

**‘CORD’ ORNAMENTS ON POTTERY
IN THE VISTULA AND DNEIPER
INTERFLUVIAL REGION:
5TH – 4TH MILL. BC**

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Editor's Foreword

The issues outlined in the above volume of *Baltic-Pontic Studies* (BPS) presented here, can be said to generate several important and complex questions among which, one relating to the topogenesis of 'corded' ornamentation on the bio-cultural borderlands of east and west Europe, gave birth to an innovative research project. In this respect, specialist researchers of the Pontic-Baltic Eneolithic (from Middle and Late Neolithic contexts) chose 45 vessels (mostly fragments) originating from the Dnieper-Southern Bug drainage area and Vistula, dated to the 5th - 4th/3rd mill. BC for the purposes of microscopic analyses conducted with the aim of identifying 'corded' patterns of ornamentation. These laboratory tests were led by an archaeologist specialising in microscopic analysis to identify interdisciplinary, pre-historic and archaic techniques in the textile crafts.

The implications of the above tests would seem to warrant a manifold approach to possible conclusions on the basis of specialist (microscopic) criteria of differentiated - previously identified as macroscopic - in general terms as 'corded' motifs of ceramic ware ornamentation (part 1). This also concerns an outline of investigation drawn from hermeneutics, prompted by various contexts such as historical and cultural assessment of bio-cultural communities and related findings as well as attempts to generate a coherent framework of linguistic and cultural research for 'corded ornamentation on ceramic ware' (part 2).

In discussing further the 'main issues' presented in this publication of BPS 15 in respect to the hand manufacture of ceramic ware of the Vistula and Dnieper interfluvial region and its peoples, a *modus operandi* of investigation in the context of region has been proposed whereby researchers of this particular project have been given a free hand, as it were, in respect to the degree and forms of application in microscopic analyses and their findings. A series of commentaries has therefore arisen, from various points of view in so far as reflections on research conducted - possible future strategies for vital questions in this matter that are yet to be answered (part 3).

It is assumed therefore that this volume has in some measure initiated a process of the highest consequence, one introducing a new level of off-site investigation into the genesis of corded ornamentation development, which deserves to be supported in addition through a personal engagement in this research field.

Editorial comment

1. All dates in the B-PS are calibrated [BC; see: Radiocarbon vol. 28, 1986, and the next volumes]. Deviations from this rule will be point out in notes [bc].
2. The names of the archaeological cultures and sites are standarized to the English literature on the subject (e.g. M. Gimbutas, J.P. Mallory). In the case of a new term, the author's original name has been retained.
3. The spelling of names of localities having the rank of administrative centres follows official, state, English language cartographic publications (e.g. *Ukraine, scale 1 : 2 000 000*, Kiev: Mapa LTD, edition of 1996; *Rèspublika BELARUS', REVIEW-TOPOGRAPHIC MAP*, scale 1:1 000 000, Minsk: *BYELORUSSIAN CARTOGRAPHIC AN GEODETIC ENTERPISE*, edition 1993).

Aleksander Koško, Marzena Szmyt

‘CORDED’ ORNAMENTATION ON CLAY VESSELS IN THE VISTULA AND DNEIPER INTERFLUVIAL REGION: 5TH – 4TH MILL. BC. AN OUTLINE OF HISTORICAL AND CULTURAL CONTEXTS

The discussion in the previous article of sample differentiation subject to microscopic analysis [see Koško, Sikorski, Szmyt... – part 1, in this volume] can be said to gain particular significance in studies that present regional aspects of a determining nature (see part 3 of the volume). In what follows, an outline of the general cultural and historical context of finds and their research shall be given in respect to (1) time and (2) culture, in particular, its basis of economy.

1. CHRONOMETRIC AND CHOROLOGICAL CONTEXTS – A GENERAL OUTLINE

The vessels under investigation as presented in this research project originate from a long time-span, 4600/4500 – 3000/2900 BC. This is a period directly before the formation in Europe of a widespread culture circle (from the Rhine to the Volga) for whom corded ornamentation would become a key marker (Corded Ware culture circle – CWC) from ca.2900/2800 BC. The general nature of vessels researched demonstrates moreover, the beginnings of extremely important phenomena – both in terms of a possible taxonomy and culture studies – which for research purposes may be known as *archaeo-corded* ornamentation. The series of questions that arise in this context are in themselves highly complex and therefore the issue of topogenesis in respect to the *archaeo-cord* (initially in our aims, a dominant one) is but one of many.

The above mentioned period – around 1,500 years – is taken up in the Vistula and Dnieper interfluvial region by communities with strongly marked differences

in culture, economy, environment and social development. Thus it is possible to identify hunter-gatherers in the taiga (the forest zone), farmer-settlers in the forest steppe and loess plateaus as well as semi-nomadic-settlers on the borderlands of the forest steppe and steppe. It can be assumed therefore that the *archaeo-corded* ornamentation could have had in each of these bio-cultural communities a different environment governing its development. Moreover, taking into account the store of knowledge [see Koško, Szmyt... – part 1, in this volume] on this very factor in respect to societies in the borderlands of west and east Europe, it is also possible to note that in the ‘markers’ under research, there are signs of wider interaction such as the exchange of experience on a pragmatic, technological and cognitive-semiotic level [see Kowalski... , in this volume].

2. CULTURAL AND ECONOMIC CONTEXT

The rationale of the so called ‘context of finds’ lies in searching for a solution in respect to hypothetical indicators of the most likely raw material out of which plaits [Koško, Sikorski, Szmyt... – part 1, in this volume Table 2: B] were made as well as reasons for a given functional context, such as stimuli behind the corded ‘steppe invention’ (or else its further relations that happened to continue or to converge) or ‘cord-like’ ornamentation on ceramic ware. The questions raised in this context relate therefore to the correspondence of experience in so far as the nature of a community’s development in manufacture, its development of artistic sensibilities or archaeo-sociological factors [Kowalski 1998 and in this volume].

a. PONTIC REGION

aa. Sites on the steppe (PA)

The ceramic samples (18) as part of the so called Steppe Eneolithic and the beginnings of the Bronze Age (4600/4500- 3000? BC [Kotova... , in this volume; Klochko, Koško, Szmyt 2003: Fig. 1]) come from the 3 sites of Dereivka, Khortica and Mikhailovka [Koško, Sikorski, Szmyt... – part 1, in this volume Table 2:1-18] and document 4 taxa: Sredniy Stog culture (SSC) – phase II, Lower Mikhocilovka culture (LMC), Rogachyk culture (RC) and early Yamnaya culture (YC). The sites in this context are located along the Dnieper valley or within its region (on the island of Khortica), in the river bar section. In terms of particular physiographic divisions, it is a northern steppe sub-region on the borderlands of the Dniester and Dnieper (south Dnieper mountain slopes) and the left banks of the Azov-Dnieper region.

According to paleo-economic research to date, in the 5th – 4th mill. BC this area belonged to typical breeder and hunter territories. The differences between

the sites in these regions related to the type of animals bred, such as cattle, sheep, goats and horses [Bibikova 1986; Kotova 2004]. V. Bibikova pointed out that only the horse played a role in the SSC (phase/culture Dereivka 4300/4200-3800 BC [see Kotova. . . , in this volume]), demonstrating the very strong differentiation of overall numbers for bred animals per se: Dereivka (Cherkasy region) 63.27%, Aleksandria (Kharkiv region) 27.04%, Molyukhov Bugor II (Cherkasy region) 18.99%, Sredniy Stog II (Zaporizhzhya region) 6.99% [Bibikova 1986:167, 169, Tab. 1]. N. Kotova provides moreover, data in respect to the proportions of animals bred in the consumption patterns of peoples in late SSC settlements in Semenivka, Donetsk region (layer 3, 3800-3600 BC): cattle 38%, sheep/goats 25%, horses 25% [Kotova 2004:63, Tab. 6.7] – 50% domestic in relation to wild animals. This is based, however, on an insignificant sample of bones (8 fragments).

A separate taxonomy of animal bone remains identified in the practice of breeding was indicated in relation to the effects of research into the eponymic LMC layer of the Mikhailovce site (4200-3800 BC [see Kotova. . . , in this volume]): sheep/goats 65.5%, cattle 16.3%, horses 7.3%, swine 7.3%; dogs 3.6%; domestic to wild, respectively 87% do 13% [Lagodovska, Shaposhnikova, Makarevich 1962:29, Tab. 1]. The hypothesis of an economic opposition among Eneolithic communities, between the SSC (Dnieper-Don areas) forest-steppe as breeders of cattle and horses, and that of the steppe LMC (Azov-Caucasus) as breeders of sheep and goats, is one of the significant elements in the overall understanding of the North Black Sea region cultures in the 5th to 4th BC [Koško 1985:63-64, see for further literature].

The Mayaki site has also been recorded in the steppe ecotype, one which is related to the Balkan and Steppe Eneolithic borderlands, to be precise, the Usatovo group situated in the north Black Sea region, near a lagoon at the mouth of the Dniester [Koško, Sikorski, Szmyt. . . – part 1, in this volume Table 2:24-27]. In this particular case it lies in the north steppe sub-zone on the borders of the Southern Bug-Dniester lowlands and that of the slopes of the south Podolia Upland.

According to current paleo-economic research, in the Usatovo group, to be precise in the Mayaki settlement (at the turn of the 4th and 3rd mill. BC) breeding of animals was clearly dominant. The proportion of each species that was bred is divided as follows: sheep/goats 76.2%, cattle 12.7% and horses 11.1%. The consumption of bred animals in proportion to wild was 96.5% to 3.5% [Zbenovich 1974: Tab. 1-3; Videiko, Burdo 2004: Fig. 16 – domestic 84.8%, wild 15.2%].

In the period under investigation in respect to potential raw materials for textile crafts, in both of the above mentioned steppe communities, no doubt characterised by a domestic economy, it can be assumed that animal hair was a dominant material. Setting this fact in the context of archaic textile techniques, such ‘most basic of textiles’ could be sheep wool, for ‘goat hair was used rarely and other animals only in exceptional cases’ [Moszyński 1967:310]. At the same time, it is

not possible not to notice the effectiveness of steppe plaits made from vegetation and their respective applications [Makohonienko 2009, also further literature].

ab. Forest steppe sites (PB)

The series of samples from the forest steppe of the Black Sea region is represented exclusively by the Tripolye culture (TC) and comes from 3 sites: Ihnatenkova Hora (Cherkasy region), Sandraki (Vinnitsia region) and Troyaniv (Zhytomyr region). All of these sites are dated to the CI – CII phase of the TC (3900-2750? BC [Videiko 2002:31]) and are in the east Tripolye territory [Kruts 1994; Tsvek 2000], between the upper Southern Bug and Middle Dnieper. In very detailed subdivisions of physiogeography and climate, it is a sub-zone that features a warm, insufficiently damp, forest steppe.

According to paleo-economic research, in the 4th mill. BC this area was characterised by ‘appropriate natural environment suitable for a traditional – by the TC peoples – farming and breeding economy’ [Kruts 1994:10]. Further, V. Kruts maintains that the interfluvial territories of the Southern Bug and Dnieper were characterised by ‘very fertile black soils and brown forest earths, particularly suitable for farming’ [Kruts 1994:10]. These views are difficult to corroborate because of difficulties in assessing the relationships between farming and breeding animals, as well as the nature of what variety of animals were used for such purposes. In this context therefore the recent study by M. Videiko and N. Burdo [Videiko, Burdo 2004] should be noted in respect to such practices by the communities of the TC, where animal bone remains from a TC settlement in Sandraki (1151 bone fragments) were analysed as follows: domesticated 47.4%, wild 52.6% – with 20% of bones from horses among animals bred [Videiko, Burdo 2004: Tab. 1].

Further, the variety of breeding strategies, wide range of forest steppe flora and cultivated plants, would seem to indicate a rich set of choices for materials that could be used to produce plaiting.

b. BALTIC DRAINAGE AREA

ba. Old Uplands zone (BA)

The series of ceramic samples from the old upland loess enclaves of the Baltic basin contains material only from the Funnel Beaker culture (FBC) and comes from 4 sites: Las Stocki 19, Karmanowice 35, Miłocin Kolonia and Tominy 12 [see Koško, Sikorski, Szmyt. . . – part 1, in this volume Table 2:28-37]. In general terms this could be said to be in the region of the Małopolska Upland. In so far as a fine physiographic sub-division is concerned [Kondracki 1967:377ff], the former three sites (all cemetery complexes) are situated on the Lublin Upland (BA1). The latter, however, is a settlement in the Kielce-Sandomierz Upland (BA2).

According to current paleo-economic research, in the 4th mill. BC, a period where the above mentioned samples can be dated to, in the loess upland areas of Lublin-Naęczów-Sandomierz there is recorded a growth in the role of breeding animals. This feature of domestic economy based however on a limited series

of bone remains. In the view of J. Kruk and S. Milisauskas [Kruk, Milisauskas 1999:150] ‘the proportion of remains of the most important domestic species are very similar. Cattle is dominant (78-43%), second are pig (21-14%), third goats and sheep (about 13%).’ The share in this context of wild animals (for hunting) is less than 10%. It is also worth noting the observation of the above authors that ‘among sheep remains found in the Bronocice site, as much as 68% were mature adults, which testifies to the fact that these animals were used for the production of wool.’

BA1. The cemetery complexes of Stocki Las 19 (Lublin region, Puławy district), Karmanowice 35 (Lublin region, Puławy district) and Miłocin Kolonia (Lublin region, Lublin district) are associated with the Late Neolithic funerary centre identified on the Nałęczów Plateau [Nogaj-Chachaj 1991; Wiślański 1979:251; Nowak 2009:470]. According to a chronometric analysis, these complexes can be linked to the end of the first half of the 4th mill. BC [Nowak 2009:348-349; horizon 3 – ca. ‘within’ 3650-3500 BC]. It is argued that FBC cemetery complexes arose in the loess upland, without stabilised large settlements [for other views see Kruk, Milisauskas 1999:114-117].

BA2. The Tominy settlement (Opatów District, Świętokrzyski region) can be found in a zone where high quality flint (Ożarów type) is extracted. It is difficult to assess the actual influence of this location on the nature of daily life and the rather temporary FBC settlement, for research so far in recent years has been conducted in terms of conservation. The results of these studies carried out in the institution itself, detailed chronology and cultural context of findings, have alas, not been brought to light [see Kadrow, Olejarczyk... , in this volume].

bb. Lowland zone (BB)

Among the materials of the findings from the middle European Lowland in the south Baltic area, the most informative collections of ‘corded ware’ vessels were those found during field studies of settlements from the phases IIIB-C/IIIC – VB of the FBC in Łojewo 4 (Cuiavia-Pomerania region, Inowrocław district) and Radziejów 4 (Cuiavia-Pomerania region, Radziejów district) [Koško 1984; 2007; Rybicka 1995]. A definitive chronology of the above settlements can be determined at the turn of the first and second half of the 4th mill. BC, mainly though in the latter half and end of the 4th mill. BC.

The series of vessels subjected to microscopic analysis is from three sites: Opatowice 3 (Cuiavia-Pomerania region; Radziejów district) (3240-3100 BC¹), Łojewo 4 (3090-2910 BC) [Przybył 2008: Tab. 2] and Kościelna Jania (Pomerania region, Starogard Gdański district) [Koško, Sikorski, Szmyt... – part 1, in this volume Table 2: 38-45].

In terms of detailed physiogeographic sub-divisions, the sites of Opatowice 3 and Łojewo 4 are located in the Cuiavia Plateau, while the Kościelna Jania

¹ Radiocarbon dating: Ki-14697 4520±70 BC (ceramic sample: Op3/XVII/87:S1)

site is situated in the Starogard lake district. These sites are linked in terms of topogenetics, thanks to which it is possible to relate them to cultures identified in the Cuiavia mezo-region of settlements, including the eastern group of the FBC (Opatowice 3, Kościelna Jania 1) and those of Radziejów (Łojewo 4).

Further, in terms of paleo-economic studies, in the 4th mill. BC, in particular towards its end, these territories show a dynamic growth in 'nomadic animal breeding', where it would appear that this phenomenon 'could have gained an internal impetus of growth from semi-pastoral communities from the north Pontic zone' [Koško, Szmyt 2004:113]. The practice of animal breeding on the part of FBC peoples in the Cuiavia Plateau is as follows [after Koško, Szmyt 2004: Tab. 1]: eastern group: cattle 74.2%; sheep/goats 17.7%; pig 8.0%; horses 0.1%; Radziejów group: cattle 70.9%; sheep/goats 17.3%; pig 10.5%; horses 1.3%. During the harvest of cereals the general data from Cuiavia in the 4th mill. BC indicate a decided preference of wheat over barley. The discussion of such cereals and their relationships in harvesting and farming has been detailed comprehensively as a result of the Radziejów Hills studies [e.g. Koszałka 2007].

3. SUMMARY

In summary, the extant knowledge of the potential store of raw materials in communities of the North Black Sea region (both steppe and forest steppe) set against the results of microscopic analysis do not allow for an identification of textile fibre that would have served for 'corded ware' impressions. Further, on the basis of negatives analysed, a relatively 'certain' description of materials used for textiles is not possible. Only in one case (sample 11) it is with a high degree of probability that the remains of a cord plaited from wool were recognised. The remaining samples could have been crafted from both of these materials. In this particular context it is important to note that plant fibres were more durable (resistant to wear) [Mogielnicka-Urban 2002:29]. The following provides an outline of relative applications where cords were impressed: plaiting (6), netting (6), needlework (5), plaiting or needlework (2), macramé (1), fringes (1) and cords/string (7), where plaited, turned and wound (sample nr 8 with differing thicknesses: 1.230 – 4.155 mm).

Moreover, in relation to such materials from the Baltic drainage area the investigation of negatives on ceramic ware does not give any grounds for definite conclusions in respect to textile fibres. The impressed textiles could have been therefore prepared equally from wool and plant fibres (bast, bark strips

as in samples 30, 38, 39, 43-45). The range of impressions on corded ceramic ware was as follows: needlework (9), plaiting (6), plaiting or needlework (3) and cord/string (4). Among the latter there were found plaited cords measuring 1.702-3.813 mm. In the 'Baltic' subset no negatives of macramé, netting or fringes were noted.

Despite the fact that the above brief outline of laboratory tests and their results – discussed in more detail in the third part of this volume – are not conclusive in respect to identifying raw materials (textiles), the observations in relation to formal and technical aspects of 'corded' and 'cord-like' ornaments nonetheless provide a modicum of hope for the formulation of hypotheses concerning the topogenesis of such ornamentation. One possible argument might be that there was present a high differentiation of such crafts in Pontic societies in terms of their rather limited repertoire in respect to communities from the Baltic basin in the 4th mill. BC. Further, as carbon dating analysis indicates, a higher degree of technical differentiation can be the result of, among others, a longer period of development. The early growth of 'corded' and 'cord-like' ornamentation among mostly pastoral communities allows for the hypothesis of the existence of dynamic growth in these territories (Pontic steppe/forest steppe) in a meeting of various crafts and their making, such as 'pre-pottery' (manufacture of vessels from organic materials) and pottery. Thus, the making of portable receptacles and at the same time, thanks to the actual production technique (i.e. shells mixed into ceramic mass as an organic surface coating – textile netting), it was most durable (in a given bio-culture, economy). The stylistic traits of such receptacles would seem to document therefore a synthesis of experience in respect to their application and semantic nature spanning across a sequence of long traditions.

The above thesis, at this initial stage of research, may perhaps be only partially confirmed in respect to paleo-economic and chronometric aspects, which are to be further discussed in subsequent articles. One irrefutable conclusion, however, is the urgent need for a continuation of such research, among others, so as to verify the arguments outlined in this place, in relation to the above topogenetic hypothesis.

Translated by Ryszard J. Reisner

ABBREVIATIONS

- AP URSS – Arkheologiczni pamiatky Ukrainskoyi Radianskoyi Sotsialisticheskoi Respubliki. Kiev.
- BPS – Baltic-Pontic Studies. Poznań.
- KSIA – Kratkiye Soobshcheniya Instituta Arkheologii. Moskva.
- KSIA AN USSR – Kratkiye Soobshcheniya Instituta Arkheologii Akademiyi Nauk Ukrainskoy Sovetskoy Sotsialisticheskoy Respubliki. Kiev.
- MIA – Materialy i Issledovaniya po Arkheologii USSR. Moskva. Leningrad.
- SA – Sovetskaya Arkheologiya. Moskva.

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