"SPOOL-SHAPED CLAY ARTEFACT": AN UNKNOWN OBJECT-TYPE OF THE BOLERÁZ/BADEN CULTURES

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Abstract

In this study various or, in some cases, connectable usage-forms of the Boleráz/Baden "spool"-find group were presented, as referable to archaeological and anthropological analogues. It is likely that this object was a multifunctional tool, whose diverse functions can be separated on the basis of specific wear marks, shape. There are examples either for the profane or the religious (idol, pintadera) application of the object.

Based on chronological-functional differences, I assume that the "spools" had basically different uses in the Boleráz and the Baden periods, or cultures. It seems that the "spool" was a robust, multifunctional everyday object in the Boleráz Period, useful mostly as a pillar/pounder/pestle. Further on, the object became a delicate, personal, and maybe prestigious item by the Baden Period. The completely different function of the discussed object, appearing in both the Boleráz and the Baden periods further strengthen the opinion of those scholars, who argue that the Boleráz and the Baden societies should be interpreted as individual cultures or ceramic styles (by Martin Furholt) rather than development phases as it was suggested previously. Concerning the origin of the objects, the Boleráz Culture has strong Central European connections, whereas the material culture of the Baden Culture can rather be related to south-eastern Europe.

Key words: *Balatonőszöd–Temetői dűlő, spool; salt-making/desiccation; pestle/pounder; stamp-seal; weaving and spinning article; braid clasp; head-support; sitting-convenience.*

INTRODUCTION

During the excavation of a Boleráz/Baden settlement at Balatonőszöd–Temetői dűlő, along the planned route of the M7 motorway in 2001–2002, in several cases typical cylindrical objects were found, made of burnt clay, widening at the ends (Table 1). These finds were identified as "spool" (*spulni* or *guriga* in Hungarian) by reference to previous Hungarian scholarly interpretations. Mária Bondár first suggested that the spools were used as solid wheels of wagon-models;[1] subsequently she believed theirs non-domestic, unusual meaning.[2]

As a preliminary research paper (2008),[3] I hypothetically categorized the finds according to their size, level of finishing and workmanship, and distinctive signs of use-wear, which may help identification of the original function of these items (Plate 1/1). Accordingly, in the framework of this paper, I would like to present and discuss some selected objects of the larger group of the found material.

The scope of the present study does not allow a presentation of the complete catalog of this object-type available from the previous scholarly literature. Besides, I think that this method would not lead to reliable results anyway, as most of these finds, and theirs archaeological context are missing from the publications. The reason for this is that, primarily, specialists did not recognize the importance of these objects, and, secondly, spool-items were not considered among the principal object-groups relating to chronological situations. Thus, their appearance, and their links to specific periods or cultures inside the Late Copper Age has not been accurately explained. Even the acknowledged data of the former publications on "spools" may direct the

[1] M. Bondár, *A kocsi a késő rézkori Európában / Der Wagen im spätkupferzeitlichen Europa*, in *Archaeológiai Értesítő*, 129, 2004, p. 16. on the basis of Szigetszentmárton cart model.

[2] M. Bondár, *The cemetery*, in *The Copper Age cemetery of Budakalász* (eds. M. Bondár, P. Raczky), Budapest, 2009, p. 288.

[3] T. Horváth, *"Spulni": egy ismeretlen funkciójú tárgytípus a Badeni kultúrában (Variációk egy témára) / "Spulni": an artifact of unknown function from the Baden culture*, in *Somogyi Múzeumi Közlemények,* 18, 2008, pp. 157–166.

reader to misleading conclusions, as the few studies restrict themselves to the illustrative material, such as photos or drawings, without precise description. Likewise, in the absence of specific data such as traces of wear, the original function of these objects cannot be convincingly established.

This type of objects is completely absent from the famous volumes by V. Němejcová-Pavúková on the ceramic typology of the Boleráz and Baden cultures (e.g. 1981, 1984).[4] However, there are some settlement finds in the published material from the Boleráz/Baden periods, but I am afraid that this attached list is not a perfect picture about the real occurence of the Late Copper Age's finds as I summarized the reasons above.[5]

In the following discussion I will try to identify the possible functions of this special find group. The primary source of analogues will be taken from the excavation material of the Balatonőszöd–Temetői dűlő site, besides, other archaeological, ethnographical as well as cultural anthropological parallels will be presented.

Among the following cited possibilities there can be connections (1–2–3), or other variant functions (4, 5, 6). The question is: can these clay artifacts, with minimal changes of form and size be a multi-functional tool-type? The answer is: yes.

We can identify many analogies among the ancient stone artifacts. Most of the prehistoric stone implements (e.g. a chipped stones, or grinders, hand-stones, and hammers/adzes/axes) were multi-functional tools. On a grinder we can frequently see the use-wear traces from grinding of cereals, and as well as the use-wears of shell-opening, polishing of bone, shell, metal and stone implements, pounding seeds etc.).[6]

DISCUSSION

Archaeological observations at the Balatonőszöd – Temetői dűlő site:
1. Salt-producing apparatus[7]

The parts of the toolkit: salt evaporating bowl (*Briquetage*), and the pillars (*Oval-/Zylindersäule*), which held the bowl above the fire during the evaporation process.

The pottery as associated with *Briquetage* was initially described and classified in scientific literature on prehistoric ceramics as Very Coarse Ware (*VCW*), and various application circles were presented. Later, this type

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[4] V. Němejcová-Pavúková, *Nácrt periodizácie badenskej kultúry a jej chronologickych vztahov k juhovychodnej Európe / An outline of the periodical system of Baden culture and its chronological relations to Southeast Europe),* in *Slovenská Archeológia (Slov Arch)* XXIX/2, 1981, pp. 261–291; eadem, *K problematike trvania a konca bolerázskej skupiny na Slovensku / Zur Problematik von Dauer und Ende der Boleráz–Gruppe in der Slowakei*, in *Slov Arch*, XXXII/1, 1984, pp. 75–146.

[5] E.g. Boleráz/Baden settlements: Nevidzany: V. Němejcová-Pavúková, *Beitrag zum Kennen der Postboleráz–Entwicklung der Badener-Kultur,* in *Slov Arch*, XXII/2, 1974, pp. 237–350, Abb. 4.2; Malá nad Hronom: *ibidem*, Abb. 54.22–23; Žlkovce: eadem*, K problematike trvania a konca bolerazskej skupiny na Slovenska / Zur Problematik von Dauer und Ende der Boleráz-Gruppe in der Slowakei,* in *Slov Arch,* XXII/1, 1984, pp. 75–146, Obr. 22.15; Hlinsko: J. Pavelčík*, Drobné terrakoty z Hlinska u Lipníku (okr. Přerov) / Kleine Terrakotten aus Hlinsko bei Lipník (Bez. Přerov). I.,* in *Památky Archaeologické,* LXXIII/2, 1982, pp. 261–292, Obr. 10.7; Brza Vrba: P. Medović, *The eneolithic settlement Brza Vrba near Kovin,* in *Grada*, 6–7, 1976, pp. 5–18, T. V.19, T. XI.14; Schwechat: E. Ruttkay, *Über die Badener Kultur in Niederösterreich und im Burgenland,* in *Symposium über die Entstehung und Chronologie der Badener Kultur* (ed. B. Chropovsky), Bratislava, 1973, Abb. 4.6.; Mödling–Jennyberg: E. Ruttkay, *Boleraz-Gruppe*, in *Jungsteinzeit im Osten Österreich* (eds. E. Lenneis, C. Neugebauer–Maresch, E. Ruttkay), St-Pölten–Wien, 1999, pp. 145–161, Abb. 16.8; Nagykanizsa–Billa: J. P. Barna, *Későrézkori település Nagykanizsa–Billa lelőhelyen / Late Copper Age settlement in Nagykanizsa–Billa*, in *Zalai Múzeum*, 12, 2003, p. 113, fig. 23.13; Budakalász–Luppacsárda, 1 broken and 4 intact from Grave No. 403, M. Bondár, op. cit. (n. 2), p. 288; Nagyút–Göbölyjárás II: M. Bondár, *The Late Copper Age Settlement at Nagyút–Göbölyjárás II,* in *Antaeus* 31–32, 2010, pp. 303–375, 323; fig. 31.10; Gomolava: J. Petrović, B. Jovanović, *Gomolava. Naselje kasnog eneolita,* Novi Sad–Beograd, 2002, p. 30.

[6] T. Horváth, *A Vatya kultúra településeinek kőanyaga. Komplex régészeti és petrográfiai feldolgozás/ The stone implements of Bronze Age Vatya culture,* PhD Dissertation, ELTE, Budapest, 2004, manuscript, www.archeo.mta.hu/staff/Tünde Horváth/PhD/pdf format.

[7] W. Matthias, *Die Salzproduction – ein bedeutender Faktor in der Wirtschaft der frühbronzezeitlichen Bevölkerung an der Mittleren Saale,* in *Jahresschift für Mitteldeutsche Vorgeschichte,* 60, 1976, pp. 373–394; A. F. Harding, *European Societies in the Bronze Age,* in *World Archaeology*, Cambridge, 2000; H. Genz, *Blühende Landschaften – Mitteldeutschland in der frühen Bronzezeit*, in *Der geschmiedete Himmel. Die weite Welt im Herzen Europas vor 3600 Jahren* (ed. H. Meller), Theiss Verlag, 2004, p. 171, Abb. 2.1; E. Guerra-Doce, G. Delibes de Catsro, F. Javier Abarquero-Moras, J. M. del Val-Recio, A. L. Palomino-Lázaro, *The Beaker salt production centre of Molino Sanchón II, Zamora, Spain,* in *Antiquity,* 85/329, pp. 805–819.

of pottery was referred to salt production, and in recent publications it is consciously connected to this function.[8]

Description of the finds from Balatonőszöd:

– Balatonőszöd–Temetői dűlő, pit No. 2348, Section 53/32, Boleráz. A nearly intact, subsequently reconstructed vessel, resembling a fish-frying pan was found (*Briquetage*-suitable form, for salt evaporation). Light brown, the inner surface is smoothed, the outer surface is rough. It is tempered with crushed shards. The form of the vessel is oval, the bottom is flat, slightly concave, the bottom-line is hardly profiled, the sides are relatively high, wider in the middle-part, and slightly protruding at the two edges. Bottom diameter: 325, height: 120, edge-thickness: 11, largest edge-diameters: 325 and 226 mm.

Thus, it was inferred that in this area salt water was evaporated in order to produce salt (crystals or powder). Near pit No. 2348, several "spools" were unearthed together with various objects (Pit No. 2000, 2389), part of which could thus be connected to salt production. Those objects are evidently suitable for this purpose; they are sandglass-shaped, providing a flat support for the evaporating bowl. There are both smaller and larger pieces, created in either fine versions or rough ones. There is one crucial criterion, namely that there has to be a set of items, whose size is appropriate for supporting the same bowl (Plate 2/1).

I suggest that the items present as grave-goods at Budakalász–Luppacsárda cemetery served the same purpose. Unfortunately, we do not have exact information about the *in situ* position of the artifacts in cemeteries (Budakalász–Luppacsárda, Grave No. 403 – the spool-items lying around the neck, or in one heap in front of the face, between shoulders and hands, turned over – as if they formerly held up something?),[9] but they were never found by themselves: four, five and six pieces composed a kit (pillars of some kind of vessel?).

In most settlements where "spools" were found, additional polished stone (pestle, hand-stone, grinder) and bone artifacts were usually discovered, typically chisels made of cattle's ulnae, small ruminants' metatarsi, or chisels made of bones of larger mammals. These tools can all be obviously connected to salt production.[10]

The salt-making toolkit can be further completed with items suitable to breaking up or pulverizing salt, such as fine-grained polisher/grinder plates, hand-stones and pestles.

– Cultural layer No. 1390, Section 46/30–31, Boleráz. In the Boleráz cultural layer, beside the "spools", a small, rectangular, fine-grained sandstone plate was discovered. Both sides of the plate were used as working surfaces (there are smooth, worn-out spots on both sides). On one side there is a small hollow, which was identified as a pestle-hollow. The diameter of the hollow and the size of the "spools" from the pit No. 2667 below of the cultural layer 1390 is the same as on the diameter of the pestle-hollow on the stone slab from the cultural layer (Plate 2/2).

– In pit No. 2667, which is situated below the Boleráz cultural layer No. 1390, a "spool" was also unearthed. This object and an other stone plates identified as grinder equipment (lower and upper part), was most likely used for multiple purposes. These toolkit were probably used for pulverizing softer materials such as salt or paints, because the grain-size of the stone slab is fine and the upper part of the grinding equipment, the pounders/pestles is a of soft, burnt clay "spools".

– In pit No. 2006, the "spool" was found together with a clod of ochre. In the neighboring pit No. 2607, a quartzite hand-stone was unearthed, with remains of red paint on it. It is likely that the two objects were involved in the same procedures (Plate 3).

2. Pounder/pulverizer or stamp?

"Spools" were discovered in pit No. 2653 from the Boleráz Period, near pit No. 2595 also from the Boleráz Period, in which, among other finds, a *pintadera* was discovered with red paint remains on its surface (Plate 3/5).

I think that especially those tools are suitable for that function which are rougher, larger sized, and present blowing marks on the margins or surface of the obliquely worn-out or hollow endings.

At Vučedol–Streim/Vineyard site, during the excavation of pit No. 6, in Grave 3, beside the human remains one "spool" was also discovered (very early Vučedol Culture, published as two-based stamp-seal).[11]

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[8] A. Gibson, A. Woods, *Prehistoric Pottery for the Archaeologist,* Leicester University Press, London, 1990, p. 271.

[9] M. Bondár, op. cit. (n. 2), p. 181.

[10] W. Matthias, op. cit. (n. 7), pp. 390–391; Abb. 7.

[11] A. Durman, *Vučedolski Orion i najstariji europski kalendar / Vučedol Orion and the Oldest European Calendar*, Zagreb, 2000, pp. 43–46.

Other optional-application possibilities on the basis of archaeological observations:
3. Cooking; aid during the firing of pottery

This possibility can be closely linked to the above-presented option of salt-water evaporating.

The Early Bronze Age Bell Beaker settlement at Nola in Italy was destroyed by the eruption of the Vesuvius. Near Nola, at the foot of the Vesuvius, volcanic ash preserved such settlement features and objects, which, due to the decomposition of organic materials, are completely missing from ordinary excavation sites (for example the roof structure of houses, food in pots, human bodies). In one of the houses food was being prepared at the moment of the eruption. One of the pots stood on a spool-like stand (Plate 4).[12]

Similar objects were used in the Roman Period during the firing of *terra sigillata*: such items were put between ceramic pots so that these should not touch each other while being fired.[13] Accordingly, "spools" might have been used as an aid during pottery production.

4. Weaving and Spinning

Ezerovo II (Bulgaria, Black Sea Coast, near lake Varna, Early Bronze Age): sandglass-shaped perforated "spools" were excavated, and are listed as remains of textile craft (*bobine*/bobbin). On one of the items (No. 21), a carbonized woolen thread was wound (Plate 4/2).[14] It is likely that the southern, Balkan spool finds were the basis for the Central European terminology and also for the definition of their function (see the Hungarian name: "*spulni*"). Beyond this geographical region, without doubt, this task is also most frequently associated with textile craft. Still, compared to the finds of the Baden Culture, there is a vital difference, namely that the "spools" from the Balkans are typically perforated longitudinally, which is not characteristic of the majority of the Baden finds. There is only one "spool" in the Boleraz/Baden publications, which is perforated in the central part (Nitriánsky Hrádok–Vysoký breh, blok 21/54).[15] In many cases "spools" were found together with spindle-whorls at the Balatonőszöd–Temetői dűlő site (pits No. 1594, 2298, 2606, 2684, Baden cultural layer No. 925: Figure 1.2). Thus, it is possible that some of the "spools" were used for such purposes in the Boleráz/ Baden periods. Some find can identify as a bobbin on the base of the use-wear traces of the threads (e.g. Hlinsko op. cit. in N. 5).

5. Braid-clasp

The basis for this analogue is a unique anthropomorphic figurine from Răucești (Romania), dated to the Cucuteni Culture, Phase B.[16] The complex connections between the Cucuteni–Tripolje Culture and the Boleráz/Baden cultures have been demonstrated in various cases.[17] From the cited female figure only the torso is preserved, representing the upper part of the human body: the head is schematic, the eyes and the line of the nose are superficially portrayed. At the back part of the head, there are two holes, one below the other, on both sides. From the occiput down to the middle of the back there are long lines – which most probably stand for a plaited hairstyle – with a "spool" at the end (Plate 4/3).

In my opinion those "spools" are suitable for this function, which are small, and delicately crafted. In this case those pieces have to be emphasized which are richly ornamented, to mark either their magic/ religious or

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[12] G. Vecchio, C. Albore Livadie, N. Castaldo, *Nola,* in www: meridies–nola.org/nola/villaggiopreistorico.htm.

[13] H. J. Kellner, *Die Sigillatatöpfereien von Westerndorf und Pfaffenhofen,* Limes–Museum Aalen, Stuttgart, 1973, Abb. 36.

[14] G. Tončeva, *Un habitat lacustre de l'âge du bronze ancien daus les environs de la ville de Varna (Ezerovo II)*, in *Dacia. Recherches et Découvertes Archéologiques en Roumanie* (*Dacia*), N.S., XXVI, 1981, pp. 19–21, p. 57; fig. 24.

[15] V. Němejcová-Pavúková, *Sídlisko bolerázskeho typu v Nitriánsky Hrádku / Siedlung der Boleráz-Gruppe in Nitriánsky–Hrádok*, in *Slov Arch,* XII/1, 1964, pp. 163–268, Abb. 25.5. The typically perforated items are characteristic for the later, Bronze and Iron Age periods at the Balkan, and they were spindle-whorls, see e.g. S. Mauel, *Die Spinnwiertel und Webgewichte der bronze- und eisenzeitlichen Siedlung von Kastanas. Zur Textilproduktion Nordgriechenlands im 2. vorchristlichen Jahrtausend*, University of Copenhagen, unpublished MA dissertation 2009, www. auth.academia.edu/SaschaMauel, Teil 1, Abb. 18.10–19; or weight of the warp-weighted loom in not perforated form: *ibidem,* Abb. 38.9, 41–42.

[16] Şt. Cucoş, *Faza Cucuteni B în zona subcarpatică a Moldovei,* în col. *Bibliotheca Memoriae Antiquitatis* (BMA), VI, Piatra Neamț, 1999.

[17] C.-M. Mantu, *Cultura Cucuteni. Evoluție, cronologie, legături,* BMA, V, Piatra Neamț, 1998. M. Y. Videiko, *Late Tripillya and Baden Cultures: Facts and Character of Interaction*, in *Zwischen Karpaten und Ägäis. Neolithikum und Ältere Bronzezeit. Gedankschrift für Viera Němejcová-Pavúková*, *Internationale Archäologie Studia Honoraria* (eds. B. Hänsel, E. Studeniková), Band 21, 2004, pp. 355–367.

an ownership status. These Copper Age finds are usually described in publications as *pintaderas* or *idols*.[18] Interestingly, the tattoo-like motifs on the leg of a massive clay anthropomorphic figure found at the tell of Sudievo resemble the pattern of a "stamp" excavated at the same site.

Additional potential analogues from cultural anthropological studies:
6. Head support / seat support

Marcel Mauss gave a famous lecture on the techniques of the human body in 1934 (Part VI).[19] In his work Mauss presented the sequence of conscious and unconscious practices connected to the human body, which vary depending on geographical as well as cultural regions. The bodily behaviors have their characteristic features in every human society. Mauss argues that these habits are closely related to edification, public agreement, fashion and authority, and they are acquired by imitation and education. Since the body is the earliest and primary tool of the humankind, the techniques of the body are represented in everyday and ritual aspects to the same degree.

Among the techniques of the body I would like to reflect here on some aspects of the sleeping practices.[20] Among those communities, who sleep on the ground (first of all in Central Africa around 15° latitude, in the tribal civilizations' zone, but the list could be started with the ancient Egyptians) various forms of head supports exist, which are mostly used to prevent creeping insects and bugs from getting in contact with the people while sleeping.

Such very simple, spool-like supports were documented in the pastoral, cattle-breeding societies of Central Africa. The illustration comes from north-western Uganda, from the territory of the *Karamodzsong* tribe, as documented by Petr Jahoda in 1998,[21] in the main street of Namalu, the centre of the community. During daytime local inhabitants habitually carry such items with them, using them as a seats, whereas they lay their heads on them during sleeping (Plate 4/4).

CONCLUSIONS

In this study various or, in some cases, connectable usage-forms of the Boleráz/Baden "spool"-find group were presented, as referable to archaeological and anthropological analogues. It is likely that this object was a multifunctional tool, whose diverse functions can be separated on the basis of specific wear marks. There are examples either for the profane or the religious (*idol, pintadera*) application of the object.

Based on chronological-functional differences, I assume that the "spools" had basically different uses in the Boleráz and the Baden periods. It seems that the "spool" was a robust, multifunctional secular object in the Boleráz Period, useful mostly as a pillar/pounder/pestle. Further on, the object became a delicate, personal, and maybe prestigious item by the Baden Period. At the same time "spools" also took over the function of the decorated pintaderas of the Boleráz Period, whose previous forms are missing from the legacy of the Baden Culture.[22] This transformed function can be followed up to the so-called post-Baden period too.[23]

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[18] Group II: two bases stamp seals: Kapitan Dimitrievo, Slatina: T. Dzhanfezova, *Neolithic pintaderas in Bulgaria. Typology and comments on their ornamentation,* in *Early Symbolic Systems for Communication in Southeast Europe* (ed. L. Nikolova), BAR International Series 1139, Vol. 1, 2003, pp. 97–108; Russeva, Sudievo, Karanovo VI, Stoil Vojvoda, Bikovo, Drama sites: T. Kuncheva, *Ceramic pintaderas from Nova Zagora Region (Southeast Bulgaria),* in *Early Symbolic Systems for Communication in Southeast Europe,* vol. I, (ed. L. Nikolova), BAR International Series 1139, 2003, pp. 109–111. The only one example from the Boleráz–Baden *conundrum*: Cernavodă III: P. Roman, *Die Cernavodă III – Boleráz-Kulturerscheinung an der Unteren Donau,* in *Cernavodă III – Boleráz. Ein vorgeschichtliches Phänomen zwischen dem Oberrhein und der Unteren Donau.* (eds. P. Roman, S. Dimanadi), in col. "Studia Danubiana", seria *Symposia* II, 2001/I, pp. 13–60, T. 3.1.

[19] M. Mauss, *Szociológia és antropológia / Sociologie et antropologie,* Osiris, Budapest, 2000.

[20] *Ibidem,* p. 438.

[21] P. Jahoda, *Az őskor utolsó tanúi. Afrika, Új-Guinea, Ázsia / Last witnesses of the Prehistory,* Helikon, Budapest, 2002.

[22] T. Horváth, *Manifestationen des Transzendenten in der Badener Siedlung von Balatonősződ-Temetői Dűlő – Kultgegenstände*, in *Praehistorische Zeitscrift,* 85, 2010, pp. 107–112.

[23] Vučedol Streim Vineyard, pit No. 6 – grave No. 3 – A. Durman, op. cit. (n. 11), pp. 43–46; Sarvaš, tell-settlement – J. Balen, *Sarvaš – Neolitičko i eneolitičko naselje,* in *Musei Archaeologci Zagrabiensis*, Catalogi a Monographia vol. II, Zagreb, 2005, T. 57.219, 58.220, 221, 222. A complete salt-producing apparatus was published from Podolie (Bošáca

The object and its original function most probably arrived during the formation period of the Boleráz Culture from the north-eastern communities of the Funnel Beaker Culture,[24] which is known to be one of its main cultural bases.[25] The earliest usage of the "spool" was detected in the central German territories (around Halle) with its archaeological context, and from the earliest appearances it was connected to the evaporation of salt. The production of salt developed to an industrial scale during the Aunjetitz Culture in the Early Bronze Age, and, being a strategic export article, it became the most important economic resource of the culture under discussion.[26]

It seems that the purpose of the object is completely different in the southern, south-eastern regions. Lorenz Rahmstorf collected the finds of the Near East and the Aegean between 2500 and 2000 BC,[27] and he also recorded the functions attached to "spools": Andrew Sherratt linked them to metal-refinement and to polishing (metal crafts), whereas J. Thimme associated them to the shaping of Kykladian idols. Rahmstorf argued that in that period a new pottery-type (the so called *Depas*-forms) was introduced, which may be the result of new eating and drinking habits in the investigated regions. The "new" drink was marketed in such *Depas*-type vessels, which were sealed with such cylindrical objects. According to the same author, this type of object was also involved in the developing of the copper-zinc trade, as various weight components or sets of a unified measure-system.

Moreover, I think that objects of this type can be connected to the churning of butter; still their exact role in the process is not clear. There is a female figure find from Gilat (the so called *"Fertility Goddess"*– Plate 5/1),[28] who is holding a churn-pot on the top of her head, while there is a pestle-like spool object under her left arm. The transformation, which took place on the Sinai Peninsula in the nomadic Ghassulien Culture,[29] can be followed in some parts of Europe too, and after Andrew Sherratt these changes are often referred to as "The Secondary Exploitation of Animals", and the "Secondary Products Revolution" (Plate 5). There is also a pottery-type suitable for churning in the Boleráz/Baden cultures, namely the so-called *Fischbuttenförmiges gefäss/Fish-barked shaped vessel*, besides, the delicately ornamented variants of this pottery are even more widely used as the original churn pots themselves.[30]

The completely different function of the discussed object, appearing in both the Boleráz and the Baden periods further strengthen the opinion of those scholars, who argue that the Boleráz and the Baden societies should be interpreted as individual cultures rather than development phases as it was suggested previously.[31] Concerning the origin of the objects, the Boleráz Culture has strong Central European connections, whereas the material culture of the Baden Culture can rather be related to south-eastern Europe.

Still, I think there are numerous new aspects that could be investigated in connection with the pestle finds, if a comprehensive publication of finds were available. For instance at the Balatonőszöd site, spools

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Group) with pillar, grinder and Briquetage vessels as metal-producing apparatus: J. Šuteková, *Ein Einblick in die post-Badener Epoche in der Westslowakei,* in *Panta Rhei: Studies in Chronology and cultural Development of South-Eastern and Central Europe in Earlier Prehistory. Presented to to Juraj Pavuk on the Occasion of his 75. Birthday* (eds. J. Šuteková, P. Pavuk, P. Kalábková and B. Kovár), Bratislava, pp. 469–489, p. 479, Abb. 7. Comenius University.

[24] E. Kirsch, *Beiträge zur älteren Trichterbecherkultur in Brandenburg,* in *Forschungen zur Archäologie in Land Brandenburg*, 2, Potsdam, 1994, p. 106, Abb. 51: "*durchlochte Tonwalzen in Garnspulen-Form"*.

[25] Wrocław, Kraków–Plesów: E. Kirsch, op. cit. (n. 24), p. 106; Moravičany, Jevíšovice C2: A. Houšťová, *Kultúra nálevkovitych poháru na Moravé / Die Trichterbecherkultur in Mähren,* in *Fontes Archaeologici Pragensis*, 3, Pragae, 1960, Abb. VII.8; XIV.9; see more details about the cultural connections: T. Horváth, *The intercultural connections of the Baden "culture",* in *ΜΩΜΟΣ,* VI, 2009, pp. 101–149.

[26] W. Matthias, op cit. (n. 7); H. Genz, op. cit. (n. 7).

[27] L. Rahmstorf, *Zur Ausbreitung vorderasiatischer Innovationen in die frühbronzezeitliche Ägäis*, in *Praehistorische Zeitscrift,* 81, 2006, pp. 49–96.

[28] *Land der Bibel. Schätze aus dem Israel Museum Jerusalem, Katalog zur Austellung des Kunsthistorischen Museums Wien, Künstlerhaus, 22 September 1997 bis 18. Jänner 1998* (ed. W. Seipel), Israel Museum, Jerusalem, 1998, Kat. No.19.

[29] For dating and general view see: Y. M. Rowan, J. Golden, *The chalcolithic Period of the Southern Levant: A synthetic Review,* in *Journal of World Prehistory,* 2009/22, pp. 1–92.

[30] T. Horváth, *The intercultural connections of the Baden "culture"* (n. 25), p. 115; T. Horváth, *A késő rézkor időszaka más szemszögből: tipo-kronológiai megfigyelések a Balatonőszöd–Temetői dűlői késő rézkori Boleráz/Baden település leletanyagán,* in col. Gesta X, 2011, pp. 3–135, in www.tortenelemszak.uni-miskolc.hu/gesta.

[31] M. Furholt, *Culture History beyond Cultures: the case of the Baden complex,* in *The Baden Complex and the Outside World. Proceedings of the 12th Annual Meeting of the EAA in Cracow 19–24th September 2006, Studien zur Archäologie in Ostmitteleuropa* (eds. M. Furholt, M. Szmyt, A. Zastawny), Band 4, 2008, pp. 13–25; T. Horváth, op cit (n. 25).

were frequently found together with stone axes and clay spoons, constituting a feature which has not yet been explained adequately.

Table 1

List of spool finds from the Balatonőszöd–Temetői dűlő site (Figure 6).

Feature	Section	Dating (Němejcová-Pavúková system)	Description	Size: Height (h), diameters (d) of the ends (mm)	additional finds in the feature
Pit No. 387	58/20, 21–59/16, 17	Early phase (II.A?) Boleráz	thin, small, worn-out	h=63 d=24/25	clay spoon
Pit No. 1072–1096	50/12	Phase III Baden	a broken half-piece	d=30/22	the fragment of a male face mask
Pit No. 1405	46/10, 11	characterless	small, delicate piece, with straight ends	h=48, d=28	in super-position with pit No. 1406
Pit No. 1444	44/5	Phase III Baden	small, delicate	h=46, d=21	pedestalled beaker, bipartite bowl, stone axe, daubed-painted wattle and daub
Pit No. 1594	48/11	Characterless	small, delicate	h=51, d=30/29	wagon wheel-model, spindle whorl
Pit No. 2000	55–56/33	Phase II.A Boleráz	two smaller, delicate pieces	h=40, d=29; h=40, d=31	intact small jug and pot; in super-position with pit No. 2011: stone axe
Pit No. 2298	50/26	Phase I.B–C Boleráz	small, delicate	h=51, d=29	beside pit No. 2313 and 2297; including: a spindle whirl and a stone axe
Pit No. 2313	50/26	Phase I.B–C Boleráz	small, delicate, sandglass-shaped	h=37, d=40	beside pit No. 2298
Pit No. 2389	52/34, 35	Phase II.A Boleráz	delicate item, in pieces	h=50, d=29	clay spoon, bone tools
Pit No. 2397	50/31	Early Boleráz	large, rough	h=72, d=41	beside pit No. 2412
Pit No. 2412	50/31	Characterless	large, rough	h=80, d=48	beside pit No. 2397, stone axe
Pit No. 2606	47/30, bellow layer Nr 1381	Phase I.B–C Boleráz	rough, broken at the ends	h=72, d=43	spindle whirl, polished ochre clod
Pit No. 2653	46/26, bellow layer Nr 1367	Characterless	two pieces, rough, with round ends	h=83, d=38 h=81, d=47	polished chisel, beside pit No. 2652 and 2595 (pintadera)
Pit No. 2667	50/36, bellow layer Nr 1390	Phase I.B–C Boleráz	rough, deformed, signs of slanting wear at the ends	h=75, d=41	below the cultural layer No. 1390 from the Boleráz Period
Pit No. 2684	45/31	Phase I. B–C Boleráz	two pieces of delicate, sandglass shaped objects, the ends are slightly hollow	h=43, d=39 h=45, d=36	spindle whorl, stone axe
Pit No. 2704	43/29	Characterless	rough fragments of the ends	d=54	in superposition with pit No. 2743
Baden cultural layer No. 925	44/7-(45/8)	Phase II.B–III Baden	fine, sandglass-shaped	h=38, d=31	spindle whirl
Baden cultural layer No. 925	48/8	Phase II.B–III Baden	fine, sandglass-shaped	h=43, d=31	spindle whirl, polished bone tool
Baden cultural layer No. 925	48/10	Phase II.B–III Baden	small, delicate	h=47, d=23	
Boleráz cultural layer No. 1360	48/31–49/32	Phase I.B–C Boleraz	fine, small, sandglass-shaped, deformed	h=34, d=36/37	
Boleráz cultural layer No. 1390	46/30, 31	Phase I.B–C Boleráz	large, rough, widening ends	h= 67, d=44/48	sandstone-plate, together with pit No. 2667
Stray find			2 pieces, rough, large, slanting and with hollow ends	h=73, d=45 h=76, d=43	

ILLUSTRATION LIST

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Plate 5. 1. Gilat, Sinai Peninsula, Ghasssulien Culture, the figure of the *"Fertility Goddess"*, with a pestle under her arm, and a churn on the top of her head, after *Land der Bibel,* Kat. 19; 2. Balatonőszöd-Temetői dűlő, pit No. 1124, churn pot (*Fischbuttenförmiges gefäss/Fish-barked shaped vessel*); 3. The distribution map of the *Fischbuttenförmiges gefäss/Fish-barked shaped vessel* in the Boleráz/Baden cultures: blue: imitations, red: churn pots.

Plate 6. Balatonőszöd-Temetői dűlő: features with spool-shaped artefacts.

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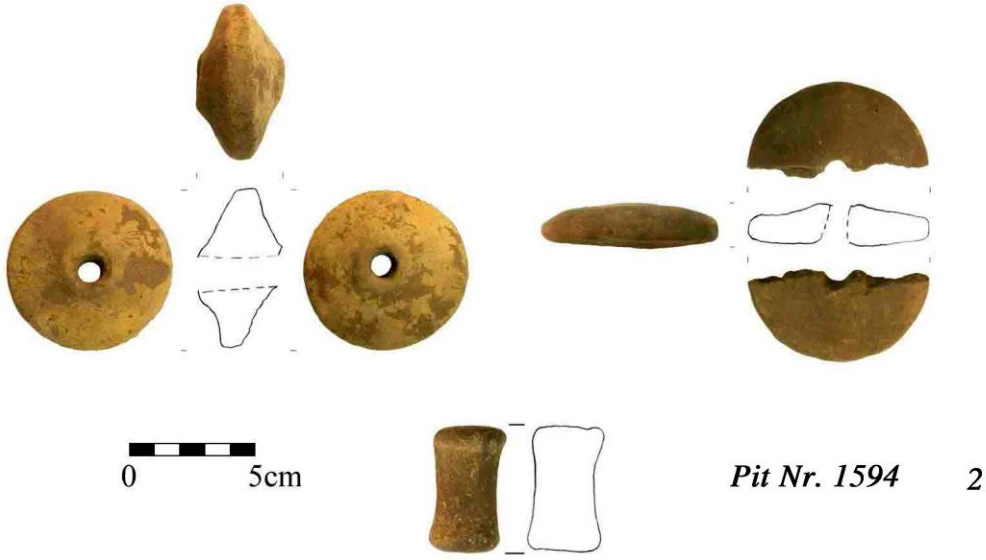

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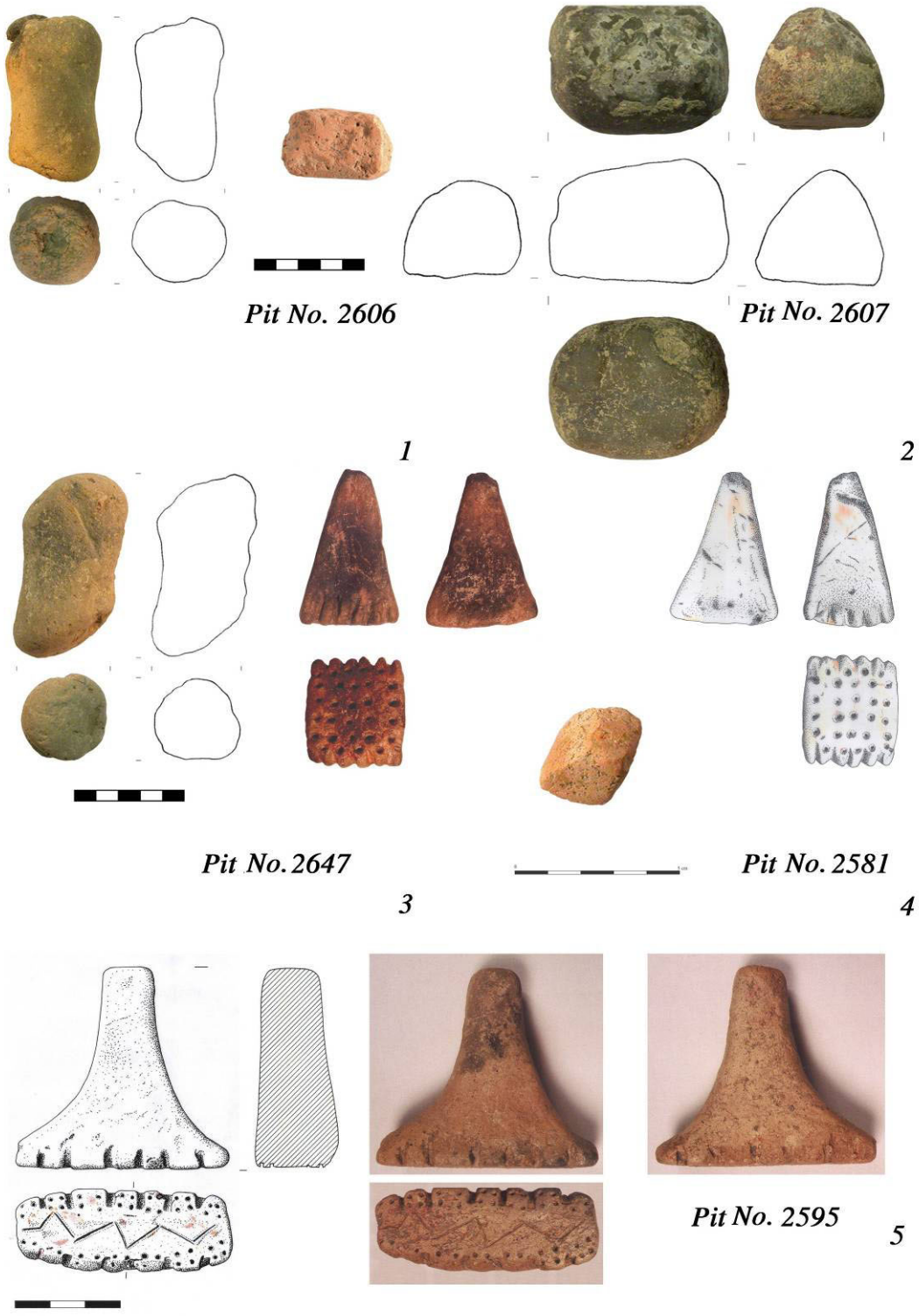

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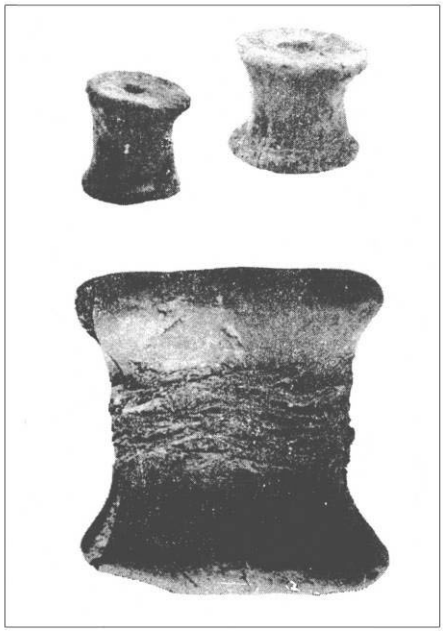

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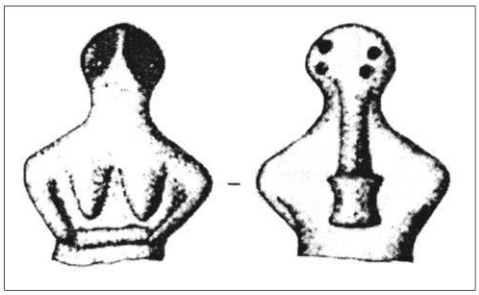

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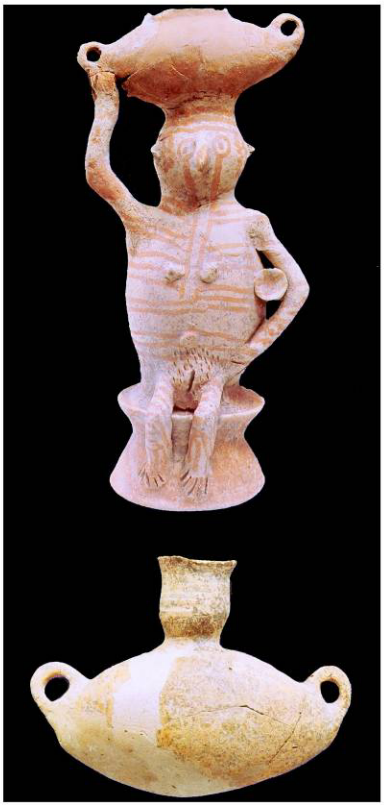

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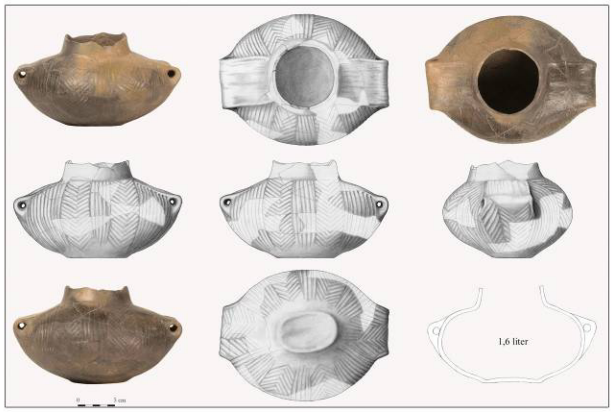

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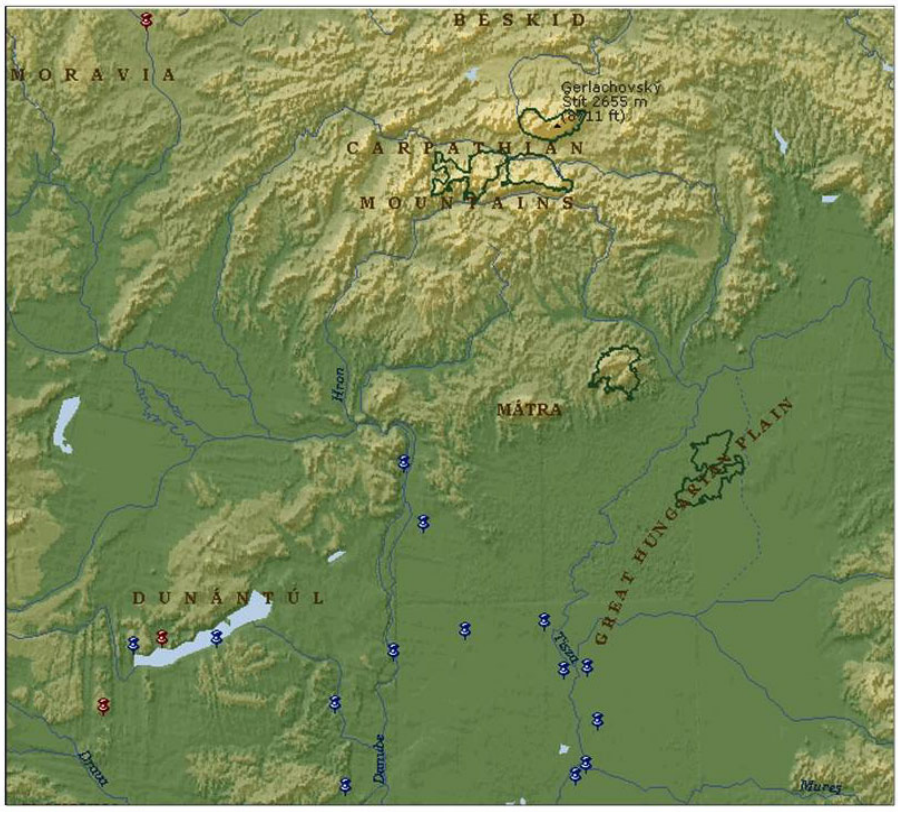

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