

**THE FOUNDATIONS OF RADIOCARBON  
CHRONOLOGY OF CULTURES BETWEEN  
THE VISTULA AND DNIEPER:  
3150-1850 BC**

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## Editor's Foreword

This volume of the *Baltic Pontic Studies* focuses on the results of the research carried out so far into the absolute (radiocarbon) chronology of the area lying between the Vistula and Dnieper or the bio-cultural borderland between the West and East of Europe. Absolute chronology is treated here both as a research goal and fundamental premise in the broader studies of the chronometric and development synchronization of "borderland" cultural systems. In a series of articles devoted to individual taxa a considerable number of new  $^{14}\text{C}$  dates have been compared. The dates concern source materials that have been chosen from the point of view of their representativeness and chronometric value ("short-lived" materials were preferred to minimize a potential error). The vast majority of analyses were purposefully made in the same  $^{14}\text{C}$  laboratory of the *State Scientific Center of Environmental Radiogeochemistry of Ukrainian Academy of Sciences* in Kiev taking advantage of funds generously provided by the *Polish Committee for Scientific Research*.

The volume devoted to the "dark" section of the "borderland" history (3150-1850 BC) is the first but not the last publication on the broader issues mentioned above that we intend to present in the near future.

## Editorial comment

1. All dates in the B-PS are calibrated [see: Radiocarbon vol.28, 1986, and the next volumes]. Deviations from this rule will be point out in notes.
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).



**Aleksander Kośko**

## PONTIC TRAITS IN THE MATERIALS OF THE KUJAWY FUNNEL BEAKER CULTURE AND EARLY CORDED WARE CULTURE — A RADIOCARBON PERSPECTIVE

Kujawy, lying where the drainages of the Vistula and Oder meet (Fig. 1), marks the western frontier of the zone of discernible reception of the traits of the Pontic cultural circle. Pontic traits were received there by a chronologically long cycle of cultures beginning in the 6th millennium BC and continued with a special intensity by the Funnel Beaker culture (FBC) (beginning with phase IIIB), the Globular Amphora culture (GAC) and the Corded Ware culture (CWC), i.e. in the Late Neolithic [Kośko 1991].

In this paper we shall focus on FBC and CWC materials, or FBC/CWC ones, that exhibit the traits in question. The joining of these two taxa here is justified by the state of their development ties in Kujawy [Kośko 1997; cf. Kurzawa 1999]. Four complexes of traits were selected (both settlement and grave ones), in the case of which the identification of Pontic traditions seemed to be particularly reliable and taxonomically specific (Fig. 1). A number of complexes were disregarded because of less specific identifications (genetic and cultural) of their sources of inspiration. A. Latkowo, Kujawy-Pomorze Prov., site 5, settlement from phase VA of the FBC (Fig. 2) [Kośko 1990:315; 1996:99, materials under processing]. Rescue excavations (by the Dept. of Polish Prehistory, IP UAM) encompassed a significant portion of the settlement surface that had been uncovered because of a planned industrial investment. A selection of pottery from the layer and floor — of amorphous horizontal outline - of a large feature (semi-dugout ?) was recorded. Within the feature a large amount of pottery was found and a smaller number of animal bones. Among the pottery, fragments of a large amphora dominated. On its lip, an ornament of four lines of impressions of a three-strand cord was recorded together with four lines of zigzag impressions. Underneath, a pattern with zoomorphic motifs of two “herds” of deer is visible. The state of vessel preservation does not allow to fully reconstruct the scene (Fig. 2).

A stylistic and technological evaluation of the vessel clearly indicates its ties with the Radziejów group of the FBC, specifically with phase V [Kośko 1981]. A meager

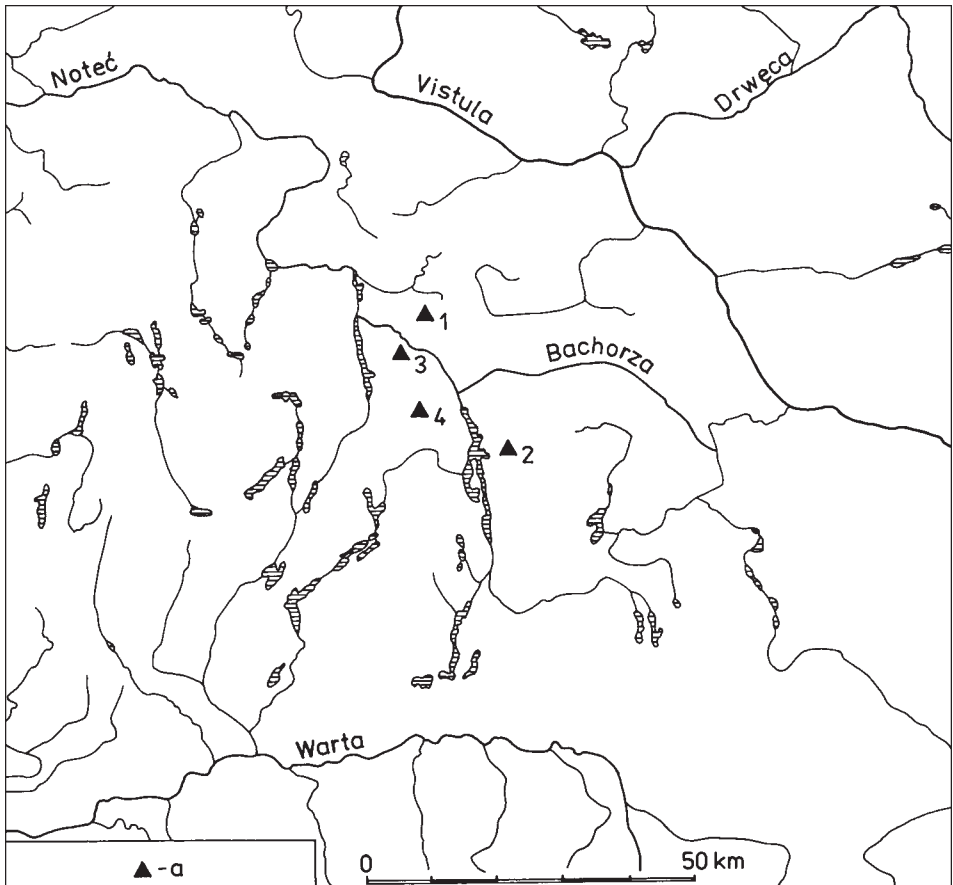


Fig. 1. Kujawy - location of source assemblages displaying Pontic traits discussed in the paper. (a): 1 - Latkowo, site 5; 2 - Opatowice, site 42; 3 - Krusza Zamkowa, site 3; 4 - Bożejewice, site 8

set of stylistic traits prevents any more detailed categorization, but allows one to point to subphase VA. From a sample of animal bones a  $^{14}\text{C}$  date was procured: Gd - 4424:4560 $\pm$ 90 BP, i.e. 3225 $\pm$ 145 BC. This dating bears out the relationship of the assemblage with the suggested phase [Koško 1999].

The zoomorphic pattern does not find any analogy in the FBC nor in the related Radziejów group of the Baden culture (BC) [Koško 1988:103]. Relatively close analogies to this pattern can be found in the Tripolye culture (TC), where they are dated to phases BIII-CI/CII [Passek 1949:108; Movsha 1972:16; cf. Jastrzębski 1988:55-68]. A particular abundance of zoomorphic ornaments is found in the “western” zone of the TC, especially in the upper drainages of the Prut, Reut and Dniester Rivers [e.g. Markevich 1981; Movsha 1985:234; cf. contrasting “eastern”

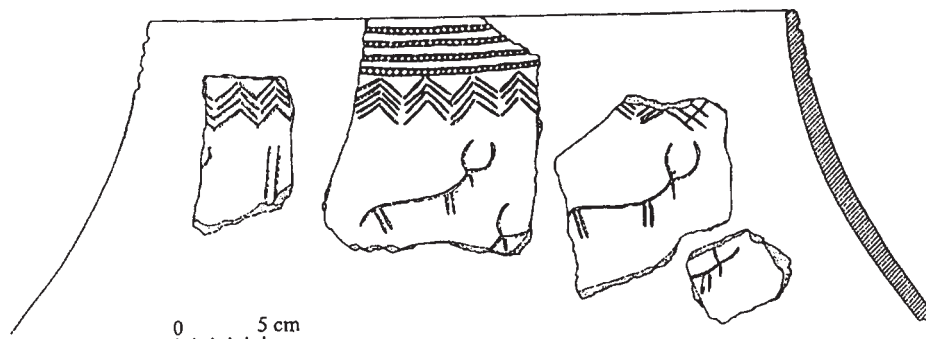


Fig. 2. Latkowo, Kujawy-Pomorze Prov., site 5. Funnel Beaker culture settlement, phase VA

TC: Kruts 1977:62ff.]. As the result of these findings, it is possible to determine the following synchronization of the taxa: FBC (Kujawy) phase VA (Radziejów group) — TC phases BIII — CI/CII (Zhvaniets group according to T.G. Movsha [1985:232-237]; cf. Zhvaniets — Kuban - Brynzeny type [Jastrzębski 1989:17ff]).

**B.** Opatowice, Kujawy-Pomorze Prov., site 42, a settlement of phase IVA/B of the FBC (Fig. 3) [Koško, Szmyt 1993, materials under processing]. The excavations (by the Dept. of Polish Prehistory, IP UAM) covered the whole accessible area of the site. As a result, a small, single-house settlement was unearthed with a significant amount of artifacts, primarily pottery.

The collection of pottery shows traits of a local, Luboń-Papros style, more specifically of their early development stage [Koško 1987:62-64; Koško, Szmyt 1993:176-177]. This classification is supported by the presence — as recessive traits — of late-Wiórek and Mątwy elements [cf. Chachlikowski 1994]. Keeping this in mind, the feature may be dated to phase IVA/B (or possibly beginnings of IVB) of the FBC, placing it in the late segment of the east-ern group. This chronological classification corresponds to the  $^{14}\text{C}$  date of Gd - 2764:4460 $\pm$ 80 BP, i.e. 3172 $\pm$ 142 BC.

The stylistic traits of the FBC pottery from site Opatowice 42 may be divided into three genetic groups, namely local Luboń-Papros patterns, BC and hypothetical TC patterns. In the last mentioned case — which is of immediate interest to us here — what is chiefly meant is the use of painted ornaments, in particular of black wood-tar dye [Langer, Koško 1999]. As a result of the latest research, organic dyes may be genetically associated with the drainage of the Upper Tisza whence they must have been adopted — as substitutes for mineral dyes (?) — by the TC societies in the Upper Dniester area. This genetic identification is borne out by the presence

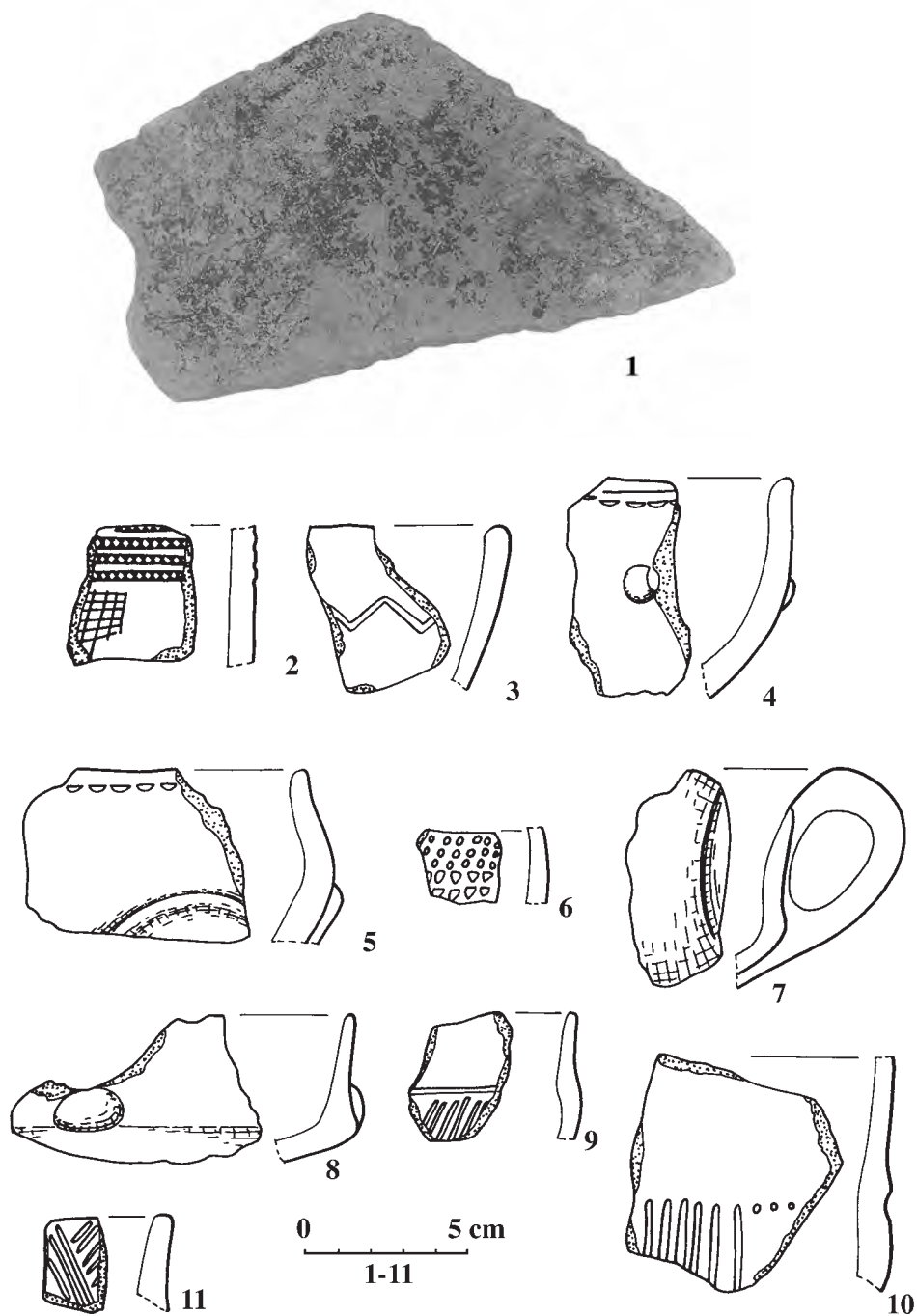


Fig. 3. Opatowice, Kujawy-Pomorze Prov., site 42. Funnel Beaker culture settlement, phase IVA/IVB. A selection of pottery. 1 - pottery fragment with black dye

of “Volhynia” raw-material artifacts in the Opatowice assemblage [without detailed identification of the bed, cf. Konopla 1998], resembling TC artifacts in the manner of their execution.

On the basis of the above observations, the following synchronization of the taxa can be proposed: FBC phase IVA/B (eastern group) — TC “late” phase (possibly C, i.e. domination of the black dye).

C. Krusza Zamkowa, Kujawy-Pomorze Prov., site 3, grave (*kurgan* ?) from phase A of the CWC (Fig. 4) [Koško 1992]. During the investigation of a vast settlement of the Przeworsk culture (by the Dept. of Polish Prehistory, IP UAM) a single burial related to the CWC was discovered (feature 427). In the 100x100x85 cm grave pit a child had been interred (Infant I) lying “supine with a leg drawn up vertically” (? — there are reasons to believe that the corpse was mutilated before the burial). The deceased wore a necklace and a “brassard” placed over the left hand (Fig. 4:2, 3, 6-9). On the grave bottom, to the right of the body, a clay vessel (Fig. 4:1), two flakes made of Baltic and chocolate flint (Fig. 4:4, 5) and a bone awl (Fig. 4:10) made from the tibia of a small ruminant were found. The grave pit was protected at its top with a pile of large cobblestones. At the circumference of a hypothetical mound, in the layer, two vessel fragments, similar technologically to the beaker, were unearthed. The vessels were a beaker and a bowl (Fig. 4:11).

The cultural marker of the burial is the type A beaker considered to be a marker of horizon A of the CWC [for a more detailed discussion see Koško 1997]. The deceased’s bones were dated using the radiocarbon method and obtaining the date of Bln - 1812:4395±70 BP, i.e. 2997±101 BC.

While evaluating the place of origin of all the component traits of the assemblage, its complex provenience was stressed. It is a synthesis of many traditions to be found in the area between the Vistula and Dnieper [Koško 1992:89-94]. Among Pontic traits — specifically of the Yamnaya culture (YC) ones — the following can be named:

- grave pit form, i.e. a deep excavation (depth:width=1:1>, taking into account the depth of chernozem humus);
- equipping the deceased with a necklace including dog teeth (atypical for the Pontic region is the presence of amber beads as well);
- “steppe” positioning of the body on its back with legs drawn up;
- protection of the grave “pit” with a stone pile and — which is highly probable — a mound.

There are items that could be added to this list, e.g. traits of the Carpathian CWC — beaker form [Sveshnikov 1974: Fig. 2, 52, possibly 83] or of the late TC (phase CII) — corded-stamp patterns on the bowl found close to the grave [cf. Movsha 1971a].

To conclude, it can be reasonably accepted that phase A of the CWC (Kujawy

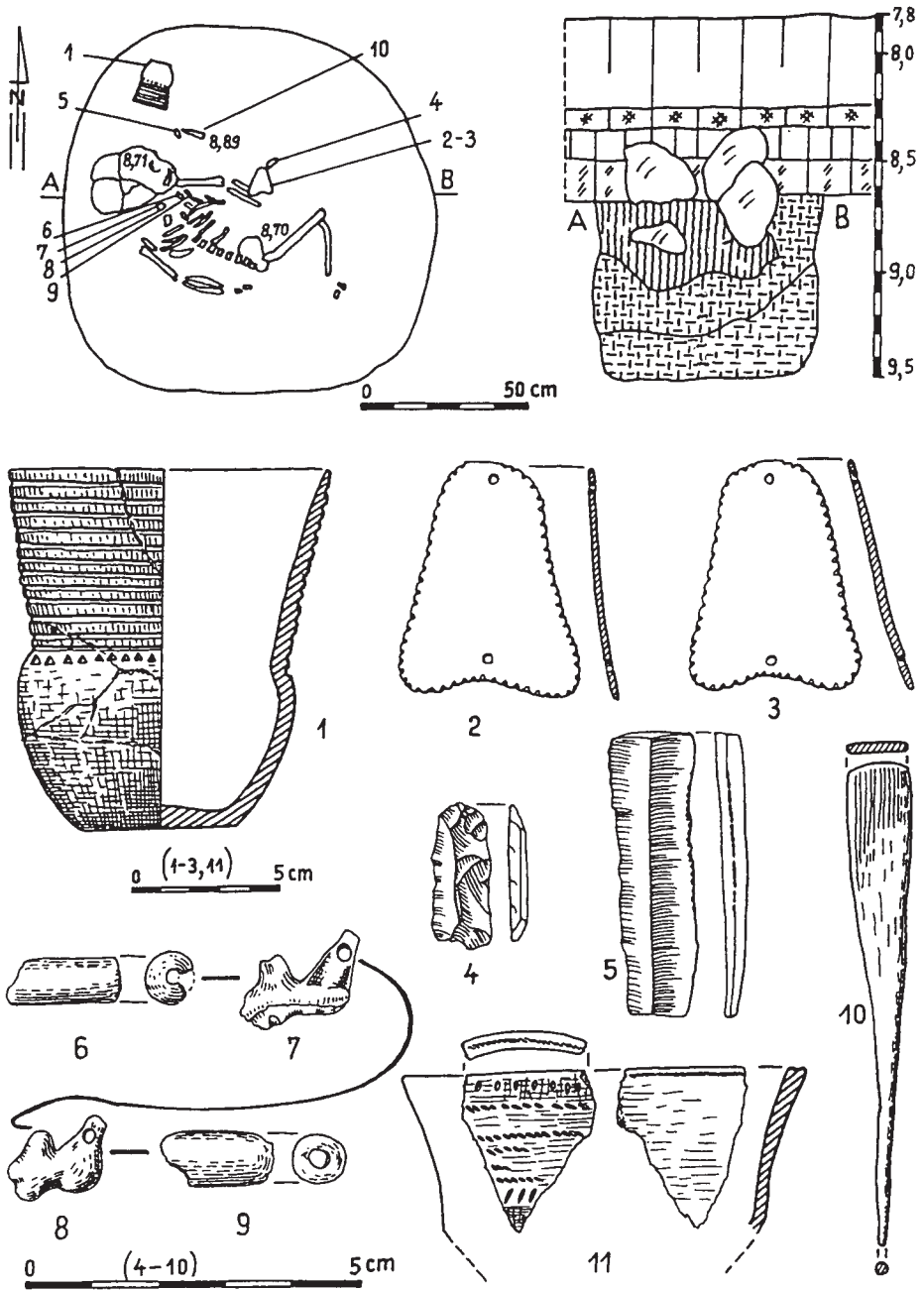


Fig. 4. Krusza Zamkowa, Kujawy-Pomorze Prov., site 3. Corded Ware culture grave, phase A. 1-10 - from grave pit; 11 - from the mound (?) of a hypothetical kurgan)

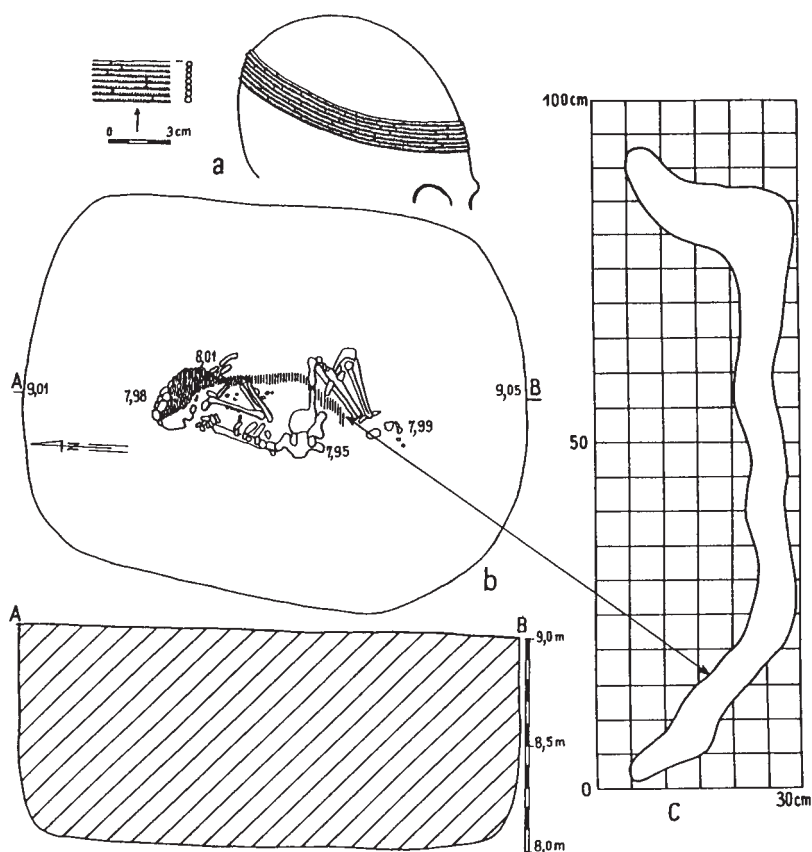


Fig. 5. Bożejewice, Kujawy-Pomorze Prov., site 8. Corded Ware culture grave, early phase

version) was synchronous with the YC and — with lower reliability — with the late TC, phase CII.

D. Bożejewice, Kujawy-Pomorze Prov., site 8, grave-*kurgan* from an early phase of the CWC (Fig. 5) [Koško, Kločko 1991]. The investigations (by the Dept. of Polish Prehistory, IP UAM) focused on the *kurgan* which was distinguishable on the surface. Underneath the mound, a single burial was recorded hypothetically connected with the CWC (feature 32B). In the 245x185x100>cm grave pit, a body of a woman aged 25-30 years had been interred in a slightly flexed position and lying on the left side. The deceased woman wore a diadem made of seven cords of thin copper pipes (2.7-3.0 mm in diameter) fastened to a tape of fabric or leather. On the body, a semi-composite bow was placed having first been charred. In the filling material of the grave pit, about 50 cm over the skeleton, there was

recorded a fragment of “technologically late” FBC or early CWC pottery [cf. Koško 1989:Fig. 22].

The cultural identification of the burial raises a number of doubts. There is no analogy to it in the Central European cultural environment. The sole direct link with the scale of local taxa is the pottery fragment found in the filling material of the grave. It can be considered a general classification clue which is meaningfully supplemented by a radiocarbon date secured from the coals of the charred semi-composite bow. The date, Gd - 888:4140±120 BP, i.e. 2717±153 BC, places the burial at the chronological and development level of the CWC. It cannot be excluded, however, that in this case we deal with a totally exogenous combination of cultural traits where the ceramic marker is a secondary insertion.

When the geographical origins of the burial are considered, it is absolutely clear that they must be in the east. Specifically, the burial relates to the traditions of the societies of the Pontic steppe or forest-steppe such as pre-Yamnaya ones (the oldest ornaments of copper pipes), Yamnaya ones (grave pit form, *kurgan*-type protection of the grave) or generally “nomadic” ones (semi-composite bow) [Koško, Kločko 1987; Koško, Kločko 1991]. A <sup>14</sup>C date prefers the YC factor in this register.

## CONCLUSIONS

The reported observations suggest a two-level synchronization in the period of 3225±145-2717±153 BC of the following taxa:

- FBC, phases IVA/B — VA (Baltic zone — Kujawy) = TC, phases CI/CII, mainly (Pontic zone) and
- CWC, phase A (Baltic zone — Kujawy) = YC, possibly TC, phase CII (Pontic zone)[see Kločko, Koško, Szmyt, A Comparative. . . , in this volume] .

*Translated by Piotr T. Żebrowski*



## ABBREVIATIONS

AO	– Arkheologicheskiye otkrytya, Moskva.
AJA	– American Journal of Archaeology, New York.
BPS	– Baltic-Pontic Studies, Poznań.
EA	– Eurasia Antiqua, Berlin.
FPP	– Folia Praehistorica Posnaniensia, Poznań.
KSIA	– Kratkiye soobshcheniya Instituta Arkheologii, Moskva.
KSIA AN USSR	– Kratkiye soobshcheniya Instituta Arkheologii AN USSR, Kiev.
KSIIIMK	– Kratkiye soobshcheniya Instituta Istorii Materialnoy kultury, Moskva.
KSOGAM	– Kratkie Soobshcheniya Odesskogo Gosudarstvennogo Arkheologicheskogo Muzeya, Odessa.
MIA	– Materialy i issledovaniya po arkheologii, Moskva.
NA IA NANU	– Naukovy Arkhiv Instituta Arkheologii Nacionalnoi Akademii Nauk Ukrainu, Kiev.
SA	– Sovetskaya Arkheologia, Moskva.
SpA	– Sprawozdania Archeologiczne, Kraków.
ZFA	– Zeitschrift für Archäologie, Berlin.

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