprawozdania Archeologiczne* 76/2, 253-276.
- Jakubenko O. O. 1998. Trypilski statuetky ptachiv u zbirtsi Natsionalnoho muzeyu istoriyi Ukrainy. In Do 100-riczczia NMIU: Materialy naukovo-praktycznoyi konferentsi prysviachenoi Mizhnarodnomu dniu muzeyiv (1997 r.), 42-59.
- Jażdżewski K. 1936. *Kultura pucharów lejkowatych w Polsce zachodniej i środkowej*. Poznań: Polskie Towarzystwo Prehistoryczne.
- Kadrow S. 2009. Uwagi o grupie południowo-wschodniej kultury pucharów lejkowatych. In H. Taras and A. Zakościelna (eds), Hereditas Praeteriti. Additamenta archaeological et historica dedicata Ioanni Gurba Octogesimo Anno Nascendi. Lublin: Instytut Archeologii Marii Curie-Skłodowskiej, 137-144.
- Kiosak D. V., Denysyuk V. L. and Polishchuk L. Yu. 2014. Ornitomorfne bryazkaltse trypilskoyi kultury z pivnochi. *Arkheolohiya* 3, 67-73.
- Kondracki J. 1998. Geografia regionalna Polski. Warszawa: Wydawnictwo PWN.
- Kośko A. 1981. Udział południowo-wschodnioeuropejskich wzorców kulturowych w rozwoju niżowych społeczeństw kultury pucharów lejkowatych. Grupa mątewska (= Seria Archeologiczna 19). Poznań: Uniwersytet im. Adama Mickiewicza w Poznaniu.
- Król D. and Rybicka M. 2016. Krytyka datowań radiowęglowych. In A. Diaczenko, D. Król, A. Kyrylenko, M. Rybicka and D. Werteletski, *Nowomalin-Podobanka i Kurgany-Dubowa. Osiedla kultury trypolskiej na zachodnim Wołyniu*. Rzeszów: Instytut Archeologii UR.

- Markevich V. I. 1981. Pozdnetripol'skie plemena severnoy Moldavii. Kishinev: Shtiintsa.
- Oliynyk O. 2024. Morfolokhia i semantychna interpretatsiya Trypilskykh keramichnykh idiofoniv v ovalno-vytiahnutoyi ta antropomorfnoyi formy. *Ukrayinska kultura: minule, suchasne, shlakhi rozvitku* 48, 18-25.
- Ovchynnykov E. W. 2014. Trypilska kultura Kanivskoho Podniprovia (etapy BII-CI). Kyiv: Filjuk.
- Piwko R. 1987-1988. Kietrz, gm. loco, Stanowisko D. In M. Bąk, D. Kubik, H. Sobolewska, S. Wuszkan and T. Ziarko (eds), *Opolski Informator Konserwatorski*. Opole: Biuro Dokumentacji Zabytków w Opolu, Wojewódzki Ośrodek Informacji Naukowej, Technicznej i Ekonomicznej Urzędu Wojewódzkiego w Opolu, 24-27.
- Preuss J. 1980. *Die altmärkische Gruppe der Tiefstichkeramik*. Berlin: VEB Deutscher Verlag der Wissenschaften.
- Rybicka M. 1995. Przemiany kulturowe i osadnicze w III tys. Przed Chr. Na Kujawach. Kultura pucharów lejkowatych i amfor kulistych na Pagórach Radziejowskich. Łódź: Muzeum Archeologiczne i Etnograficzne w Łodzi.
- Rybicka M. 2004. Kultura pucharów lejkowatych na Pojezierzu Gostynińskim. Chronologia, osadnictwo, gospodarka. Łęczyca: Muzeum w Łęczycy.
- Rybicka M. 2017. Kultura trypolska kultura pucharów lejkowatych. Natężenie kontaktów i ich chronologia (= Collectio Archaeologica Ressoviensis 37). Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.
- Rybicka M., Hawinskyi A., Król D. and Diachenko A. 2018. Eastern impulses in the eastern group of the Funnel Beaker culture. *Prace i Materiały Muzeum Archeologicznego i Etnograficznego w Łodzi. Seria Archeologiczna* 47, 395-419.
- Rybicka M., Hawinskyi A. and Pasterkiewicz W. 2019. *Leżnica, stanowisko Czub osiedle kultury* pucharów lejkowatych na zachodnim Wołyniu z analizą zabytków krzemiennych autorstwa Witalija Konopli. Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.
- Rybicka M., Król D. and Rogoziński J. 2014. Pawłosiów, stan. 52, woj. podkarpackie. Osada kultury pucharów lejkowatych. In M. Rybicka (ed.), Wschodnie pogranicze grupy południowo-wschodniej kultury pucharów lejkowatych (= Collectio Archaeologica Ressoviensis 28). Rzeszów: Wydawnictwo Mittel, 67-256.
- Rybicka M., Sirbu G., Król D. and Bicbaev V. 2020. New radiocarbon dates for stage CII Tripolye Culture, Northern Moldova. *Baltic Pontic Studies* 24, 87-103.
- Sĭrbu G., Król D. and Heghea S. 2020. The Late Eneolithic Groups from the Dniester-Prut Interfluve: Some questions of their external contacts and chronology. *Baltic-Pontic Studies* 24, 104-139.
- Sobkowiak-Tabaka I., Kurzawska A., Gogol R., Gruszczyńska-Ziółkowska A. and Krueger M. 2023.
  Sound from the past. A Neolithic clay whistle from Kiełczewo (western Poland). *Journal of Archaeological Science: Reports* 51, 104159.
- Tatoń K. 2021. Grzechotki archeologiczne porządkowane dźwiękiem. In: A. Gruszczyńska-Ziółkowska, K. Tatoń and I. Czajka (eds), *Wydobyte z ciszy*. Warszawa: Instytut Muzykologii Uniwersytetu Warszawskiego, 61-93.

- Tatoń K. 2023. Gliniane grzechotki archeologiczne jako źródło wiedzy na temat dźwięków przeszłości.
  In Ceramika i szkło jako źródło do badań nad przeszłością. Warszawa: Instytut Archeologii i Etnologii PAN, 193-203.
- Verteletskyi D. Yu. 2016. Keramika poseleniya Novomalin-Podobanka. In A. Diaczenko, D. Król, A. Kyrylenko, M. Rybicka and D. Werteletski, *Nowomalin-Podobanka i Kurgany-Dubowa. Osiedla kultury trypolskiej na zachodnim Wołyniu*. Rzeszów: Instytut Archeologii UR, 35-70.
- Verteletskyi D. 2020. *Kultura trypolska etapu CII w międzyrzeczu Dniestru, Bugu i Horynia*. Manuscript of the PhD thesis. Rzeszów: Institute of Archaeology, Rzeszów University.
- Voytyuk O., Pryshchepa B. and Telizhenko S. 2022. Doslidzhennia horodyscha v Hoschi. *Arkheolohichni Doslidzhennia v Ukrayini 2021*, 130-134.
- Włodarczak P. 2006. Chronologia grupy południowo-wschodniej kultury pucharów lejkowatych w świetle dat radiowęglowych. In J. Libera and K. Tunia (eds), *Idea megalityczna w obrządku pogrzebowym kultury pucharów lejkowatych*. Lublin, Kraków: Instytut Archeologii i Etnologii PAN, Oddział w Krakowie, Instytut Archeologii UMCS w Lublinie, 27-66.