

ZYGMUNT KRZAK

## FROM STUDIES OF THE ORIGIN OF THE CORDED WARE CULTURE\*

### ZE STUDIÓW NAD POCHODZENIEM KULTURY CERAMIKI SZNUROWEJ

#### I. THE MESOLITHIC PROVENANCE OF THE CORDED WARE CULTURE

##### A. MESOLITHIC IMPLEMENTS ASSOCIATED WITH THE FLINT INDUSTRY OF THE CORDED WARE CULTURE

The Corded Ware culture (CWC) developed under the strong influence of the Funnel Beaker and Trypolye cultures, further, there were Balkan-Anatolian influences. The CWC adopted certain elements from each of these circles. It cannot be said, however, that the CWC derived only from the Funnel Beaker or Trypolye cultures. The author compared, therefore, "Corded Ware" assemblages with Neolithic forms, as long as the genesis remained obscure. It appeared that neither of the European Neolithic cultures could have been the source of the CWC since there were no obvious links as regards pottery or implements. The issue took a turn for the better when the author compared relevant flint implements with Mesolithic forms. Comparisons included Mesolithic implements appearing in various parts of Europe, on the entire area on which traces of the CWC were discovered (Fig.1.) The results were quite satisfactory. To begin with, chipped blade knives, the basic and most common tool of the CWC had its counterparts in Mesolithic industries in — broadly understood — Central Europe. An exception were pointed knives, deriving from the Trypolye culture (cf.p.200). Mesolithic analogies also embrace other forms. Let us look at these forms and throw light upon their distribution.

The most important analogies to "Corded Ware" blade knives have been found in the southern zone of the CWC: the South-Western Ukraine, the river basin

\* The scientific editors do not agree with most of the author's theses, especially concerning the chronological-spatial way of argumentation. In view, however, of a lack of comprehensive discussions on the problem of the continuation of Mesolithic elements in Europe, and of the genesis of the Corded Ware culture this, most controversial statement, will be published.



Fig. 1. The range of the Corded Ware culture in Europe  
Zasięg kultury ceramiki sznurowej w Europie

Accord.to Svešnikov

of the Saale (GDR), the Upper Rhineland (FRG) and Switzerland, and only sporadically in other regions of Central Europe.

A series of Mesolithic blade knives, including three (Fig.2)<sup>1</sup> with exact counterparts in the CWC<sup>2</sup>, has been discovered at Girževo, on the Upper Dniestr (South-Western Ukraine). Most of Mesolithic knives of this type are known from Thuringia (GDR). R.Feustel published 10 Mesolithic implements found at the Heiden-gottesacher site at Gera, of which two blade knives tally with implements found at many CWC sites<sup>3</sup>. In turn,

<sup>1</sup> ČERNÝŠ 1975, Fig.46:22,23,27.

<sup>2</sup> BUCHVALDEK, KOUTECKÝ 1970, Fig.13, grave 41,5, Fig.14, gr.51,3, Fig.49, gr.122,7, Fig.107, gr.58,5, Fig.110, gr.61,12; LOEWE 1959, Pl.58:16; WATERBOLK 1964, Fig.19:3; ŽUREK 1954, Fig.27:7.

<sup>3</sup> BUCHVALDEK, KOUTECKÝ 1970, Fig.33, grave 110,24; FEUSTEL 1961, Fig.9:8,9; KRAUSS 1960, Fig. 9:2; MATTHIAS 1968, Pl.117:9; MODDERMAN 1954, Fig.5; SANGMEISTER 1954, Pl.D 5:6; SCHMIDT, WEBER 1972, Fig.2:14; SULIMIRSKI 1968b, Fig.17:8; TETZLAFF 1970, Fig.127:9; ŽUREK 1954, Fig.27:7.

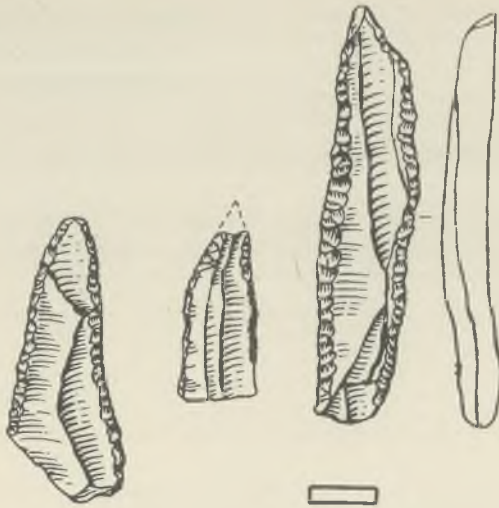


Fig. 2. Girzevo, USSR. Mesolithic flint knives

Mezolityczne noże krzemienne

Accord.to Černyš

a blade knife<sup>4</sup> from the Pfortener Berg site at Gera, corresponds to analogical "Corded Ware" implements (Fig.3). Similar knives have been discovered among Neolithic materials at Görnitzberg<sup>5</sup>, Petersberg<sup>6</sup>, and Poxdorf, where four blade knives<sup>7</sup>, correspond to the CWC.

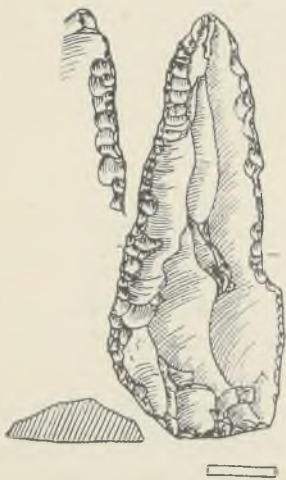


Fig. 3. Gera, GDR. Mesolithic flint knife

Mezolityczny nóż krzemienny

Accord.to Feustal

Another assemblage, discovered at Dreiskau (Saxony, GDR), included two semi- "Corded Ware" knives (Fig.4)<sup>8</sup> One of them is analogous to implements from four CWC sites<sup>9</sup>.

<sup>4</sup> FEUSTEL 1961, Fig.13:15.<sup>5</sup> FEUSTEL 1957, Fig.5:6.<sup>6</sup> FEUSTEL 1961, Fig.28:15.<sup>7</sup> FEUSTEL 1961, Fig.31:11 13,15.<sup>8</sup> HANITZSCH 1960, Fig.3:16, 4:3.<sup>9</sup> BUCHVALDEK, KOUTECKÝ 1970, Fig.78, grave 174,4, Fig.85, gr.4,2, Fig.107, gr.58,5, Fig.109, gr.60,5; FEUSTEL ET ALII 1966, Fig.43; LOEWE 1959, Pl.58:19; WATERBOLK 1964, Fig.19:3.

Fig. 4. Dreiskau, GDR. Mesolithic flint knife

Mezolityczny nóż krzemienny

Accord.to Hanitzsch

Several Mesolithic blade knives (Fig.5)<sup>10</sup> with analogies in "Corded Ware" sites<sup>11</sup>, have been found at the Buchbrunnen site near Säckingen (Upper Rhineland). Late Mesolithic blade knives have been particularly numerous in Switzerland. Four such knives have been

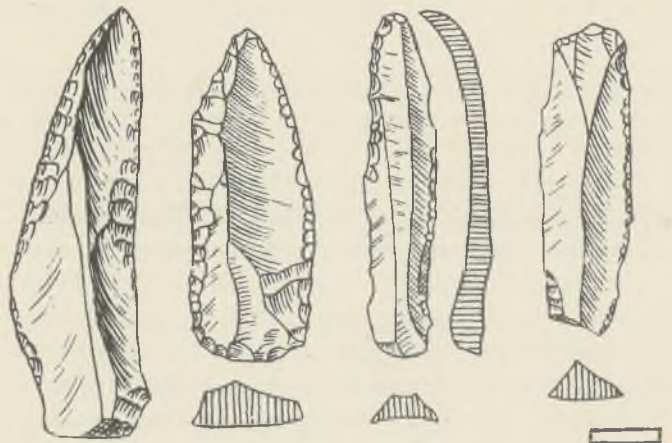


Fig. 5. Säckingen. FRG. Mesolithic flint knives

Mezolityczne noże krzemienne

Accord.to Gersbach

found at Liesberg (Fig.6)<sup>12</sup>. Corresponding implements have been discovered at a dozen or more CWC sites<sup>13</sup>. Nine blade knives with partly chipped edges are known from Wachtfels<sup>14</sup>, it should be added that such knives have also appeared in the CWC Similar Mesolithic blade knives have also been found at Birmatten<sup>15</sup>. Several blade knives, resembling "Corded Ware" implements are

<sup>10</sup> GERSBACH 1969, Pl.25:14-17.<sup>11</sup> BEHRENS 1973, Fig.62f; BUCHVALDEK, KOUTECKÝ 1970, Fig.59, grave 140,4, Fig.78, gr.174,4, Fig.107, gr.58,5; FEUSTEL ET ALII 1966, Fig.33; LOEWE 1959, Pl.58:16,17,19; ŽUREK 1954, Fig.27:7.<sup>12</sup> LÜDIN 1961, Fig.8:1-4.<sup>13</sup> ARTEMENKO 1976, Fig.7:3, 10:1; BUCHVALDEK, KOUTECKÝ 1970, Fig.63, grave 147,3, Fig.64, gr.152,5; DONAT 1961, Fig.11:4; FEUSTEL ET ALII 1966, Fig.33; KRETZSCH 1955, Fig.13:1; MATTHIAS 1968, Pl.11:2, 28:3, 89:7; SANGMEISTER 1954, Pl.D 5:5; VENCĚL 1972, Fig.11:8; WATERBOLK 1964, Fig.19:3.<sup>14</sup> LÜDIN 1961, Fig.4:1-9.<sup>15</sup> LÜDIN 1961, Fig.7:1-5.



Fig. 6. Liesberg, Switzerland. Mesolithic flint knives

Mezolityczne noże krzemienne

Accord.to Lüdlin

known from Baulmes<sup>16</sup>. Such forms have also been found in other places in Switzerland<sup>17</sup>.

Finally, Mesolithic blade knives, which more or less resemble "Corded Ware" forms, have also been found in other parts of Europe. These include implements from Hohen Viecheln in Mecklenburg (GDR), Pinnberg in northern FRG and Borowo in Great Poland<sup>18</sup>.

Summing up, we can see that these analogies have occurred more frequently in the southern zone of the CWC distribution and rarely in other parts of Central Europe. Let us return to southern sites containing blade knives. Particular attention should be directed to the river basin of the Saale. In Thuringia, in addition to blade knives, there have sometimes appeared at the same non-pottery sites heart-shaped or triangular points, ty-

<sup>16</sup> EGLOFF 1967, Fig.54:2,5-9.

<sup>17</sup> WYSS 1973, Pl.14:1-19, 16:15-21, 19:37-48.

<sup>18</sup> SCHUEDT 1961, Pl.38o, 4401; RUST 1958, Pl.12:10; KOBUSIEWICZ 1970, Pl.XXX 9,10,14,16-18.



Fig. 7. Poxdorf, GDR. Mesolithic flint core

Mezolityczny rdzeń krzemienisty

Accord.to Feustel

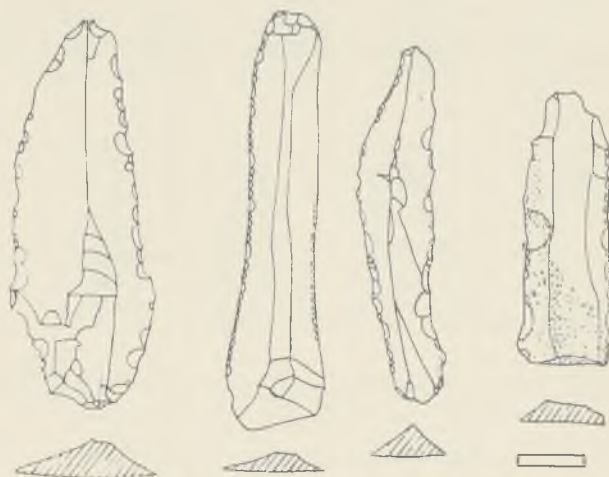


Fig. 8. Gera, GDR. Mesolithic flint knives

Mezolityczne noże krzemienne

Accord.to Renter

pical of the CWC (Dreiskau, Poxdorf — Fig.7, Petersberg, Görzitzberg, Gera — Fig.8)<sup>19</sup>. It is not unlikely that they were of Mesolithic origin in the CWC. Two facts speak for this:

1. Triangular points have often been linked with Mesolithic industries. In the Mesolithic they belonged to the so-called triangles — triangular points. The frequency of their isosceles sides is noteworthy, they often have a notched base and are retouched on two or even three edges. This is remarkable because a CWC grave discovered at Haverbecke in Lower Saxony (FRG), included an s-shaped cup and, moreover, rhomboidal, partly chipped points resembling Mesolithic microliths<sup>20</sup>. Mesolithic microlithic triangles resemble CWC points (in particular Neolithic-type points); they have been found at many Mesolithic sites in FRG (Fig.9), GDR and Switzerland<sup>21</sup>.

<sup>19</sup> FEUSTEL 1957, Fig.5:5,8,9, 1961, Fig.13:16,17, 28:13,14, 31:19,20; HANITZSCH 1960, Fig.3:8-10.

<sup>20</sup> JACOB-FRIESEN 1953, p.12f., Fig.2a,c.

<sup>21</sup> BICKER 1934, Pl.XLIX 267-270; BRANDT 1940, Pl.7:9-12, 23; FREUND 1964, Fig.75; GERSBACH 1951, p.15f.; 1969, Pl.33:17-19; S.K.KOZŁOWSKI 1967, Pl.III 28,29; KRÜGER, TAUTE 1964, Pl.7:11-20; RENTER 1955, p.48; THIELEMANN 1963, Fig.11:18-27; WYSS 1960, p.55f.; ZÜRN 1965, Pls.1:13,18,19, 3:5-9, 4:21-31, 9 E:1-3, 9 F:1-3, 9 G:3-7, 10:27-35.

2. Typical points belonging to the CWC have often appeared at Mesolithic sites free from pottery. This concerns, above all, Eastern Thuringia, where — according to A.Renter — heart-shaped points have been found at almost all 63 Mesolithic sites<sup>22</sup>. It must be emphasized that at the Pfortner Berg site at Gera, triangular and heart-shaped points were patinated to the same degree as the remaining 15,000 Mesolithic flints<sup>23</sup>. Neolithic points have been discovered at Mesolithic sites not only

also indicated several Tardenois sites with arrow-heads which could not have been linked with pottery. Similar observations were made by K.Brandt and F.K.Bicker<sup>24</sup>. In our opinion, typical Neolithic points represent a later admixture on Mesolithic sites, but it cannot be ruled out that such points appeared already at the end of the Mesolithic — at least in South FRG and GDR.

Also other flint forms of the CWC industry have analogical products in Central European Mesolithic industries. These include, primarily, circular flake cores. These are known from Mesolithic sites in Central Baden (Baden-Oos, Sinzheim, FRG), Thuringia (Juchsen — Fig.10, Kleinebersdorf), Czechoslovakia (Tašovice), Lower Silesia (Bartków, Czeladź Wielka, Pobiel, Sułów), Little Poland (Podgórci, Piechoty) and in the South-Western Ukraine (Oselyvki)<sup>25</sup>. Analogies between the CWC and the Mesolithic sporadically also include certain scrapers. Some have been found in Thuringia<sup>26</sup>.

B. PROBLEMS CONCERNING CO-EXISTENCE OF MESOLITHIC AND NEOLITHIC CULTURES

There arises the question about the chronological foundations of cited analogies — could the Mesolithic culture population have survived into the Neolithic? Our answer is affirmative. Some authors are of the opinion



Fig. 9. Säckingen, FRG. Mesolithic flint points

Mezolityczne grociki krzemienne

Accord. to Gersbach

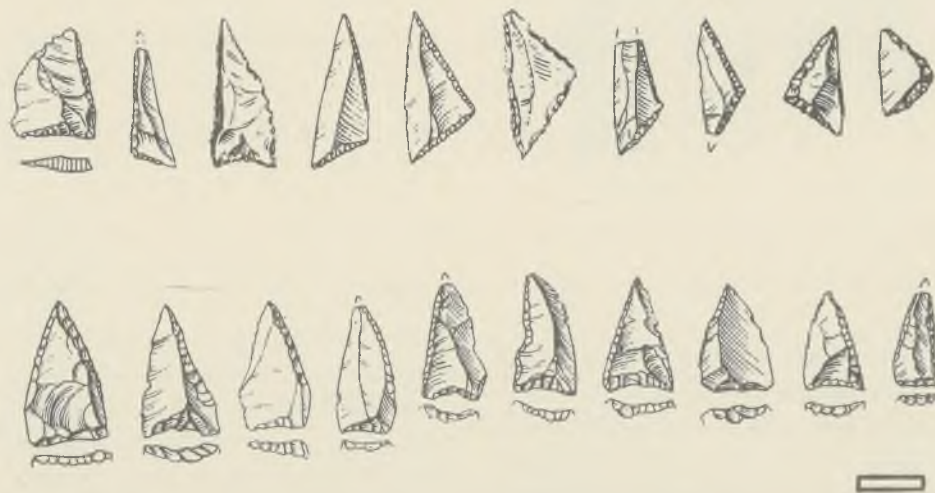


Fig. 10. Juchsen, GDR. Mesolithic flint points

Mezolityczne grociki krzemienne

Accord. to Feustel

in Thuringia — a fact noticed also by R.Feustel. Accordingly, A.Beck assumed that they probably appeared during the Late Mesolithic. A.Renter, reached the same conclusion, quoting as proof finds published by E.Peters. Typical Late Mesolithic, Tardenois flint implements, including a triangular arrow-head with an indented base, and tools produced with Neolithic technique have been found in the Rappenfels Cave (Swabian Alps). H.Piesker

that Central European Mesolithic ended with the appearance of the first Neolithic cultures (considering a calibration of about 6000 B.C.), but we doubt whether contem-

<sup>22</sup> RENTER 1955, p.48.

<sup>23</sup> RENTER 1955, p.48.

<sup>24</sup> FEUSTEL 1957, p.38f.

<sup>25</sup> BAGNIEWSKI 1976, Figs.9:12, 11:2, 26:8, 51:3-7, 75:6,7; ČERNÝŠ 1975, Fig.59:27; DAGNAN-GINTER, DROBNEWICZ 1974, Pl.VIII7; FEUSTEL 1957, Fig.3:15, 1961, Fig.22:43; GERSBACH 1951, Pls.1 B:10,11, 2 C:13-15, 3 B:11,14, 4 B:42; GURINA 1966, Fig.8:2; MAZÁLEK 1955, Pl.IX (upper right corner); ROTHERT 1936, Pl.VIII 33; TALAR 1964, Fig.2:20.

<sup>26</sup> FEUSTEL 1961, p.29f., Fig.13:3.

porary Neolithic colonization at once occupied all areas of a variegated population and pushed Mesolithic tribes out. Many researchers think that Neolithic people lived in the neighbourhood of Mesolithic populations, which prevailed for some (non-specified) time together with Neolithic tribes. This was why it was correctly assumed that the Middle Neolithic Funnel Beaker culture (FBC); its beginnings, considering calibration, have been dated to the end of 5th millennium) resulted from an aculturation of the Mesolithic population, which adopted Neolithic elements under the influence of Band Pottery cultures. We assume, however, that the aculturation process did end at about 4000 B.C. but continued until the Globular Amphorae and Corded Ware cultures emerged. The genesis of the first indicates that this process lasted until the fourth millennium. In 1963, T. Wiślański advanced the hypothesis on the Mesolithic genesis of this group, but was unable to supply supporting evidence<sup>27</sup>. This came later. In 1976, B. Balcer found exact analogies of several implements of the Globular Amphorae culture in the Mesolithic environment of the Janisławice culture in Little Poland<sup>28</sup>. Another proof came also from Little Poland. A. Lasota-Moskalewska, researching an animal burial ground of the Globular Amphorae culture at Złota, discovered cattle vestiges showing signs of early domestication — earlier than in other, older Neolithic cultures in Poland<sup>29</sup>. Cattle domestication, therefore, took place also in the Late Neolithic. These examples indicate the possibility of the Mesolithic origin also of the CWC.<sup>30</sup>

As we have already said, several researchers think that the Mesolithic population existed in the Neolithic. They include: R. Feustel, B. Richthofen, O. Menghin, M. R. Daniel, H. Reinert, L. Kozłowski, S. K. Kozłowski, Z. Bagniewski, L. Coulonges, E. Octobon and others. M. Mazálek wrote, however, that the problem has not yet been thoroughly investigated in Europe. He concluded: Mesolithic implements have been found in FRG and GDR among the Comb and Pit Pottery culture, and at Rössen. Mixed Mesolithic and Neolithic materials have also been found in Moravia. This phenomenon took place in the Jordanów culture in South Poland, in Münchshofen in Upper Austria and, likewise, in Greece and Yugoslavia. Mesolithic elements have appeared in Megalithic culture in Northern FRG and in Northern Poland. They are supposed to have appeared in the FBC (West and Central Poland), the Globular Amphorae culture (Saxony and West Poland), the Radial

Pottery culture (South Poland), the Walternienburg and Bernburg cultures (Thuringia), Salzmünde, the Elbe-Havel culture (Saxony) and, sporadically, in the Michelsberg culture (Baden). He added — concordant with our opinion — that Mesolithic-type implements have also been found in the CWC in GDR, in North-Eastern Switzerland, in Poland, etc. Mesolithic elements occurring in Neolithic cultures were supposed to be linked with the later phase of the Tardenois culture. On the other hand, Neolithic elements have been found at Mesolithic sites. They were discovered at Tardenois culture sites in South-Western France and in England<sup>31</sup>. O. Menghin thought, that the decline of the Tardenois culture as a Mesolithic relict was contemporary to Neolithic cultures. E. Octobon declared that the people of the two cultures co-existed — a fact which substantiates the finding in Southern France (Cuzoul site — Lot) in addition to Late Mesolithic relics, also implements retouched in accordance with the Neolithic technique; moreover, there were animal bones and polished stone implements. According to R. Feustel, Belgian finds, including microliths and polished tools found at the same site, are to be interpreted in the same manner. The Mesolithic people, therefore, were supposed to have existed up to the Middle Neolithic<sup>32</sup>.

S. K. Kozłowski has also spoken in favour of the co-existence of Mesolithic and Neolithic people<sup>33</sup>. He advanced the following arguments:

1. The Chambre des Fées (Aisne) site of the Tardenois culture situated 250 kilometres south of Limburg, has been dated to 3075±400 B.C.

2. The French Tardenois sites Désert d'Auffargis and G-IV from Chambre des Fées (2775±350 B.C.) are also late or even later.

3. In Denmark there developed the Mesolithic Ertebølle culture from the middle of the Atlantic Period (4500–4000 B.C.). Contemporaries of that culture became acquainted with agriculture and breeding only in its younger phase (decline of the Atlantic period, probably 3200–3000 B.C.); this was why it became Neolithic.

4. Mesolithic traditions endured for a long time in regions of present-day USSR (in the forest area of the Pit-and-Comb Pottery culture). The Świdry culture of the Russian Plain — i.e., Kunda—Borki type assemblages, also entered the Neolithic.

5. The cemetery on Wyspa Jelenia (Deer Island on Lake Onega), dated to the Neolithic is, undoubtedly, of a Mesolithic type of culture.

6. Early Neolithic populations in Northern Poland, appeared only in the Pyrzyce region, while Mesolithic economy prevailed probably for a long time on other areas in this region, perhaps even in the second period

<sup>27</sup> WIŚLAŃSKI 1963, p.240.

<sup>28</sup> BALCER 1976, p.202, Fig.3.

<sup>29</sup> LASOTA-MOSKALEWSKA 1977, p.122f.

<sup>30</sup> Attention should be directed to the possibly Mesolithic origin of Corded Ware culture pottery J.KOWALCZYK 1969, p.62, and T.SULIMIRSKI 1957-1959, p.248.

<sup>31</sup> MAZÁLEK 1954, p.203 f.

<sup>32</sup> FEUSTEL 1957, p.40 f.

<sup>33</sup> S.K.KOZŁOWSKI 1968, p.451; J.K.KOZŁOWSKI 1972, p.227 n.; J.K.KOZŁOWSKI, S.K.KOZŁOWSKI 1977, pp.20,23,248,317.

of the Neolithic. This supposition may be substantiated by the type of the Rzucewo culture, which was more Mesolithic than Neolithic (fishing, seal hunting, the hulling technique, harpoons, Russian-type leaf-points, trapeziums, scrapers).

7. Burials sprinkled with ochre, known from Northern Poland, included among the Pit-and-Comb Pottery culture, may be remains of Mesolithic culture, though their chronology indicates the Neolithic.

8. Mesolithic graves of the Janisławice culture from Giżycko-Perkunowo have been dated by the natural method to the turn of the 5th and 4th millennium.

9. Layer G from Witów, containing Janisławice culture elements, is younger from the layer 7 dated to  $4710 \pm 480$  B.C.

10. Certain sites containing Pit-and-Comb pottery (Podlasie, river basin of the Upper Warta), supplied typical Janisławice elements, planigraphically and stratigraphically linked to the pottery referred to.

11. The Lithuanian Kunda Lampėdžiai site has been dated to the 4th millennium.

12. In Lithuania there have appeared excavation groups containing Kunda and Janisławice elements and Neolithic pottery, a similar situation was found in Byelorussia.

13. A site of the Tardenois circle at Smolin in Moravia has been dated by the radiocarbon method to the second half of the 5th millennium.

14. Tardenois assemblages from layers 1 and 2 from Birmatten-Basishohle in Switzerland have been dated by the radiocarbon method to the 4th millennium.

15. In France (Aisne Dept.) there are two Tardenois sites dated by pollen and radiocarbon analyses to the 4th millennium B.C. and are, therefore, later than the first Neolithic settlers from the nearby Paris Basin and Limburg.

S.K.Kozłowski presumes that the Mesolithic Janisławice and Kunda people lived in Poland, Lithuania and Byelorussia probably up to the 4th–3rd millennium.

Z.Bagniewski recently spoke for the co-existence of Mesolithic and Neolithic populations. He quoted several radiocarbon data concerning Mesolithic sites which go back from 7 to 5 thousand years, implying that the two cultures co-existed during a period of 2000 years. Here are some data from South-Western Poland:  $4220 \pm 80$  B.C., Strachów;  $3777 \pm 40$  B.C., Bartków, and  $3205 \pm 100$  B.C., Dąbrowa. These two groups were in contact with each other and hence, some Mesolithic groups adopted the higher Neolithic culture. There were, moreover, mutual loans. As an example, Z.Bagniewski quotes Neolithic pottery found at Mesolithic camps. He thinks that Mesolithic culture people survived even up to the Bronze Age<sup>34</sup>.

Dutch researchers J.N.Lanting and W.G.Mook, recently published a work which includes radiocarbon data for Mesolithic sites in Holland. It is of interest that several dates reach up to the Neolithic and even to the CWC:  $3585 \pm 70$  B.C. (GrN-7283A), Dalfsen;  $3415 \pm 70$  B.C. (GrN-6371), and  $2150 \pm 75$  B.C. (GrN-6370), Moerkuilen;  $2120 \pm 85$  B.C. (GrN-4205), Tilburg;  $1870 \pm 75$  B.C. (GrN-2443), Tilburg-Pompstok<sup>35</sup>. We may conclude that the Mesolithic people co-existed for a long time with Neolithic cultures. Remains of those older cultures could have survived up to the end of the 4th millennium — when the CWC appeared. It must be emphasized that the aculturation which led to the development of the CWC took place over wide areas of Central Europe, beginning with the South-Western Ukraine (Upper Dniestr), through Poland, GDR and FRG, up to Switzerland. This aculturation was due to influences of the Funnel Beaker and Trypolye cultures — discussed further on.

#### C. THE KALBSRIETH GROUP AS A TRANSITIONAL STAGE BETWEEN THE MESOLITHIC TO THE PROPER CORDED WARE CULTURE

Kalbsrieth-type burials have been situated as a transitional period between the Mesolithic pre-pottery phase and the oldest pottery phase. The following phenomena support this chronological classification: 1 — those graves have been the oldest in certain (but not only) Central German barrows; 2 — relevant assemblages have included no pottery, but, usually, flint blades or knives, while some graves were without assemblages. A dozen or more Kalbsrieth graves have been discovered in Central Europe, most were localized in the provinces of Harz-Unstrut, Harz, Thuringia, the borderland between Anhalt and Thuringia. There were also one each in Lower Lusatia (GDR) and Lower Saxony (FRG). They were at Augsdorf, Helmsdorf, Kalbsrieth, Köttichau, Melzingen, Quedlinburg, Rössen, Wahlitz, Wallendorf, Wulfen. Two places in Poland are also known: Modliborzyce in Kujavia and Koniusza in Little Poland. It is possible that they have also appeared in Czechoslovakia. Two graves from Vikletice, which M.Buchvaldek described as belonging to the CWC or to the Baalberg Group of the Funnel Beaker culture (FBC) can, hypothetically, also be considered to belong to the type referred to<sup>36</sup>.

Kalbsrieth burial places were in pit graves under barrows, only few had traces of stone rings or wooden covers. They usually contained one skeleton in the crouching position. The orientation of skeletons differed, it was usually W (head)—E, but there have also been

<sup>34</sup> BAGNIEWSKI 1978a, p.1 f.; 1978b, p.1 f.

<sup>35</sup> LANTING, MOOK 1977, p.30 f.

<sup>36</sup> BUCHVALDEK, KOUTECKÝ 1970, p.23 f.

S—N, NW—SE and WSW—ENE. The assemblages — poor as a rule — included an unretouched blade or flint knife, there were two blades in a grave, some had no implements at all. Graves were sometimes surrounded by a circle. The absence of pottery is characteristic — this fact must be emphasized if we consider the frequency of clay vessels in other CWC graves. It is difficult to classify them uniformly in regard to culture. Taking funeral rites, they were linked, on the one hand, with the Baalberg group of the FBC and, on the other, with the CWC. This was why J.Preuss and H.Behrens expressed some doubts as to the latter. While U.Fischer, A.Häusler and other researchers decisively spoke for their “Corded Ware” character<sup>37</sup>. The author of this work also included them to the CWC, supporting his claim by the argument that “Corded Ware” barrows found in Denmark, GDR and FRG (Schleswig-Holstein), covering the oldest graves, were without assemblages or contained implements sometimes including flint knives. The barrow character and, sometimes, the presence of circular grooves at Kalbsrieth-type graves have been linked with the Baalberg group, indicating that “Corded Ware” people very early adopted funeral rites from the FBC. (this phenomenon will be discussed in detail). These barrow burials were, as a rule, the oldest, central graves, while younger “Corded Ware” burials have been found under the same mounds as secondary graves. These were some of the oldest or even the oldest burials of this culture.

#### D. ECONOMY IN MESOLITHIC HERITAGE

We assume that the CWC was of a clearly Neolithic character — i.e., its people were familiar with farming and breeding. These forms of economy were so strongly linked with this culture that groups migrating to the North and North-East were the first to introduce Neolithic economy to East Baltic areas and to regions further to the North-East<sup>38</sup>. But remains of Mesolithic methods still persisted. Gathering was undoubtedly known to CWC tribes. There exists some scanty supporting evidence: T.Wiślański wrote that manna, wilde apples, dogberry, hazel nuts, durmast and brome-grass have been found among “Corded Ware” assemblages<sup>39</sup>. A.T.Clason and W.Matthias, carrying out researches at the river basin of the Saale sites, individuated bones of boars, deer, foxes, polecats, wolves, bears, otters, badgers, beavers and lynxes<sup>40</sup>. However, their percentage

was insignificant, while bone vestiges of domestic animals prevailed. More numerous traces of hunting and fishing (bones of seals and fishes) were found, in turn, among assemblages of the Rzucewo culture<sup>41</sup>. It has been assumed that the nearness of the sea particularly emphasized the Mesolithic economic relics of this culture. Implements of a Mesolithic character have also been found (S.K.Kozłowski)<sup>42</sup>. Seal bones have been found on the Swedish coast where hunting has also been proved by bones of deer, beavers, boars, sea-eagles and other wild animals. The share of these vestiges amounted to 12 per cent at the Västerbjers site on Gotland<sup>43</sup>. The same percentage of wild animal bones appeared in the Middle Dnepr culture<sup>44</sup>. At Vikletice (Czechoslovakia), A.T.Clason found vestiges of boars, deer, foxes, otters and badgers, however, domestic animals predominated<sup>45</sup>.

The continuation of Mesolithic hunting economy relics into the Neolithic has been indicated by the situation in Mecklenburg where traces of Mesolithic economy (hunting and fishing) have been found with assemblages associated with the FBC, at cemeteries and settlements (Ostorf, Klein Quassow, Weitin, Charlottenhöhe, Gross Fredenwalde etc.)<sup>46</sup>.

Numerous short-lived dune camps have indirectly indicated the mobile mode of life involving hunting (perhaps also breeding). They have been found throughout and beyond Central Europe and were particularly frequent in the Lowlands (GDR, FRG, Poland)<sup>47</sup>. Many small settlements were discovered in Sweden<sup>48</sup>, some scores — in Denmark<sup>49</sup>. Numerous small settlements (besides more extensive ones with cultural layers) have been found in the Middle Dnepr culture<sup>50</sup>. It should be emphasized, that there also appeared larger settlements with traces of houses on pillars with pits underneath. Particularly many dune camps have been discovered in regions where more detailed field works were carried out; these included the Great Poland region (including Luboń, near Poznań)<sup>51</sup> and dune settlements on the Little Poland Uplands<sup>52</sup>. These two regions have yielded material indicating an eventual hunting mode of life, an assumption supported by numerous arrowheads. Thus, only at Luboń (site I), researchers found

<sup>41</sup> CLASON 1969, p.173 f.; KILIAN 1955, p.62.

<sup>42</sup> J.K.KOZŁOWSKI 1972, p.227 f.

<sup>43</sup> CLASON 1969, p.175.

<sup>44</sup> ARTEMENKO 1967, p.119 f.

<sup>45</sup> CLASON 1970, p.284 f.

<sup>46</sup> GRAMSCH 1971, p.140.

<sup>47</sup> MALMER 1969, p.216 f.

<sup>48</sup> MATTHIASSEN 1948, p.191.

<sup>49</sup> ARTEMENKO 1964, p.11; BONDAR 1974, pp.91 f., 102 f.

<sup>50</sup> BAUMANN 1964, p.74 f.; BŁASZCZYK 1976, p.161 f.; KRZAK 1962, p.323 f.; LIES 1954, p.74 f.; p.81 f., 103 f.; STRUVE 1955, p.160 f.; WETZEL 1967, p.160 f.

<sup>51</sup> WAGA 1931, p.7 f.

<sup>52</sup> L.KOZŁOWSKI 1923, p.16 f.

<sup>37</sup> FISCHER 1956, p.109 f., 1958, p.260 f.; HAUSLER 1963, p.172; PREUSS 1976, p.197 f.

<sup>38</sup> ARTEMENKO 1964, p.9 f.; JAANITS 1971, p.47; JANITS 1954, p.20; KRASNOV 1971, p.149 f.

<sup>39</sup> WIŚLAŃSKI 1969, p.178 f.

<sup>40</sup> CLASON 1969, p.173 f., 1971, p.105 f.; MATTHIAS 1969, p.14.

115 heart-shaped points, 50 heart-shaped damaged or initially treated points (these were probably processing sites), 25 triangular points and 6 spear points<sup>53</sup>. Many hunting points were also discovered on dozens of dunes on Little Poland Uplands<sup>54</sup>. We assume that bows and arrows were used not only as weapons for defence but also as important hunting weapons. The existence of bows has been indirectly proved by arrow-heads and directly by an image of a bow and quiver on a CWC tombstone at Göhlitzsch (GDR)<sup>55</sup>. The same applies to spear points which probably served as fighting and big-game hunting weapons. In the CWC spear points have been proved by many finds<sup>56</sup> which had appeared already in earlier phases<sup>57</sup>.

Concluding, we may assume that hunting and, probably, gathering were a Mesolithic heritage with a small share in CWC economy. It is possible that these sections, together with fishing, played a more important role in more advantageous natural conditions on the sea coast and at forest lakes.

#### E. THE PRESUMABLE MESOLITHIC ORIGIN OF POTTERY FORMS

Two forms among many CWC receptacles, were of basic significance: a globular, two-handled amphora and an s-shaped cup. In vain would we search for prototypes in older Neolithic cultures. We were able to find initial links in the Mesolithic in many other sections of culture and economy (for example in the Funnel Beaker and Trypolye cultures), but the origin of the two basic pottery forms has remained unsolved. We may hypothetically assume, therefore — having previously do-

cumented the Mesolithic provenance of the CWC — that these two receptacles had been originally patterned in the Mesolithic. The European Mesolithic provided no sources of ceramics, but we may assume that those people used receptacles and vessels of organic materials (wood or leather, not to mention wicker vessels). Prototypes of the Thuringian amphora and the s-shaped cup are, therefore, looked for among these organic types. Nevertheless, there is no direct proof to support our hypothesis.

Tadeusz Sulimirski, analyzing the genesis of the Thuringian amphora form, derived it from an organic pre-form. He wrote: "The prototype must have been a wooden saucer with two, sometimes four, carved handle-lugs on its edge. Similar saucers may still be found among the inventories of the peasant cultures of Central and Eastern Europe. To this wooden saucer a cover, or a lid, probably made of a soft substance was fastened, to prevent the liquid content running out when carried. A wooden ring (the neck) prevented the outlet from shrinking. The joints of the wooden part with the lid — cover and the upper ring were marked on the clay vessel by horizontal bands, and the stiffening of the soft cover, or perhaps its webbed decoration, was reproduced by vertical bands"<sup>58</sup>. It should be mentioned that just like the CWC also the earlier FBC knew — in a general outline — similar pottery forms: a bent-body amphora with a funnel-shaped brim. This phenomenon was also observed by L. Kilian<sup>59</sup>. It is interesting that early Thuringian amphorae had ornaments loaned from the FBC (cf. p.198). We may assume, therefore, that people of the early CWC remaining under a strong influence of the FBC, not only adopted the ornament but generalized amphorae and cups, although their forms were slightly different, which is understandable since different organic pre-forms were used.

## II. ADOPTIONS FROM THE FUNNEL BEAKER CULTURE

### A. ECONOMIC INFLUENCES

We intend to show that the CWC population was acquainted with farming and breeding. Its economy was based on the same corn plants and domestic animals as the FBC. The economic differentiation of the CWC must, however, be kept in mind. It occupied extensive and — as regards natural conditions — differentiated areas stretching from the Rhine to the Dnepr and Volga, and from Scandinavia to the Danube (cf. Fig.1). It

may be assumed, therefore, that its economy differed in various regions<sup>60</sup>. Thus, for example, pastoral life probably prevailed on sub-montane areas and in the Carpathians. J. Machnik wrote about this convincingly though without direct evidence<sup>61</sup>. Fishing played an important role on coastal areas and in the vicinity of lakes and major rivers; this was clearly noticed in studies of the Rzucewo culture. In primeval forests on the lowlands many dune camps left traces of nomadic hunting groups. It is characteristic, however, that almost all CWC groups were acquainted with farming and breed-

<sup>53</sup> WAGA 1931, p.14 f.

<sup>54</sup> L.KOZŁOWSKI 1923, p.16 f.

<sup>55</sup> BEHRENS 1973, p.188, Fig.73, 74.

<sup>56</sup> SIUCHNIŃSKI 1972, p.155 f.

<sup>57</sup> STRUVE 1955, p.181, Pl.12:6.

<sup>58</sup> SULIMIRSKI 1955, p.117.

<sup>59</sup> KILIAN 1955, p.121.

<sup>60</sup> This was mentioned by T.WIŚLAŃSKI 1969, p.257.

<sup>61</sup> MACHNIK 1960, p.55 f., 1962, p.91 f.



ing. Let us scrutinize evidence of farming which allows to reject recently published opinions of the pastoral-nomadic character of the entire CWC.

Most evidence concerning the cultivation of corn comes from the river basin of the Saale, where researchers analyzed grain impressions left on pottery and found relevant signs on dozens of sherds discovered at numerous sites. W. Matthias and J. Schulze-Motel published their indexes listing, above all, barley and — further — wheat and oats; millet and bean imprints were also found. These traces appeared on vessels of both the older and younger phases<sup>62</sup>. Moreover, spelt was found at the Biederitz-Heyrothsberge settlement<sup>63</sup>. It is noteworthy that in the same region CWC people occupied the same fertile land as their predecessors — founders of Corded Ware and Funnel Beaker cultures — had done<sup>64</sup>.

Grain, mainly barley and wheat, was also found at several sites in Poland, some of it left imprints on sherds<sup>65</sup>. A small number of barley imprints was found on pottery in Denmark and Sweden<sup>66</sup>. Impressions of corn have also been found on Middle Dnepr culture ceramics, moreover, in Schleswig-Holstein and Lower Saxony<sup>67</sup>. There are also palaeobotanical finds proving corn cultivation in East Baltic countries<sup>68</sup>. Other important evidence of agriculture was provided by traces of ritual ploughing under barrows, found at Aldrupsgårde in Denmark, Zandwerven and Bornwerd in Holland<sup>69</sup>. Indirect evidence has been provided by farming tools sporadically found at CWC sites in various parts of Europe (flint sickles and quern stones)<sup>70</sup>. Retouched blade knives, probably used as sickle inserts, have been found in the river basin of the Saale and Czechoslovakia<sup>71</sup>. T. Wiślański emphasized that pollen spectra from the CWC development period have shown no refraction<sup>72</sup>. E. Neustupný has summed up evidence supporting the agricultural character of the CWC<sup>73</sup>.

<sup>62</sup> BACH ET ALII 1975, p.67; BEHRENS 1967, p.65 f., 1973, p.185 f.; HUMMEL 1968, p.39 f., MATTHIAS 1969, p.16; MATTHIAS, SCHULTZE-MOTEL 1969, p.309 f., 1971, p.113 f.; SCHULTZE-MOTEL 1969, p.169 f.

<sup>63</sup> BEHRENS 1973, p.149; VOIGT 1970, p.143.

<sup>64</sup> BEHRENS 1973, p.131 f.

<sup>65</sup> KILIAN 1955, p.62; KLICHOWSKA 1975, p.87 (Table), 98, 109, 1976, p.33 f.; OKULICZ 1973, p.125.

<sup>66</sup> BRØNDSTED 1960, p.290, 308; FORSSANDER 1933, p.118; KJAERUM 1954, p.27 f.

<sup>67</sup> ARTEMENKO 1967, p.119 f.; HOPF 1964, p.109 f.; MALMER 1962, p.803 f.; SCHULTZE-MOTEL 1969, p.169 f.; STRUVE 1955, p.78 f.

<sup>68</sup> KRASNOV 1971, p.149 f.

<sup>69</sup> CLASON 1969, p.173; PÄTZHOLD 1960, p.217 f.

<sup>70</sup> FEUSTEL ET ALII 1966, p.102; MATTHIAS 1969, p.16; STRUVE 1955, p.64, 66.

<sup>71</sup> BACH ET ALII 1975, p.44, Fig.1; BUCHVALDEK, KOUTECKÝ 1970, Fig.52, grave 126.4, Fig.81, gr.178.2, Fig.85, gr.4.2; FEUSTEL ET ALII 1966, p.34, Fig.49:1.

<sup>72</sup> ROTHMAELR 1956, p.51 f.; WIŚLAŃSKI 1969, p.216 f.

<sup>73</sup> NEUSTUPNÝ 1969, p.43 f.

In our opinion, the CWC population adopted farming from the FBC. Facts supporting this opinion include: 1 — the FBC was predominantly agricultural; 2 — it occupied regions which later saw the rise of the CWC; 3 — these two cultures co-existed over several centuries. We shall not dwell on rendering detailed evidence of the existence of farming in the FBC but shall refer to two outstanding works written on this subject by T. Wiślański and S. Tabaczyński<sup>74</sup>. In T. Wiślański's treatise there is an expressive table of types of corn cultivated by the FBC population in North-Western Poland. The list is headed by wheat and barley — grain known to CWC people. Let us add that these were the two basic plants cultivated by all European Neolithic cultures engaged in farming<sup>75</sup>. We may assume that the CWC people adopted the lister from the FBC, since its traces have been found in several places in Europe<sup>76</sup>. The FBC was the source of CWC farming on wide areas of Central Europe — with the exception of eastern regions, where, particularly in the Middle Dnepr culture, it was probably taken over from the Trypolye culture. Let us keep in mind that the development of the CWC was also influenced by the Trypolye culture (discussed further on).

It was likewise with the breeding of domestic animals. Cows, pigs, sheep and goats, not unknown to CWC tribes, were among herds already during the Funnel Beaker and Trypolye cultures. Also here, readers are referred to papers published by T. Wiślański and S. Tabaczyński, who in their works devoted much space to the question of breeding in the FBC<sup>77</sup>. But what evidence of breeding in CWC is there? Particularly valuable elaborations on this subject were prepared by A.T. Clason. She found that in the river basin of the Saale there was, above all, cattle, followed by sheep, goats and pigs. This composition of animals (plus dogs) was determined at Gleina, where horse bones were also discovered, but it was not decided whether these animals were wild or domesticated. A similar composition of bones was found in the settlement at Bottendorf, where cow vestiges were followed by those of pigs, sheep and goats. Cows and dogs were buried also in the river basin of the Saale. Investigating bone implements, A.T. Clason found that they were made from bones of pigs, sheep, goats and cows. Ornaments made from teeth indicated the existence of sheep, goats, cows and dogs. Hunting, as already referred to, was of little significance.

Vestiges of bred animals have also been found in Holland. Cow burials were discovered at Eext, Garderen, Zeijen and, probably, Emmen. Cow, sheep, goat and pig

<sup>74</sup> WIŚLAŃSKI 1969, p.171 f.; TABACZYŃSKI 1970, p.120.

<sup>75</sup> BEHRENS 1967, p.65 f., 1973, p.185 f.; KLICHOWSKA 1975, p.37 (Table).

<sup>76</sup> TABACZYŃSKI 1970, p.155.

<sup>77</sup> WIŚLAŃSKI 1969, p.110 f.; TABACZYŃSKI 1970, p.324 f.

bones were found in a settlement at Zandwerven where the CWC was determined together with the Vlaardingen culture. A pollen analysis disclosed evidence of pasture economy. At Vikletice (Czechoslovakia), the author discovered vestiges of dogs, sheep, goats, cows and domesticated pigs. Cow, pig, dog and horse bones were discovered among vestiges of the Rzucewo culture (Suchacz, Tolkmicko, Rzucewo etc.). Remains of dogs, sheep, goats, cows and pigs were found in CWC graves in Sweden<sup>78</sup>. A similar composition of domestic animals was found by other authors in present-day GDR<sup>79</sup>, and in Poland<sup>80</sup>. The discovery of a cattle kraal at Anlo (Holland) also speaks for the existence of breeding<sup>81</sup>. Goat, sheep and pig vestiges were found in Estonia, there were, however, no cows or horses<sup>82</sup>. Cows and other animals appeared in the Fatyanovo and Middle Dnepr cultures<sup>83</sup>. It must be emphasized that in Sweden breeding was based on sheep, but pigs and some cows were also kept<sup>84</sup>.

#### B. THE ADOPTION OF FUNERAL RITES FROM THE FUNNEL BEAKER CULTURE AND FROM MEGALITHIC CULTURES

The influence of the FBC and to a smaller degree of the Trypolye culture are evidenced not only in economy but also in religion and material culture.

CWC burial rites were taken over completely from the FBC. This concerns, above all, barrows — typical examples of the CWC. But let us explain the meaning of barrows and the earth grave it contained.

Interment of the dead was motivated by religious beliefs. It was linked with the ancient notion of Tellus Mater and the dead deposited in her womb. Homer devoted one of his hymns to her extolling earth as “the mother of all, who nourishes all beings, gives and also takes the life of mortals.” Aeschylus spoke in a likewise manner: “The very Mother-Earth, she who gives birth to everything, brings up and then takes in — to begin anew.” These subjects, associated with earth are very ancient — comments M. Eliade. One of the attributes of earth was its “motherhood” evidenced in an unexhaustible ability to bear fruit<sup>85</sup>. A similar Mother-Earth ideology may be found at the Arias, who buried their dead in barrows. Here is a part of a Veda hymn *Funeral Rites*:

<sup>78</sup> CLASON 1969, p.173 f., 1970, p.284 f., 1971, p.105 f.

<sup>79</sup> BEHRENS 1967, p.65 f., 1973, p.135,184; FEUSTEL ET ALII 1966, p.113 f.; MATTHIAS 1969, p.14; TEICHERT 1976, p.432 f.; WETZEL 1969, p.130.

<sup>80</sup> WIŚLAŃSKI 1969, p.133 f.

<sup>81</sup> WATERBOLK 1960, p.77 f.

<sup>82</sup> JANITS 1952, p.63, 1954, p.20.

<sup>83</sup> ARTEMENKO 1964, p.15 f., 1967, p.119 f.; HÄUSLER 1959, p.786 f.; KRASNOV 1971, p.149 f.

<sup>84</sup> MALMER 1962, p.799 f.

<sup>85</sup> ELIADE 1966, p.238 f.

Crawl into clement Mother-Earth,  
The wide-spread, ample,  
Fleecy, pliant virgin to givers;  
Let her protect you from the womb of doom!

Close up, Earth, no burden be for him,  
Encompass tightly, tenderly embrace!  
Envelop him, Earth  
As a mother tucks up her son!<sup>86</sup>

Considering the earth's regeneration property, the corpse was placed in an embrional position (lying on the side, crouching — in the CWC), so that Mother-Earth could bear it again. This was certainly linked with the belief in reincarnation. But before the dead could re-enter the world, they had to be protected against evil forces and demons. To this end, a circle was build round the barrow, in the form of a groove or a wooden palisade (or both). This created a sacred, magical space protecting the dead until resurrection. The world of Evil stretched beyond this circle. The barrow itself was a kind of a so-called cosmic hill, represented in ancient times by various conical, terraced or pyramidal mounds. According to A. Wierciński: “a cosmic mountain” represented the image of space (its base was embedded in the underground world, its peak reached up to the sky) and the first earth which, according to mythology, at the beginning of the world emerged from primeval oceans and was of a conical shape<sup>87</sup>. Barrows and, generally, the form of “a cosmic mountain” connected with complex beliefs, first appeared in Megalithic cultures in South-Western Europe. The earliest megaliths there have been dated to 3800 B.C. and, according to conventional radiocarbon chronology (considering calibration), to about 4500 B.C.<sup>88</sup> — i.e., much earlier than the CWC or even the FBC, from which this custom was adopted by the CWC.

The idea of the magic circle drawn round graves is older still and goes back in the Old World to the middle Palaeolithic<sup>89</sup>. The Megalithic group of beliefs and connected burial customs were so attractive that they were adopted by many Neolithic cultures in Europe, including the FBC in Central Europe and the Pit Grave culture in the East. Megalithic impulses in the latter came from the South, through straits and the Black Sea (we mean water reservoirs since the Megalithic formation was of a clearly coastal nature). From Eastern Europe, the Pit and later the Trypolye cultures gave rise to Middle Dnepr culture barrows. According to stratigraphy, the Middle Dnepr cultures was younger than and in part contemporary to these cultures. It is improbable however, as some researchers maintain, to look for the origin of Central, Western and Northern European barrows

<sup>86</sup> MICHALSKI 1971, p.95.

<sup>87</sup> WIERCIŃSKI 1978, p.21 f.

<sup>88</sup> RENFREW 1973, p.123 f.; MACKJE 1977, p.170 f.

<sup>89</sup> CLARK 1978, p.190.

in the Pontic steppe circle, since they undoubtedly indicate genetic links with the local FBC and, generally, with Megalithic cultures, which for some time co-existed on that area with the CWC.

Let us look at barrows from the Megalithic circle of Central Europe. Barrows were not typical mounds in the FBC. According to K.Jażdżewski: "... bodies lying in a straight, supine position in rectangular chambers of grave pits, were a characteristic feature of almost all FBC graves"<sup>90</sup>. However, we have encountered also in this culture untypical burials under barrows of ten surrounded by magical circles. The smaller number of barrow forms does not prove the interiority of these graves — previous remarks would indicate something quite different: ordinary members of the society might have been buried in a straight position in flat graves, whereas individuals of a higher rank were buried under mounds. The earliest barrows appeared on areas encompassed by the CWC already during the Deep-Pricked Pottery culture (*Tiefstiechkeramik*). In the river basin of the Saale, graves surrounded by circular grooves have been known already in the Rössen culture (Bochum-Harpen, FRG)<sup>91</sup>. The Deep-Pricked pottery held a parallel position with the Baalberg group and later groups of the FBC. However, most barrows with magic circles containing skeletons in a crouched position — similar to the CWC — were discovered in the Baalberg group. Its centre was in Middle Anhalt (GDR); Baalberg-type barrows have also been found in other regions (northern Harz-Vorland, Mansfeldisch, Saalkreis, north of the Thuringer Forest), a barrow south of Leipzig<sup>92</sup> must also be added. Barrows, sometimes surrounded by magic circles, have also appeared in other, younger "Beaker" groups: the Walternienburg, Bernburg and Salzmünde cultures (GDR)<sup>93</sup>. Bodies buried in a crouched position were their characteristic feature — just as in the CWC. Barrows have also been discovered in association with the FBC in northern FRG, Denmark, Sweden, Moravia and Poland. Particularly impressive were barrows at Bohuslän (Sweden), Gävernitz (GDR), Jersey (Sweden), Mejls (Denmark), Naschendorf (GDR), Sarnowo (Poland), Schwörstadt (FRG), Tokkekjob Hegn and Vroue Hede (Denmark)<sup>94</sup>. They were surrounded by magic circles. It should be remembered that barrows with magic

circles were adopted from the FBC by the population of the oldest phase of the CWC, known as the Kalbsrieth group (cf.p.193). They next became more general in our culture. T.Wiślański, writing about their range, said they appeared in most aggregations of the CWC, from Holland and the northern part of FRG, through South FRG and GDR, Thuringia, Saxony, Moravia, Silesia, Little Poland, up to the Ukraine and the Sarmatian Peninsula in the North<sup>95</sup>. We do not stand alone in maintaining that barrows were adopted from the FBC. A similar opinion has been expressed by U.Fischer and A.Häusler<sup>96</sup>.

Influences concerning customs also included constructions found in barrows and flat graves. Finds, relating to the CWC, have included grave boxes built from larger or smaller stones, graves made from stones or with wooden frames, paved bottoms of grave pits, stone-framed graves (these constructions were square, round or elongated). Even typical dolmen have been found. In Holland, researchers discovered a wood-domed construction resembling Megalithic domed stone tholos. Such graves with casings have been found in FRG and GDR, Sweden, Denmark, Poland and in the South-Western Ukraine. Almost all these constructions have analogies in the FBC and, generally, in European Megalithic cultures, older than the CWC. They are also known among "Beaker" groups, such as the Baalberg, Walternienburg, Bernburg and Salzmünde cultures in the river basin of the Saale and other FBC areas in Europe<sup>97</sup>.

An additional factor attesting the influence of the FBC are stone pavements in CWC graves<sup>98</sup>. Another concurrence involves house-shaped tombs, sometimes containing more than one chamber<sup>99</sup>. Flat pit graves — so frequently found in the CWC — must also be considered as a similar heritage. Attention should also be directed to the crouched position of bodies in the FBC, known from areas in FRG and GDR, Czechoslovakia, Denmark and Poland<sup>100</sup>. It must be emphasized that

NEUMANN 1954, p.163 f.; NORDMAN 1935, Fig.7, 11; RYDBECK 1938, Fig.9; SCHLICHT 1972, p.7 f.; SCHULD 1976, p.54 f., Fig.2; SPROCKHOFF 1938, p.10 f.; STRUVE 1955, p.74.

<sup>95</sup> WIŚLAŃSKI 1978.

<sup>96</sup> FISCHER 1976, p.238; HÄUSLER 1963, p.172.

<sup>97</sup> ANER 1963, p.9 f.; BRØNDSTED 1960, pp.189 f., 22 f., 306; FISCHER 1956, pp.48 f., 56 f., 92 f.; JAŹDŻEWSKI 1936, p.299 f.; T.MADSEN 1971, p.144 f.; NIKLASSON 1925, p.88 f.; NILIUS 1971, pp.11 f., 18 f.; NORDMAN 1935, Fig.11; NOWOTHING 1936, p.423 f.; PREUSS 1966, p.40 f.; SCHULD 1976, p.54 f.; SIUCHNIŃSKI 1972, p.80 f.; SPROCKHOFF 1938, p.10 f.; STRUVE 1955, p.76.

<sup>98</sup> GAJEWSKI 1949, p.75 f.

<sup>99</sup> BEHM-BLANCKE 1955, p.63 f.; SCHLETTE 1958, p.134; STRUVE 1955, p.74 f.

<sup>100</sup> BAER 1959, p.147; BEHRENS 1953, p.67 f.; BERG 1956, p.116 f.; BUCHVALDEK, KOUTECKÝ 1970, p.22; BUKOWSKA-GEDIGOWA 1975, p.157; CHILDE 1950, p.162; COBLENZ 1976, p.27 f.; FISCHER 1953, p.55 f.; GAJEWSKI 1949, p.80 f.; GALLAY 1970, p.56; GERSBACH 1969, p.111 f.; GRIMM 1938, pp.23 f., 74 f.; KYTLICOVÁ

<sup>90</sup> JAŹDŻEWSKI 1936, p.301.

<sup>91</sup> BEHRENS 1973, p.97; FISCHER 1956, p.72 f.; GÜNTHER 1973, p.181, Fig.1.

<sup>92</sup> BEHRENS 1973, p.78; FISCHER 1956, p.48 f.; PREUSS 1966, p.39 f.

<sup>93</sup> BEHRENS 1973, p.87 f.; FISCHER 1952, p.163 f., 1956, pp.55 f. 86 f.; MÜLLER-KARPE 1974, Pl.488 D:1; NIKLASSON 1925, pp.26 f., 88 f., 101 f.

<sup>94</sup> ANER 1963, p.9 f.; BURCHARD 1970, p.458; CHMIELEWSKI 1952, p.60; FISCHER 1956, p.196; GABAŁÓWNA 1969, p.53; HOUŠTOVÁ 1960, pp.26 f., 36 f.; JØRGENSEN 1977, p.84, Figs.114, 155; KAELAS 1956, p.5 f.; MEDUNOVÁ-BENEŠOVÁ 1967, p.342, 358;

those people adopted primarily elements genetically linked with the Megalithic circle: barrows, stone boxes, the crouching position — i.e., elements associated with burials of high ranking individuals. However, graves with straight laying bodies, so popular in the FBC, linked with burials of common individuals, was adopted to only a small degree by CWC people; these graves have been discovered sporadically in FRG and GDR, Sweden, Denmark, the East Baltic countries, Poland and in the Ukraine<sup>101</sup>. G.Schwantes and H.Knöll were right in stating that the custom of laying bodies straight was adopted by “Corded Ware” people from the FBC<sup>102</sup>. Analogies also include orientation of the dead. Discussing rites of Neolithic cultures in the river basin of the Saale, U.Fischer<sup>103</sup> said, that the W—E orientation prevailed in both the FBC and the CWC. Influences of the FBC also embraced cremation, but it was a rare occurrence in these two cultures<sup>104</sup>.

Summing up, it may be said that most elements of funeral rites were adopted from the earlier FBC. An exception were catacomb graves — their origin may be linked with distant South-Eastern influences (cf.p.202).

#### C. ADOPTIONS IN THE SPHERE OF MATERIAL PRODUCTION AND OTHERS

Relevant adoptions from the FBC have been noticed primarily in pottery. We have already said that amphorae and beakers — although with different secondary features — constituted the chief ceramic forms in both cultures. Genetic links between them have been ruled out due to typological differences. Concurrent features partly include ornamentation. Already the oldest Turi- nian amphorae of the CWC have on their body a band ornament edged with stamps (Figs.11 and 12). In our opinion, this motif was adopted from the FBC since it was frequently found on globular or indented amphorae, flanged bottles, dishes, jugs, funnel- and pot-shaped beakers, in many parts of Europe, Denmark, GDR and

FRG, Czechoslovakia and Poland<sup>105</sup>. This similarity was referred to earlier by K.W.Struve<sup>106</sup>. Analogies have also been noticed in the range of hachured rope triangles, typical of the Central German Mansfeld group, also known from pottery of the earlier Michelsberg Culture on the Neckar (FRG). Another ornament adopted by the CWC was the ornamentation of receptacles with horizontal corded lines below the edge. This has been found already on the oldest FBC pottery — much earlier than in the CWC<sup>107</sup>.

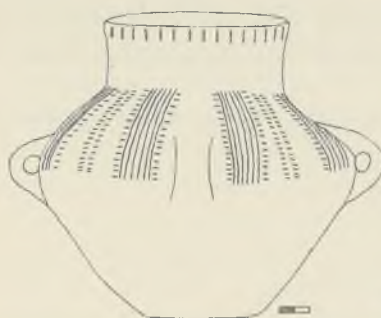


Fig. 11. Pyzdry, woj. Konin. An amphora of the Funnel Beaker culture

Amfora kultury pucharów lejkowatych  
Accord.to Jażdżewski

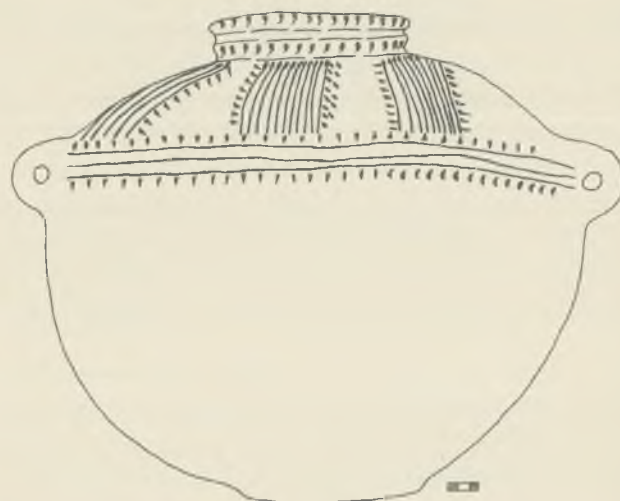


Fig. 12. Brietz, GDR. An amphora of the Corded Ware culture

Amfora kultury ceramiki sznurowej

Accord.to Fischer

1960, p.467; LÜNING 1967, p.126 f.; NIESIOŁOWSKA 1967, p.104; PREUSS 1966, p.36 f.; SCHRÖTER 1976, p.229 f.; WETZEL 1972, p.110 f.; WIŚLAŃSKI 1973, p.97, 109.

<sup>101</sup> ANTONIEWICZ 1958, p.69 f.; ÄYRÄPÄÄ 1952, p.84; BRÖNSTEDT 1960, p.287, 298; BYDŁOWSKI 1905, p.21; FISCHER 1953, p.57, 1956, p.142; GEISLER 1964, p.180 f.; KILIAN 1955, p.64 f.; LOEWE 1959, p.43, 83, 119 f.; MACHNIK 1967, p.14; MALMER 1962, p.159 f.; MATTHIAS 1968, p.60 f., 1974, p.234; OKULICZ 1973, p.110, 131; REYMAN 1934, p.48 f.; SCHOKNECHT 1977, p.37; SCHROEDER 1951, p.70; SIUCHNIŃSKI 1969, p.214; SULIMIRSKI 1968, p.122, 157; SVEŠNIKOV 1974, p.99 f.; WIŚLAŃSKI 1978.

<sup>102</sup> HÄUSLER 1976, p.28 f.; KRÖLL 1954, p.56 f.

<sup>103</sup> FISCHER 1953, p.49 f., 1956, p.215.

<sup>104</sup> BAKKER, WAALS 1973, p.20 f.; BUKOWSKA-GEDIGOWA 1975, p.158; GAJEWSKI 1949, p.82; GURBA 1954, p.148; MEDUNOVÁ-BENEŠOVÁ 1967, p. 363 f.; PREUSS 1966, p.159 f.; STRUVE 1955, p.76.

And now, influences concerning the very forms of pottery. Although the Thuringian amphora and the s-shaped cup cannot genetically be linked with FBC pottery, the third form — common in the CWC — a baggy receptacle, known as the vessel with a notched band, has almost identical prototypes in the Funnel Beaker and Michelsberg cultures. The commonness of this re-

<sup>105</sup> HOLLNAGEL 1976, Fig.3a; JAŹDŹEWSKI 1936, Fig.322; KILIAN 1955, Figs. 319, 320, 322, 327; KOWALCZYK 1970, Fig.52:2; NILIUS 1971, Pls.23c,d, 41a; SPROCKHOFF 1938, Pls.34:8, 40:6; STOCKÝ 1926, Pls.XCII 9, XCIII 28; WIŚLAŃSKI 1964, Fig.12:3.

<sup>106</sup> STRUVE 1955, p.106, Fig.11.

<sup>107</sup> KILIAN 1955, p.120 f., Figs.313–316; LÜNING 1969, p.21 f., Pls. 21:1, 23:18, 25:11,13, 27B.



Fig. 13. Gródek Nadbużny, woj. Zamość. A beaker of the Funnel Beaker culture

Puchar kultury pucharów lejkowatych

Accord.to Kowalczyk



Fig. 14. Złota, woj. Kielce. A beaker of the Złota culture

Puchar kultury złockiej

Accord.to Krzak

Fig. 15. Ćmielów, woj. Tarnobrzeg. A sack-like receptacle of the Funnel Beaker culture

Naczynie workowate kultury pucharów lejkowatych

Accord.to Kowalczyk

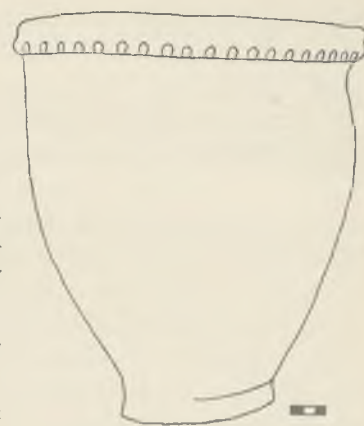


Fig. 16. Gdańsk. A sack-like receptacle of the Rzucewo culture

Naczynie workowate kultury rzucewskiej

Accord.to Becker



ceptacle in the CWC was discussed by C.J.Becker; it appeared on the almost entire area of its range: in Switzerland, FRG, GDR, Holland, Denmark, Sweden, Finland and Poland<sup>108</sup>. It is noteworthy that in the Złota culture these vessels sometimes cannot be distinguished from those of the FBC, only the clay differs<sup>109</sup> (Figs. 13, 14). Generally speaking, the formal difference concerns the band which is notched by fingers or stamps in the Beaker culture, while finger notches give these receptacles a weavy appearance in the CWC. The wide range in these two cultures is a proof of its heritage from the FBC. The CWC also adopted other pottery forms from the FBC. In the Złota culture we have found a funnel beaker with a brim identically shaped as in the FBC (Figs. 15, 16)<sup>110</sup>. A CWC funnel beaker with a flange has been found at Siwki, South-Western Ukraine<sup>111</sup>. A wide-opened receptacle with a cord ornament under the brim<sup>112</sup>, resembling funnel beakers from Denmark<sup>113</sup>, has been found in the Złota culture. CWC beakers strongly resembling funnel forms of the FBC, have been found at Sope in Estonia and Sande (Gross Hamburg)<sup>114</sup>.

Some similarities were noticed among flint implements. Although the CWC adopted them from Mesolithic cultures and partly from Trypolye culture, "Beaker" influences have also been noticed. They are noticeable primarily on trapezoid arrow-heads. On the one hand, they were found on FBC sites in northern FRG, in GDR, Denmark and Poland<sup>115</sup> and, on the other, on CWC sites in FRG, GDR and Poland<sup>116</sup>. It should be emphasized that trapezoid arrow-heads appeared in the FBC in the river basin of the Saale, where the CWC adopted to a high degree cultural elements of the FBC. This similarity has also been observed in axes. Generally speaking, quadrilateral axes with a broadened cutting edge of the CWC were an imitation of copper forms known from the Trypolye culture (mentioned further on). However, independently of Trypolye influences, we have noticed in this sphere also influences of the Funnel Beaker culture. Axes similar to CWC forms have been found in the FBC in northern FRG and Denmark<sup>117</sup>. These implements had not only a broadened cutting edge but

<sup>108</sup> BECKER 1955, p.65 f.; EDGREN 1958, p.48 f.; KRZAK 1976, Fig.13d, 15g, 64d, 65b-d; SCHIRNIG 1971, Fig.5:1,2.

<sup>109</sup> KRZAK 1958, Fig.14b.

<sup>110</sup> KRZAK 1976, Fig.51d.

<sup>111</sup> SULIMIRSKI 1968b, Pl.6:6.

<sup>112</sup> ANTONIEWICZ 1938, Fig.45; KRZAK 1976, Fig.62c.

<sup>113</sup> BECKER 1949, Figs.8 and 14.

<sup>114</sup> ÄYRÄPÄÄ 1952, Fig. 4; STRUVE 1955, Pl.18:12.

<sup>115</sup> BERG 1956, Fig.10, 14:1 9; EBBESEN 1975, Fig.135; KAUFMANN, BRÖMME 1972, Fig.6d; MÜLLER-KARPE 1974, Pls.486:46, 646 D:14-16, 652 A:13-17, 655 B:1-12; NIKLASSON 1925, Pl.XIII 2a-e; SCHLICHT 1972, Pl.1:315; SPROCKHOFF 1938, Pl.28:1,2,6; STRUVE 1955, p.64.

<sup>116</sup> BŁASZCZYK 1976, Fig.2:4; FEUSTEL ET ALII 1966, Fig.49:3; STRUVE 1955, p.64, Pl.16:6 10; WETZEL 1974, Figs.1:14,15, 13:12,19,23, 28:6, 35:1,2; ŻUREK 1954, Fig.28:2.

<sup>117</sup> SKAARUP 1973, p.57 f.; SPROCKHOFF 1938, Pl.26:8; STRUVE 1955, p.59 f.

were also trapezoid-quadrilateral; such axes — resembling FBC pieces — have been discovered in northern FRG and Denmark<sup>118</sup>. Other implements common in both cultures were flake axes resembling flat axes. As regards the FBC they were found at Ćmielów in Little Poland<sup>119</sup>, and were ascribed to the CWC in Holland and the river basin of the Saale<sup>120</sup>. Similarities among implements also concern certain types of stone axes; pieces with a casting rib, resembling boat-shaped axes of the CWC, have been found at a Michelsberg site in southern FGR<sup>121</sup>. This does not mean that all CWC axes derived from the FBC (their different provenance will be discussed further).

In regard to bone implements, concurrences with the FBC include chisels made from long bones, retouched at one end. Such chisels have been known from the river basin of the Saale<sup>122</sup>; there were analogies in the FBC — e.g., at Ćmielów<sup>123</sup>.

### III. ADOPTIONS FROM THE TRYPOLYE CULTURE

Compared with the FBC, the list of adoptions from the Trypolye culture is rather short and concerns, primarily, certain flint implements. In regard to pointed blade knives, characteristic of the CWC, they existed earlier in the Trypolye culture, already in the middle phase (B) dated to the 4th millennium. Quite a number of such knives have been found at Łuka Vrublevecka in Podole<sup>130</sup>. Pointed knives of the middle (B) phase of the Trypolye culture have also been found at Polivanov Jar on the Middle Dnepr<sup>131</sup>, at Ćapajevka (2920±100 B.C.) and Jevminki (2840±100 B.C.)<sup>132</sup>. Analogical pie-

Inheritance from the FBC also included copper metallurgy. It was found, that in addition to metal implements, there were also metal workshops there<sup>124</sup>. Copper products included tin pipes and elongated pipe-spiral pendants<sup>125</sup>. Similar pieces have been found in the CWC<sup>126</sup>.

As may be seen, the influence of the FBC on the CWC was quite substantial and found its expression in one more sector: medicine, for example involving skull trepanation. Evidence of this has been found at CWC sites in Saxony, Czechoslovakia and Poland<sup>127</sup>. H.D.Kahlke is of the opinion that it came to Central Europe from Western Europe<sup>128</sup>. This occurrence took place earlier in Spain, France and Great Britain. Trepanation was introduced to the CWC probably by earlier "Beaker" — the Walternienburg and Bernburg — cultures, where this phenomenon was proved by evidence<sup>129</sup>.

ces have been found at many European CWC sites<sup>133</sup>. As we have already stated, blade knives, generally speaking, originated in Mesolithic industries. This concerns most blade knives, except pointed implements which were adopted by the "Corded Ware" people from the Trypolye culture.

Another implement from that culture is the quadrilateral flint axe with a broadened cutting edge. Such pieces existed in the Trypolye culture already in the middle (B) phase. Our assumption is justified since their copper prototypes existed in those times<sup>134</sup>. We have already said that such axes also existed in the FBC; these two sources — the Trypolye and Funnel Beaker cultures — should be considered equal as regards the adoption of these forms by the CWC.

The third form adopted from the Trypolye culture includes triangular arrow-heads with a narrowed base, also found in the middle (B) phase<sup>135</sup>. Besides the Mesolithic (as already referred to), this is the second source of origin of this implement in CWC. Other material products of the middle (B) phase of the Trypolye culture,

Corded Ware culture and those of the middle phase of the Trypolye culture.

<sup>133</sup> ARTEMENKO 1976, Fig.7:3; BEHRENS 1969a, Fig.13, 1973, Fig.62f; BUCHVALDEK, KOUTECKÝ 1970, Fig.14, grave 41,5, Fig. 107, gr.58,5, Fig.109, gr.60,5; LOEWE 1959, Pl.58:9,16,19; MATTHIAS 1968, Pl.6:9; 1974, Pl.138:9; STRUVE 1955, Pl.9:9,10; SVEŠNIKOV 1964, Fig.44:2; TETZLAFF 1970, Fig.127:9; VOIGT 1953, Fig.7; WATERBOLK 1964, Fig.19:3; WEISE 1972, Fig.3:5,6; ŽUREK 1954, Fig.27.

<sup>134</sup> PASSEK 1949, Fig.11, Kukuteni A, No 18, Fig.34, Column I, No 26-26.

<sup>135</sup> PASSEK 1949, Fig.57:4, 1961, Figs.23:1,2, 34:3; ZAJEC 1973, Fig.4:10,13-16.

<sup>118</sup> H.J.MADSEN 1970, Fig.6 K; STRUVE 1955, Pls.2h, 3:1,4,9, 6:2,10, 10:1,5, 12:7, 20:16.

<sup>119</sup> Collection of the State Archaeological Museum, Warsaw.

<sup>120</sup> DONAT 1961, Fig.5; MATTHIAS 1968, Pl.6:6; WATERBOLK 1960, Fig.34b.

<sup>121</sup> VOGT 1953, Fig.5:1-4.

<sup>122</sup> MATTHIAS 1974, Pl.6:1,2.

<sup>123</sup> PODKOWIŃSKA 1950, Pl.XXXII 7, 1952, Pl.XIX 7.

<sup>124</sup> KRZAK 1963, p.65 f., Fig.11c.

<sup>125</sup> MÜLLER-KARPE 1974, Pl.646:21-26; PREUSS 1966, Pl.11:3.

<sup>126</sup> BEHRENS 1973, Fig.53h; FEUSTEL ET ALII 1966, Pl.XV 2; MÜLLER-KARPE 1974, Pl.664:13,14.

<sup>127</sup> BACH 1963, p.202 f.; BEHRENS 1969b, p.143; FISCHER 1956, p.135; KAHLKE 1972, p.184; MATTHIAS 1969, p.15; PALUCH 1975, p.421 f.

<sup>128</sup> KAHLKE 1972, p.184.

<sup>129</sup> BEHRENS 1969b, p.143; FISCHER 1956, p.135; KAHLKE 1972, p.188; MATTHIAS 1969, p.15.

<sup>130</sup> BIBIKOV 1953, Tables11-14.

<sup>131</sup> PASSEK 1961, Figs.23:4-7,12, 34:7-9.

<sup>132</sup> Information from Doctor B.Balcer, Polish Academy of Sciences, Institute of the History of Material Culture, Warsaw, for which the author expresses his gratitude. It was B.Balcer who directed attention at the analogy between the pointed knives of the

we have recorded only globular amphorae with cylindrical necks and two ears on the upper part of the body; two such receptacles have been found at Kliščiv in the South-Western Ukraine<sup>136</sup>. This does not mean that these forms were adopted by the CWC in the 4th millennium; there is no evidence for the existence of the culture in those times. This must have occurred in the second

half of the 3rd millennium when there was an obvious influence of the CWC on the Trypolye culture. The share of the latter in the genesis of the CWC was, therefore, small but obvious, and this fact makes us search for the cradle of our culture not only in Central Europe but also on the Dniestr in the South-Western Ukraine.

#### IV. SOUTH-EASTERN INFLUENCES

Elements of a distant South-Eastern provenance thread their way through Central European cultures — throughout the almost entire Neolithic. They were not unknown to the CWC. This was manifested, above all, in the adoption of lithic, boat-shaped axes which had had copper analogies among earlier South European cultures (the Bodrogkeresztur culture). These implements originated in the Near East. Battle axes were recorded at Kish near Babylon and dated to a period synchronous with the Early Neolithic in Central Europe<sup>137</sup>. Earlier they were distributed throughout Anatolia and were known, primarily, from Troy I and II. Some of them have been very much like the earliest Central European axes, they even had a casting rib; most were without this rib but, in general, this type has shown a typological affinity with CWC implements<sup>138</sup>. There is no doubt that they appeared earlier there than in Central Europe. C.W. Blegen, for example, dated Troy I to the years 3000–2500, and Troy II to 2500–2200 B.C.<sup>139</sup> Other authors have fixed the date to the end of the 3rd millennium. This form subsequently spread throughout South-Eastern Europe — i.e., the Balkans and the Danube basin. K. Pescheck has published a series of boat-shaped axes, including some with casting ribs but, unfortunately, most have not been dated. These were mostly loose finds. It is characteristic, however, that this group includes a boat-shaped implement from Tell Metschkür (Bulgaria), deriving from the Gumelnița culture, which F. Holste paralleled with the Vinča D phase; this type of axes has also been found in Greece<sup>140</sup>. Others are synchronized by N.J. Merpert with the Bubanj Hum II and III culture and Troy I–III. Further dated axes, resembling Central European forms, come from Poliochni on the Lemnos Island on the Aegean Sea. L. Bernabó-Brea included them in phases known as “green” and “red,” chronolo-

gically corresponding to Troy I and II. In the light of radiocarbon data, their appearance points to the years 2500–2200 — the period of the earliest CWC in Europe<sup>141</sup>. These axes undoubtedly came from Anatolia and Aegea to Central Europe by mediation of Balkan and Danube cultures. This has been proved by the already referred to Bulgarian finds; such axes are also known from Neolithic and Early Bronze cultures of Rumania and Hungary: Bodrogkeresztur, Glina III, Coțofeni etc.<sup>142</sup>.

Particularly important mediators between the South-East and Central Europe were the Bodrogkeresztur and Coțofeni cultures, contemporary to or older than the CWC. As regards the Bodrogkeresztur culture, it has been dated by radiocarbon method to the 2nd half of the 4th millennium, while the Coțofeni culture developed during the 2nd half of the 3rd millennium. The first appeared in Hungary, the second is known from Bulgaria and Rumania<sup>143</sup>. The Usatovo culture, developing in the second half of the 3rd millennium to the North-West of the Black Sea, also mediated in conveying distant impulses. Among others, there was an axe resembling CWC implements, found at Boh (Popudnia)<sup>144</sup>. During that period, Dnepr and Black Sea tribes maintained animated relations with Balkan-Aegean-Anatolian cultures. This subject was also discussed by T. Sulimirski<sup>145</sup>. A key position was held there by the settlement at Troy, whose inhabitants used in those times the well known water-way through the Dardanelles, the Black Sea and the Danube or other rivers in that region. Trade (or exchange) with mollusc shells (*Spondylus gaederopus*) went that way towards Central Europe already in the 4th millennium.

One of the more obvious traces linking Troy II with Central European countries were amber beads

<sup>136</sup> ZAJEC 1973, Fig.4:2, 1974, Fig.4:14; ZBENVIČ 1976, Fig.8:1.

<sup>137</sup> PESCHECK 1941, p.52 f.

<sup>138</sup> BLEGEN 1964, Fig.10; BLEGEN ET ALII 1950, Fig.361; DÖRPFELD 1902, Fig.322; MÜLLER-KARPE 1974, Pls.329:38, 322:27; ZAPOTOCKÝ 1966, p.194, Fig.7:10.

<sup>139</sup> BLEGEN 1964, p.174.

<sup>140</sup> MERPERT 1965a, p.27, Fig.10:3; PESCHECK 1941, p.53, Fig.6.

<sup>141</sup> BERNABÓ-BREA 1964, p. 629, 649, Pl.CLXXXIII 1,2 (upper and lower part) and Pl.CLXXXIV 11; NEUSTUPNÝ 1968, p.26 ff., Fig.4; MÜLLER-KARPE 1974, Regesten, p.874 f., Pl.356:30.

<sup>142</sup> KILIAN 1955, p.127; MÜLLER-KARPE 1974, Pl.455:19; PATAY 1968, p.9 f., Figs.2:4, 4:6, 5:2a,b, 1974, p.13, Pl. 2:9,10; PETRE 1967, p.645, Fig.2:1; ROMAN 1976, p.95 f., Pl.9:1,6,8; SCHROLLER 1933, p.65, Pl.54:6; SCHUBERT 1965, p.274 f.; VULPE 1959, Fig.2:1.

<sup>143</sup> PATAY 1974, p.57; ROMAN 1976, p.95 f.

<sup>144</sup> PASSEK 1949, p.120 f., Fig.67:13.

<sup>145</sup> SULIMIRSKI 1968a, p.3 f., 1971, p.707 f.

found at this settlement in hoard L. The amber could have reached that area via the Danube through the Usatovo settlement near Odessa. Relics discovered there prove the existence of links with distant countries. Silver-plated copper daggers represent a type characteristic of Aegean countries of the end of the 3rd and the beginning of the 2nd millennium. According to T.Sulimirski, a domed stone grave patterned on analogical Aegean graves, was discovered in one of the Usatovo culture barrows. The amber beads referred to prove links with the Baltic Sea. Researchers from the Soviet Union have also indicated connections between the Usatovo culture and South-Eastern centres. V.G.Zbenovič found that it had links with the Northern Caucasus, the Lower Danube, the Balkans and the eastern part of the Black Sea basin<sup>146</sup>. Usatovo copper daggers can be linked with Crete and Aegea; they were imports from the eastern part of the Mediterranean basin. The Usatovo culture has had links not only with the Caucasus, but also with the Černavoda culture on the Lower Danube which had contacts with the Ezero site in Bulgaria and this, in turn, has analogies in Anatolia<sup>147</sup>. T.S.Passek has also indicated links between the Usatovo culture and Anatolia, the Balkans and Aegea<sup>148</sup>.

To conclude — Usatovo and the Usatovo culture (late development phase of the Trypolje culture), having many links with the CWC, mediated in bringing South-Eastern elements, including boat-shaped axes, to Central Europe. The taking over of axes was, probably, of a diffusive kind, as there were several indirect links between the South and Central Europe.

Another way of South-Eastern imports led through the Carpathian Mountains. This has been proved by a "relay" settlement discovered at Tibava. It developed in the Neolithic and during the rise of the CWC. Relics of various — including South-Eastern — cultures have been discovered there. The probable road along which impulses arrived from Asia Minor, led from Thessaly through Macedonia along Struma (an isthmus near Sofia), next, along Isker, Aluta, through the Ariuşd region in Transylvania, along the Tisa to Eastern Slovakia. The huge number of implements of foreign origin proves that the Tibava settlement was a station of caravans which therefrom went via the Połoniny Carpathians to Poland and up the San<sup>149</sup>.

We do not know whether the adoption of catacomb graves by the CWC in Little Poland was of a diffusive or of a migratory character<sup>150</sup>. The provenance of these

graves was undoubtedly South-Eastern. There are, in this case, no territorial transition links; indirect sites with catacomb graves have been supplied only by the Vučedol culture. We exclude the influence of the Catacomb culture in Little Poland in this sphere, since these graves are younger than those of Little Poland. As L.S.Klejn indicated, catacomb graves existed earlier in the eastern part of the Mediterranean basin. The custom of constructing catacombs goes back to the 4th millennium in the Near East<sup>151</sup>. The artificial deformation of skulls — noticed within the CWC in the Złota culture — is of a similar origin<sup>152</sup>. Since there are no interim stages of these phenomena between Central Europe and the distant South-East, L.S.Klejn assumed that they penetrated into Little Poland due to migrations of human groups. It is difficult to say whether this was so. It is certain, however, that the CWC was inspired by South-Eastern cultures mostly by way of diffusion.

Central European barbarians readily accepted civilization novelties from the higher standing cultures of the South. The penetration of products and ideas has also been recorded in other regions. The superiority and attractiveness of these centres lured barbarians who migrated from Europe towards Anatolia, the Aegean and the Near East. This has been proved by the appearance on the Balkan Peninsula of pottery with corded ornaments. These ceramics have been linked with two different ethnic-cultural migration waves. Firstly, there were the Black Sea steppe communities known from graves with ochre-painted skeletons, found north of the Black Sea, on the Lower Danube and in the Balkans. These migrations took place in the 3rd millennium<sup>153</sup>. Secondly: there were also Central European CWC tribes which left traces in the form of Thuringian amphorae from Anatolia, Greece and Rumania<sup>154</sup>, sherds of the Central European type in Greece<sup>155</sup>, and Litzen ceramics (*Litzenkeramik*) also known from Northern Yugoslavia<sup>156</sup>. Its provenance is thought to be in Eastern Austria. The latter has also been found in territories between the Balkans and Austria (Rumania, Hungary)<sup>157</sup>. The dating of Corded Ware ceramics on the Balkan Peninsula has been linked with the Central European wave of migration. We admit, no evidence has been found to indicate that this culture was older in the Balkans than in Central Europe. It was rather younger, this is why its existence

<sup>151</sup> KLEJN 1964, p.388.

<sup>152</sup> KRZAK 1960, p.187 f.

<sup>153</sup> GARAŠANIN 1961, p.32; GEORGIEV 1961, p.88 f.; MERPERT 1965b, p.10 f.

<sup>154</sup> CHILDE 1950, Fig.42; DINU 1959, Fig.4; MILOJČIĆ 1949, Pl.13:9; SULIMIRSKI 1955, p.110 f., Fig.1 and 3:1, Pl.VII A, C.

<sup>155</sup> KILIAN 1955, p.138 f.; MILOJČIĆ 1955, p.151.

<sup>156</sup> MAJNARIĆ-PANDŽIĆ 1977, p.68 f.; VUKOVIĆ 1957, p.40 f., Pl.I 1–3.

<sup>157</sup> BENKOVSKY-PIVOVAROVÁ 1972, p.198 f.; SCHUMACHER 1918, p.27, Fig.5:7.

<sup>146</sup> ZBENOVIČ 1974, p.3 f.

<sup>147</sup> ZBENOVIČ 1976, pp.21, 41 f.

<sup>148</sup> PASSEK 1949, p.193 f.

<sup>149</sup> ANDEL 1961, p.39 f.

<sup>150</sup> KEMPISTY 1958, p.269 f.; KRZAK 1976, p.160 f.; MACHNIK 1964, p.339 f.



has been explained by migrations from the North. Authors, such as L.Kilian, S. Fuchs, V.Milojčić, Goldman, O.Uenze, P.Roman<sup>158</sup>, date this culture in Greece to the early Helladic II or III periods.

Thus, on the one hand, we can see migration movements of barbarians to the South and, on the other, the penetration of cultural products by means of diffusion to the North.

### CONCLUSIONS

Our deliberations led to the following conclusions:

1. Analogies of Mesolithic flint processing oblige us to seek initial positions of the CWC in an extensive zone, stretching from the Upper Dniestr basin through Little Poland and Saxony up to Switzerland and the Upper Rhine basin.

2. Analogies relating to the FBC have shown that North-Western Poland, the German Lowlands and, perhaps, Denmark, should also be included in this zone.

3. These two statements indicate that the CWC originated in the zone spreading over broadly understood Central Europe, enclosed between the Carpathians, Sudetes and Alps in the South, the Baltic in the North, the Rhine in the West and the Dnepr in the East, including the Dniestr region in the South-Western Ukraine.

Within this territory we were unable to find a smaller area which could have been cradle of the CWC. Chronological evidence supports the assumption that the CWC appeared on this extensive territory as a formal unit almost simultaneously already about 3100 B.C. Perhaps the future will make it possible to distinguish a more specific area. In the light of available data, the hypothetical cradle of this culture could only have been the area of the river basin of the Saale, where most evidence concerning the early genesis of the CWC has been found; yet this evidence resulted primarily from excavations intensively carried out in this region. Let us not forget that the Central European Lowlands — where the CWC could also have originated — have not yet been thoroughly investigated.

The genetic process of the CWC took place due to an aculturation of Central European Mesolithic commu-

nities, which, having got in touch with higher developed Funnel Beaker and Trypolye cultures, adopted several elements and created a culture of a similar economy and creed, differing, however, in regard to material culture traditions. We must not think that communities of the earlier FBC later played no role at all; its representatives lived on, but owing to the new dynamic style of the CWC they adopted the new culture. We are unable to say how and why this happened. It is necessary to investigate why permanent "Beaker" village cultures declined and why their place was taken by "Corded Ware" settlements of a usually impermanent character. The development and spreading of the new culture could be explained in a general manner by its internal dynamism, which was so strong that it led not only to a change in Central European culture but caused the spreading of the CWC to areas previously occupied by the FBC. CWC tribes expanded to the South-East reaching the Balkans and, above all, to the North-East, occupying East Baltic lands up to Finland. We consider the typical assemblage of the new culture in these countries to be a result of migrations from Central Europe. The origin of its eastern parts — Middle Dnepr and Fatyanovo cultures — however, cannot be explained by migration movements, because they differed considerably in regard to secondary characteristics of the material assemblage from the classical inventory of the CWC in Central Europe. Both cultures rather received impulses from Central Europe, but elements adopted from the local environment were of major importance to them.

*Translated by Jan Rudzki*

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#### *Abbreviations*

AA	— Acta Archaeologica, København
AAC	— Acta Archaeologica Carpathica, Wrocław—Warszawa—Kraków
AP	— Archeologia Polski, Wrocław—Warszawa—Kraków—Gdańsk

<sup>158</sup> KILIAN 1955, p.138 f.; MILOJČIĆ 1955, p.151; ROMAN 1974, p.172.

AuF	— Ausgrabungen und Funde, Berlin
Becherkulturen	— <i>Die neolithischen Becherkulturen im Gebiet der DDR und ihre europäischen Beziehungen</i> , Berlin 1969
BR-GK	— Berichte der Römisch-Germanischen Kommission, Berlin
JMV	— <i>Jahresschrift für Mitteldeutsche Vorgeschichte</i> , Halle/Saale
JVS-TL	— <i>Jahresschrift für die Vorgeschichte der sächsisch-thüringischen Länder</i> , Halle/Saale
KSIA	— <i>Kratkie Soobšćenija o dokladach i polevych</i>

- issledovanijach Instituta Archeologii AN, Moskva
- PA – Przegląd Archeologiczny, Poznań, Wrocław
- PamA – Památky archeologické, Praha
- PMMAE – Prace i Materiały Muzeum Archeologicznego i Etnograficznego, Seria Archeologiczna, Łódź
- SA – Sprawozdania Archeologiczne, Wrocław – Warszawa – Kraków
- WA – Wiadomości Archeologiczne, Warszawa

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## ZE STUDIÓW NAD POCHODZENIEM KULTURY CERAMIKI SZNUROWEJ

## Streszczenie

Po studiach autora nad kulturami neolitycznymi Europy okazało się, że żadna z nich (zwłaszcza ani kultura pucharów lejkowatych, ani kultura trypolska) nie może być macierzą kultury ceramiki sznurowej ze względu na brak silniejszych powiązań w zakresie inwentarza ruchomego (ceramiki i narzędzi). Dopiero porównanie narzędzi kultury ceramiki sznurowej z narzędziami mezolitycznymi doprowadziło do stwierdzenia, że omawiana kultura wywodzi się z mezolitu. Jest to możliwe, gdyż przemysły mezolityczne przetrwały w głąb neolitu, a ludność mezolityczna przez długi czas współistniała z ludnością neolityczną. Jako etap przejściowy między mezolitem a właściwą kulturą ceramiki sznurowej umieszczamy bezceramiczne pochówki w kurhanach typu Kalbsrieth. Formowanie się interesującej nas kultury dokonano się ponadto pod silnym wpływem kultury pucharów lejkowatych, od której ludność omawianej kultury

przejęła umiejętność uprawy roli i hodowli zwierząt domowych, nadto obrządek grzebalny (pochówki skurczone w kurhanach). Prócz tego zapożyczyła ona nieliczne elementy (niektóre narzędzia krzemienne) z kultury trypolskiej. Następną strefą wpływów była południowo-wschodnia Europa (Bałkany, Cyklady, Anatolia), skąd ludność interesującej nas kultury przejęła kamienne toporki łódkowate. Z powyższych danych wynika, że kultura ceramiki sznurowej uformowała się u schyłku IV tysiąclecia w rozległej strefie Europy poczynając od ziem nad górnym Dniestrem, poprzez Małopolskę i dorzecze Soławy (NRD) aż po Szwajcarię i dorzecze górnego Renu. Przy obecnym stanie badań nie jest możliwe wskazanie mniejszego obszaru jako ewentualnej prakolebki kultury ceramiki sznurowej.

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