

**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}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}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).

Vadim L. Lakiza

RADIOCARBON DATING OF THE CORDED WARE CULTURE FROM THE NIEMEN RIVER BASIN. A GRAVE FROM PARKHUTY, SITE 1, THE GRODNA REGION

Only two graves of the Corded Ware culture (CWC) had been known in the Niemen river basin until the beginning of the 1990s: one in Krasnoselski flint mine on the Ros river bank (Fig. 1:3) [Charniauski 1963; 1997], and the other on the left bank of the river Shchara on the territory of Rusakova site 2 (Fig. 1:2) [Charniauski 1997]. A new settlement dating to the Neolithic and Bronze ages — Parkhuty 1 — was discovered by the author of this paper on the right bank of the Shchara river — a large tributary of the river Niemen — in 1994 (Fig. 1:1). The monument is located one kilometre to the north of the village of Parkhuty, in the District of Diatlava, Grodna Region (Fig. 2). It occupies a sandy dune, 60m long, 50 m wide and 3 m high, above the level of floodlands (Fig. 3). Flint articles and fragments of vessels of the Neolithic and Bronze ages can be found on denudations and along the whole territory of the dune, with a high concentration on the southern edge of the hill.

1. SETTLEMENT INVESTIGATION

In 1995-1996, in the upper southern part of the settlement, the excavated area covered 86 km² (Fig. 3). The cultural layer, of a heterogeneous grey colour, 0,4-1 m thick, composed of fine-grained sand, was damaged by ploughing and by the sinking of pits. 19 features of different periods were recorded: pits, burnt out patches of earth (features No. 8, No. 18), and a grave (feature No. 14) (Fig. 4). The cultural layer is rich in archaeological finds. More than 4,000 split flints and tools, fragments of vessels, stone artefacts, and small bones were found.

Omitting a detailed description of the material discovered, which was done in another article [Lakiza 1999], we will dwell on some prominent issues. Among the

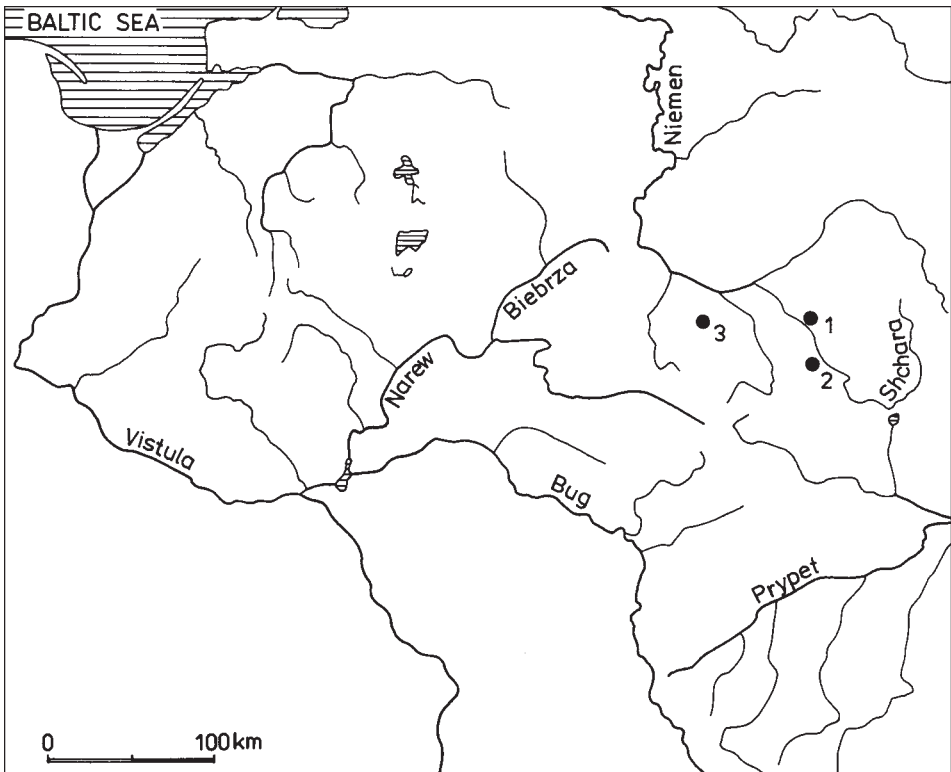


Fig. 1. Location of the Corded Ware culture graves in the Niemen basin (1 - Parkhuty; 2 - Rusakova; 3 - Krasnoselsk).

fragments of vessels identified, 79% belong to vessels of the Niemen Neolithic culture. This culture is represented by material of all three periods: Dubichay, Lysaya Gora, Dobry Bor (Fig. 5:1-5) [Lakiza 1999].

The latter, according to the leading researcher of the culture in the Niemen river basin M.M.Charniauski, may date back to the first half of the second millennium BC [Charniauski 1979:78]. Fragments of ceramics of the Bronze Age (20%) (a traditional Belarus scheme of cultural-chronological division is used) [Charniauski, Kryvaltsevich 1993:96; Kryvaltsevich 1997:288-290] belong to the CWC (Fig. 5:6-8, 10-17) and Trzciniac culture (Fig. 5:18-23). The flint artefacts revealed are difficult to synchronise with either culture in particular because of the mixed cultural layer. Some samples of arrowheads, knives, sickles and scrapers could probably be defined as rather late in comparison with the rest of the material (Fig. 6).

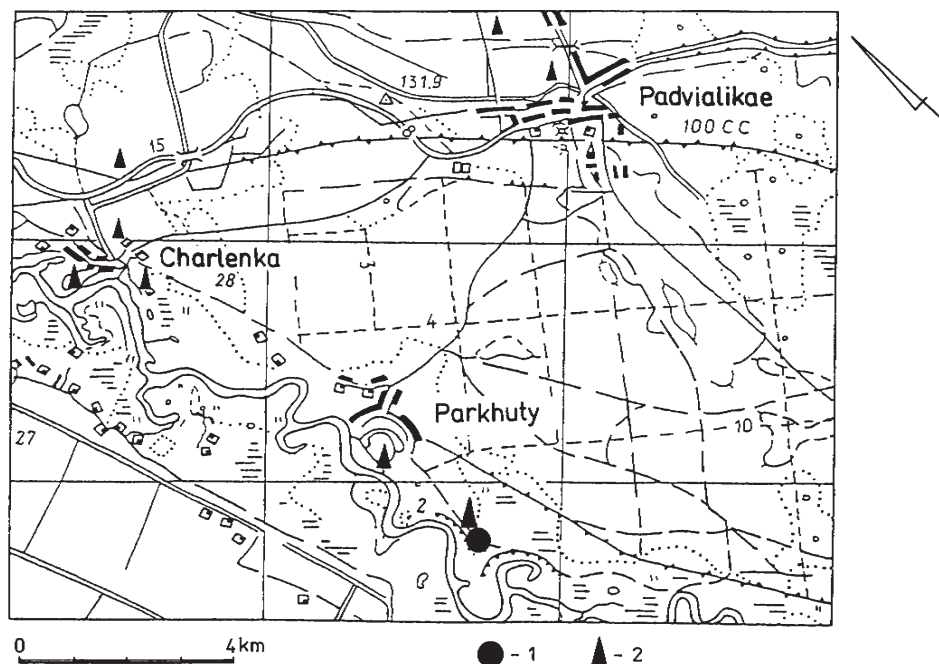


Fig. 2. Location map (1 - a grave at Parkhuty site 1, Grodna Region; 2 - monuments of the Stone and Bronze ages)

2. GRAVE STRUCTURE

Traces of the grave (a dark-grey humus spot with dimensions of 1.54 x 1.7 m) were found 0.5-0.6 m below the present day ground level of the dune. Further excavations revealed a one-body tomb with burial implements (Fig. 4; 7:1). It was located 1.62 m deep in a round pit (Fig. 4: feature No14). The pit, narrowing towards its bottom, gradually acquired a rectangular outline with curved corners. Its dimensions diminished to 0.4-0.5 x 1.3 m. It was oriented along the north-west axis (along the SE-NW line) (Fig. 7:1). The filling of the grave pit, from the level of 0.6 m below the present day ground level, was excavated in conventional layers of 0.1 m, with the preservation of its western part for stratigraphical observation (Fig. 7:2). We can trace back the layers with the following characteristics: 0.6-0.7 – 1.1 m — dark grey; 0.7-1.1 – 0.8-1.34 m — dark with a brownish shadow; 0.8-1.34 – 1.5m — light yellow-grey fine-grained sand; 1.5-1.62 — ashy-grey humus with small charcoals and dark patches (Fig. 7:2, 3).

Ten layers were extracted. In nine of them, 118 split flints and 44 fragments of

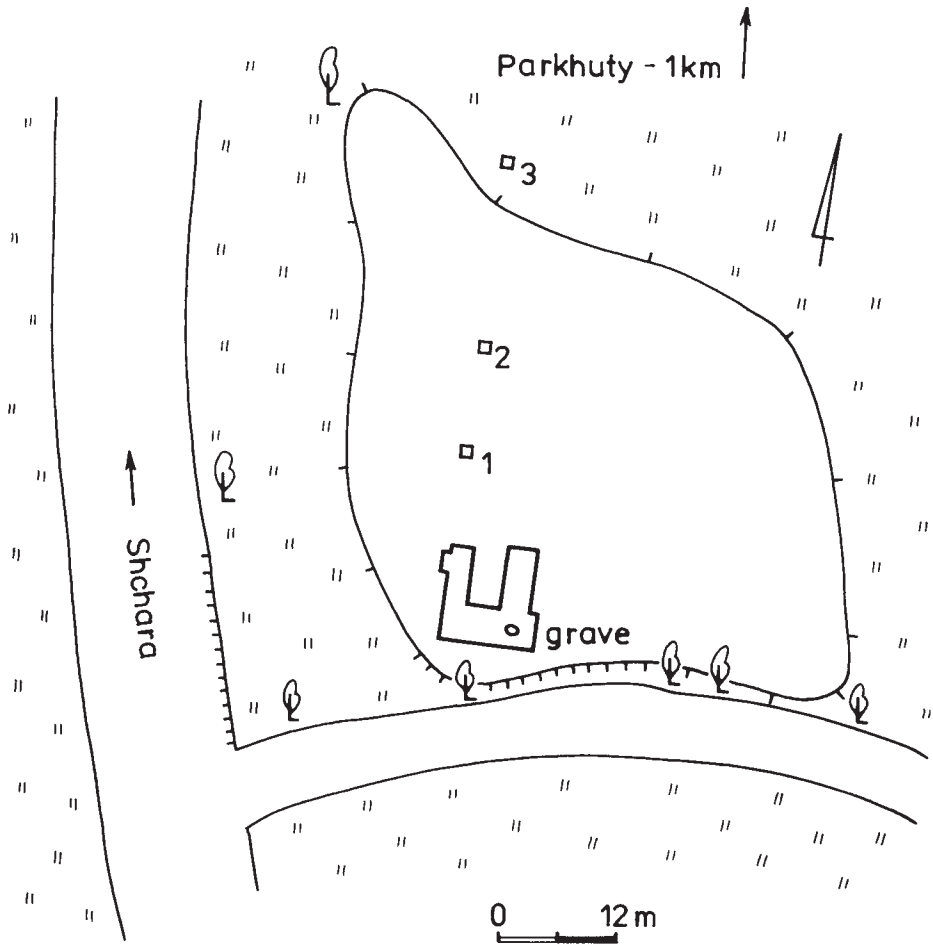


Fig. 3. Parkhuty site 1, Grodna Region. Schematic layout.

ceramics of the Niemen Neolithic culture and Early Bronze Age were discovered. We can observe a decrease in the number of finds in the sixth-ninth layers, which correspond to the yellow-grey colour of the filling (subsoil). In the tenth layer, a small flint splinter, two minor fragments of Niemen ceramics, small charcoals and various grave goods were found. The skeleton was not preserved. A stone axe with a hole and an intact flat-bottomed bowl, lying on its side, with its neck to the north, were oriented along the south-north axis; the distance between them was 0.5-0.6 m. A flint slab was also found in this section (Fig. 7:1; 8:1-3)

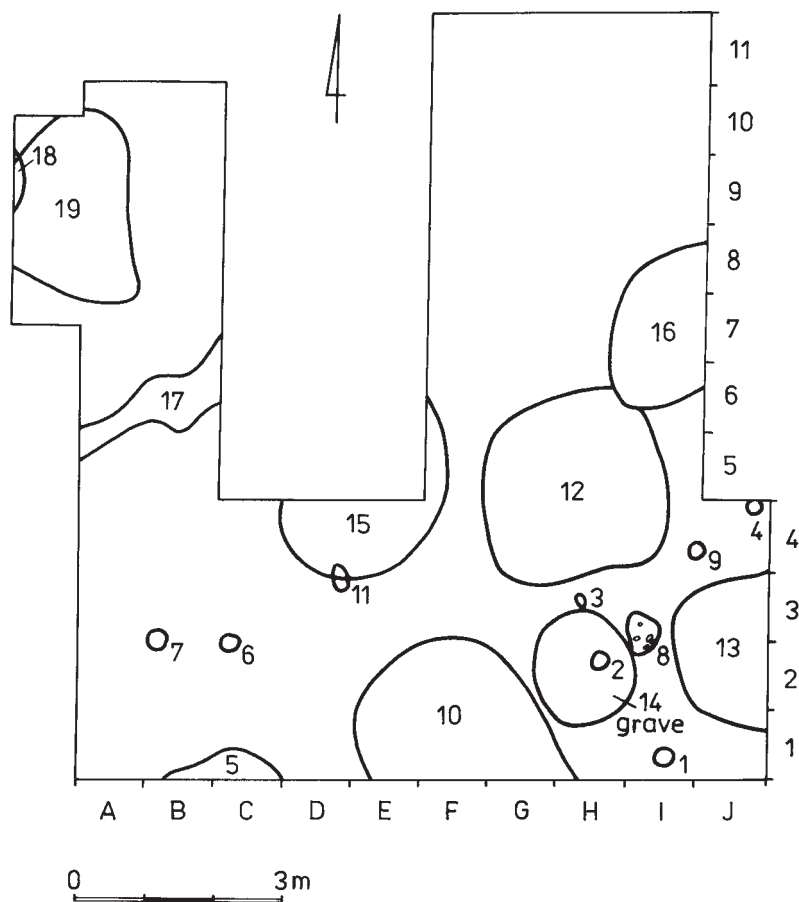


Fig. 4. Parkhuty site 1, Grodna Region. Plan of the grave location in the excavation site.

2.1. BURIAL IMPLEMENTS

a. The flat-bottomed bowl has a globular belly, with a narrowed neck gradually widening into a high cone-shaped halo (Fig. 8:1). The halo brim is uneven, and sharpened in places. Dimensions: 12-13 cm high, the bottom 6 cm in diameter, the diameter of the halo is 13-14 cm, the diameter of the belly 12-13 cm. Thus, the maximum diameter of the bowl is that of the belly. The walls are 3-5 mm thick. The

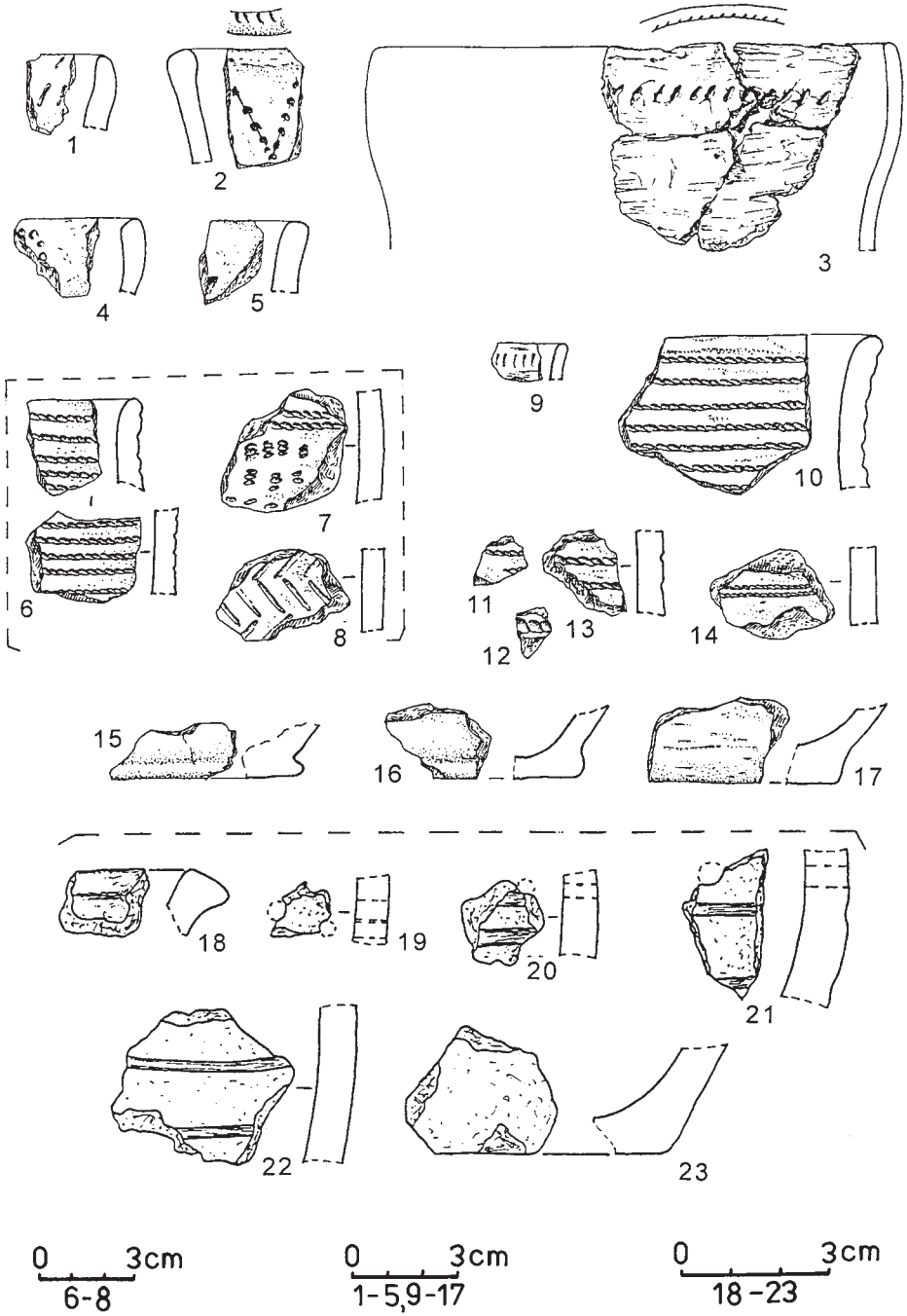


Fig. 5. Parkhuty site 1, Grodna Region. Fragments of ceramics (1-5,9 - the Niemen culture; 6,7,8,10-17- the Corded Ware culture; 18-23 - the Trzciniec culture)

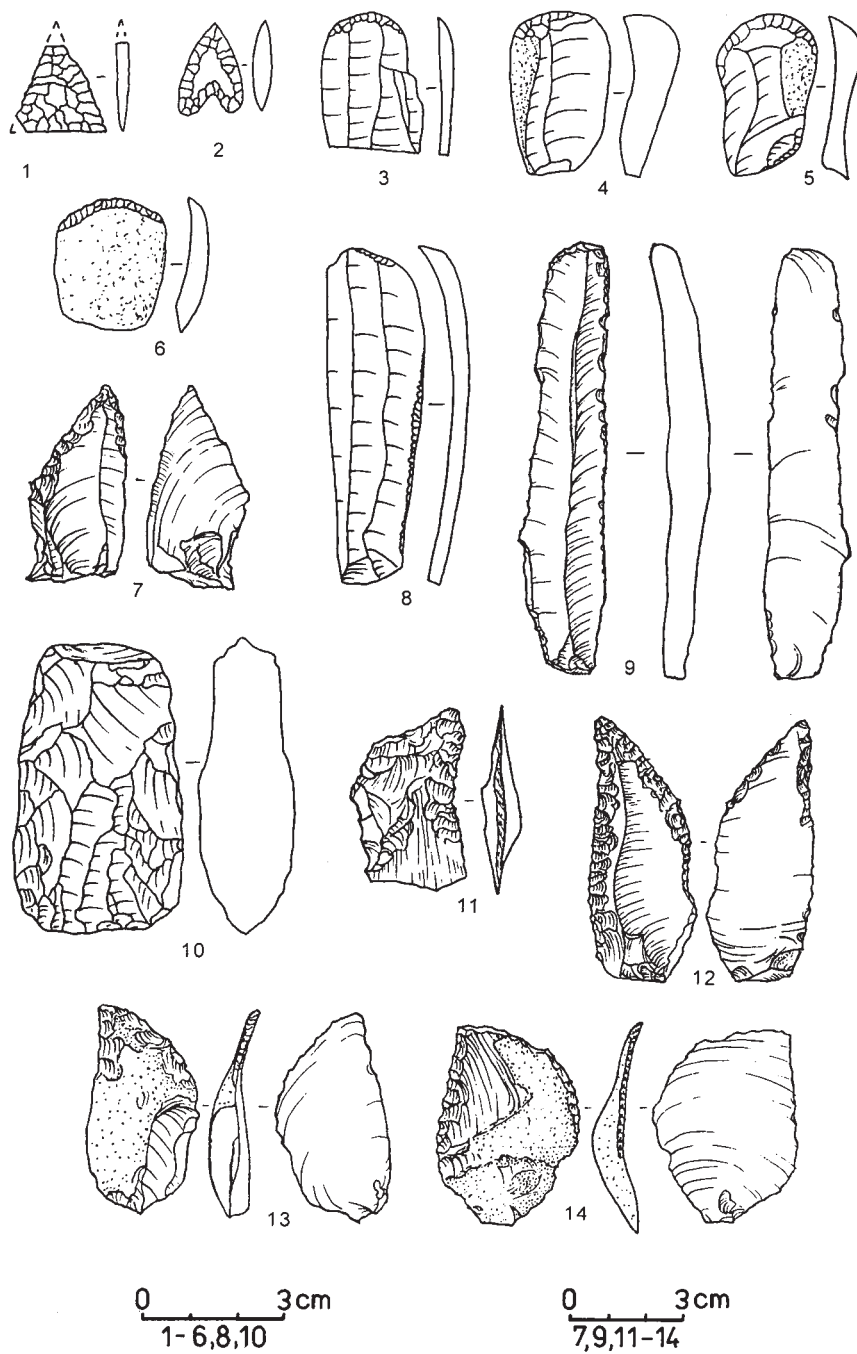


Fig. 6. Parkhuty site 1, Grodna Region. Flint implement (1,2- arrowheads; 3-6 - scrapers; 7-9 - knives; 10 - flint axe; 11-14- sickles)

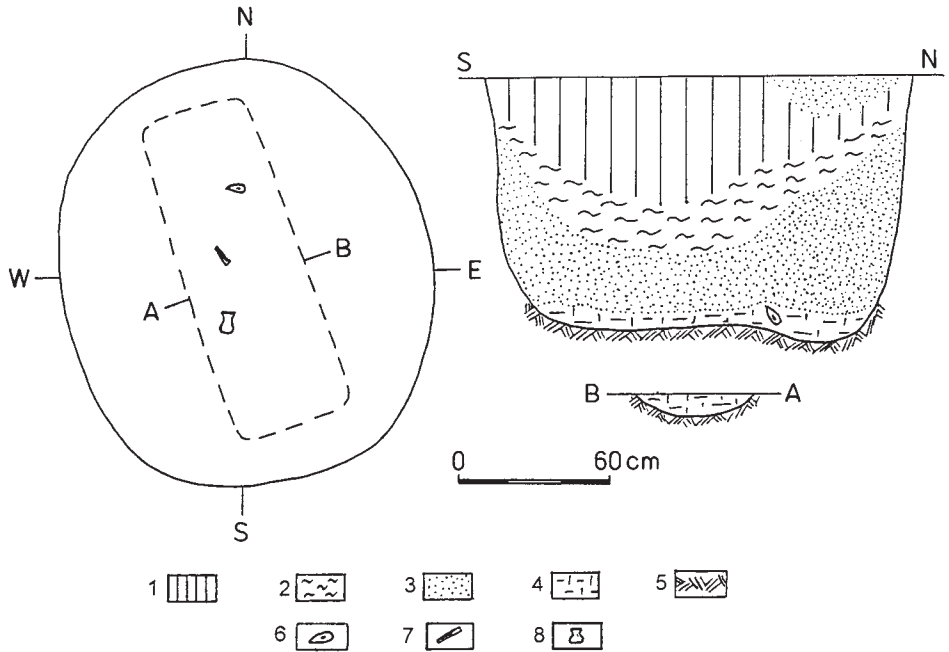


Fig. 7. Parkhuty site 1, Grodna Region. Feature No 14 - grave (1 - plan of the grave, 2 - cross-sections of the grave; 3 - cross-section of the grave bottom). Legend: 1 - dark-grey; 2 - dark-brown; 3 - yellow-grey fine-grained sand; 4 - ashy-grey with small charcoals; 5 - subsoil layer; 6 - stone axe with a hole; 7 - flint blade; 8 - bowl

outer surface of the bowl is of a light grey-brown colour, with darker patches. It is almost smooth, but with barely visible traces of smoothing. The inner surface is roughly polished. At the junctions of clay ribbons on the inner surface of the neck and halo, the wall surface is uneven. The dough of the bowl is of an admixture of sand and charcoals.

b. The axe is made of grey-green stone. Dimensions: 11 cm long, 4.5 cm wide, 3.5 cm thick; the diameter of the cone-shaped hole is 2.1-2.3 cm. The hole is made almost in the centre of the axe. The surface of the find is carefully polished. It has a diamond-shaped face, rectangular cross-section with curved angles, and a distinct, almost rectangular butt (Fig. 8:2).

c. The broken flint blade is 6.5 cm long and 2 cm wide (Fig. 8:3). It is unretouched, with no signs of being used. The blade is made of light grey Baltic flint.

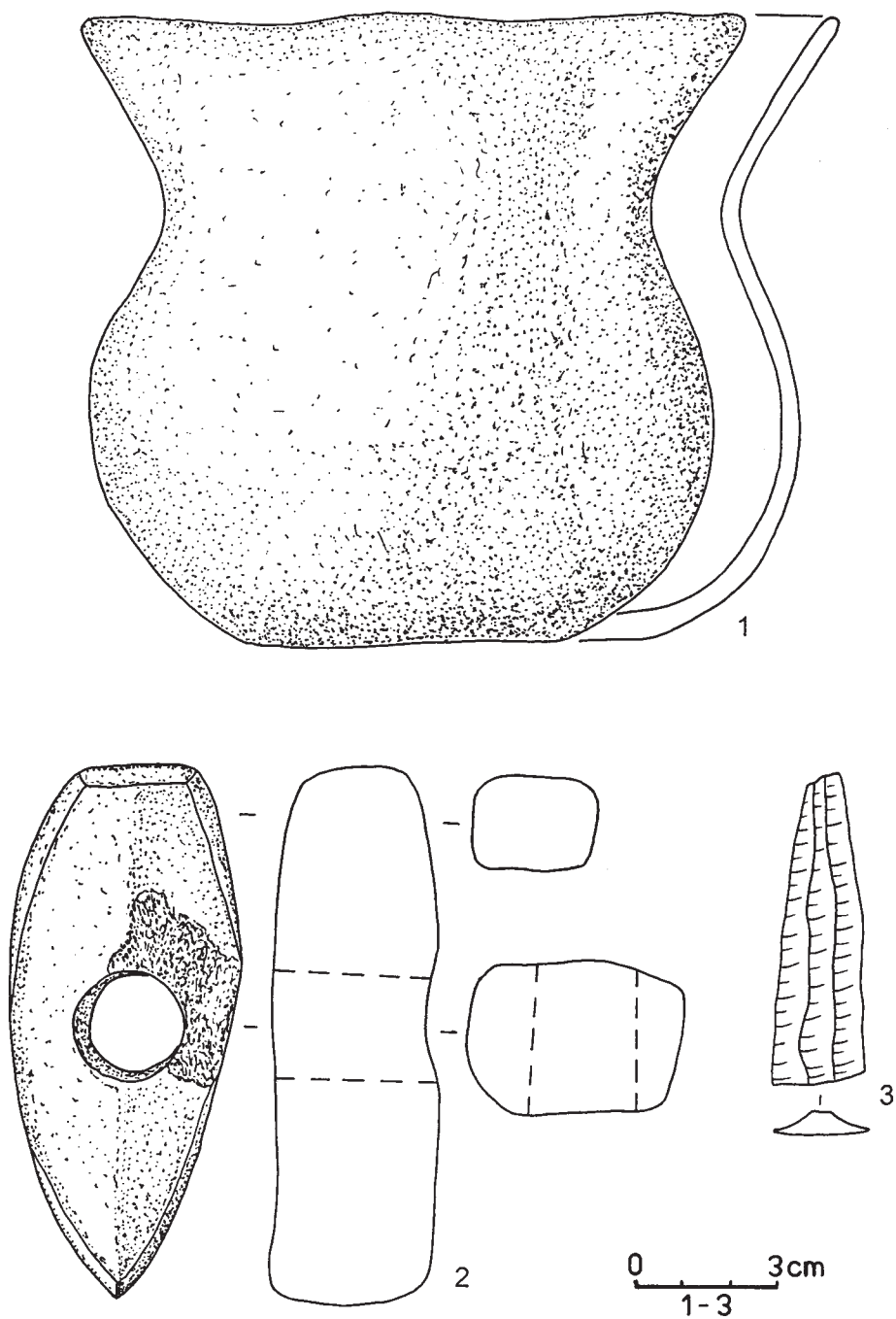


Fig. 8. Parkhuty site 1, Grodna Region. Grave implement (1 - bowl, 2 - stone axe with a hole, 3 - flint blade)

The excavated grave was found at the upper edge of the settlement territory. The individual grave was made according to the burial ritual of inhumation.

The cross-section of the tomb presents an ashy-coal layer at the very bottom, followed by a layer of yellow subsoil, which covered the deceased, and traces of a wooden cover (Fig. 7:2). It is difficult to surmise the location of the deceased, since the skeleton was not preserved. Nevertheless, having analysed the placement of the grave goods and the dimensions of the tomb, and using the data from neighbouring territories, we can speculate that the grave was of a man lying in a foetal position on his side. Such graves in the territory of a settlement is a wide-spread phenomenon for Late Neolithic monuments in Baltic countries [Rimantiené 1984; 1994; Girininkas 1990:99-101], and in Poland [Machnik 1966; Ścibior, Ścibior 1992], and also for Bronze Age monuments of the forest zone of Europe [Artemenko 1967:128-135; Charniauski 1997:308-309]. In the opinion of many researchers, a stone axe with a hole should be defined as an attribute peculiar to the grave of a man [Artemenko 1967:82-83; Kraynov 1972:38-39].

The most crucial culture-determining elements of the grave are considered to be the stone axe with the hole and the bowl. They also solve the problem of the dating of the tomb. The stone axe with the hole is typologically related to I and II types, according to the classification of J.Machnik, made on the basis of finds from the territory of Poland. Such axes occur widely in the majority of the graves of the CWC; they date to the third — the beginning of the second millennium BC [Machnik 1966:41-48]. Finds from Parkhuty site 1 also have analogies among butt hammer-shaped axes of the Fatyanovo culture [Kraynov 1972:38-61], in cemeteries of the Middle Dnieper culture (MDC) near Khodasavichy and Stralitsa [Artemenko 1963:40; 1967:Fig. 14]. Such axes were also widespread at the end of the third — the first half of the second millennium BC in the Niemen basin. [Charniauski, Lakiza 1995:46- 59].

It was not possible to find precise analogies to the bowl from the grave in terms of all three indicators (morphological, technological and the pattern of ornamentation).

Close analogies may be encountered in the CWC in Poland. The pottery from graves at Bosutów, Zesławice, and Książnice bear some resemblance to the bowl from Parkhuty in terms of morphological features [Machnik 1966: Tab. II, IV, XV, XXVII]. In particular, one of the grave bowls discovered on site 59 near Złota has practically the same dimensions and technological peculiarities [Ścibior, Ścibior 1992:Fig. 3.]. J. Ścibior and J.M. Ścibior ascribe this bowl, ornamented with impressions of a cord, and with a flared, cone-shaped neck, to the type II b specified

by J. Machnik, and synchronise it with a central European horizon of the CWC, pointing out the presence of some archaic features.

Some analogies to the bowl in question were found in burial complexes of the Battle-axe culture in Estonia [Yanits 1952:55-57] and Latvia [Moora 1952:3-9]. In Lithuania, where, at the end of the third — the first half of the second millennium BC, the Baltic Coastal culture (Rzucewo culture) was formed, flared-neck rounded bowls with an admixture of sand in dough were widely used, as, for example, was an ornamented vessel with a narrowed neck and high halo from the Sventoi site [Rimantiene 1984: 316- 317, Fig. 104].

M.M. Charniauski also finds analogies to the burial bowl from Krasnoselski flint mines in the territory of the south-eastern Baltic countries [Charniauski 1963; 1997: 308-309, Fig. 111]. This vessel, with a “fir-tree” ornament underneath the edge of the lip, is rather like the bowl from Parkhuty site 1 in terms of its technological (almost smooth surface, dough with an admixture of coarse-grained sand) and morphological features (11 cm high, a diameter at the bottom of 6 cm, walls 5 mm thick) (Fig. 9:1). M.M. Charniauski considers the discovered grave to be linked with the “corded ware” of the Niemen basin influenced by the Rzucewo culture [Charniauski 1996:83; 1997:308-309].

We cannot but mention the resemblance of the bowl from Shchara to the ceramics of the MDC. Our find is similar to the bowls of type III specified by I. Artemenko, but with some differences. Those bowls he revealed in a grave near Khodasavichy and dated to the late phase of the aforementioned culture [Artemenko 1963: 40; 1967: 15, 105]. A range of monuments from the Upper Niemen and upper reaches of the Shchara have been subject to the influence of the MDC. For example, the dimensions and S-shaped cross-section of the vessel from the grave in Rusakova, site 2 (Fig. 9:2) bear a resemblance to the bowls from Krasnoselski and Parkhuty site 1 and they are similar to some ceramic forms from north-eastern Poland and western Lithuania. Ornaments of cut triangles, however, are more characteristic of the MDC [Charniauski 1997:309; Fig. 111].

As a brief typological analysis justifies, the burial complex Parkhuty site 1 should undoubtedly be linked with a circle of CWC. It should also be noted that the majority of analogies were found in the territory of Poland and Baltic countries or within a Circum Baltic Circle of CWC. However, a more definite cultural interpretation of the grave, as well as of the majority of monuments with corded ware in the Niemen river basin, is currently in process. One should bear in mind that in the late Neolithic and early Bronze ages, the Niemen basin is considered to have been a specific contact area of various cultures; monuments from the area have shown traces of the Niemen culture (Dobriy Bor type), the Globular Amphora culture, the Rzucewo culture, and the MDC.

The chronology of the grave from Parkhuty site 1 is determined on the basis of ^{14}C dating made at the ^{14}C laboratory of the State Scientific Center of Environ-

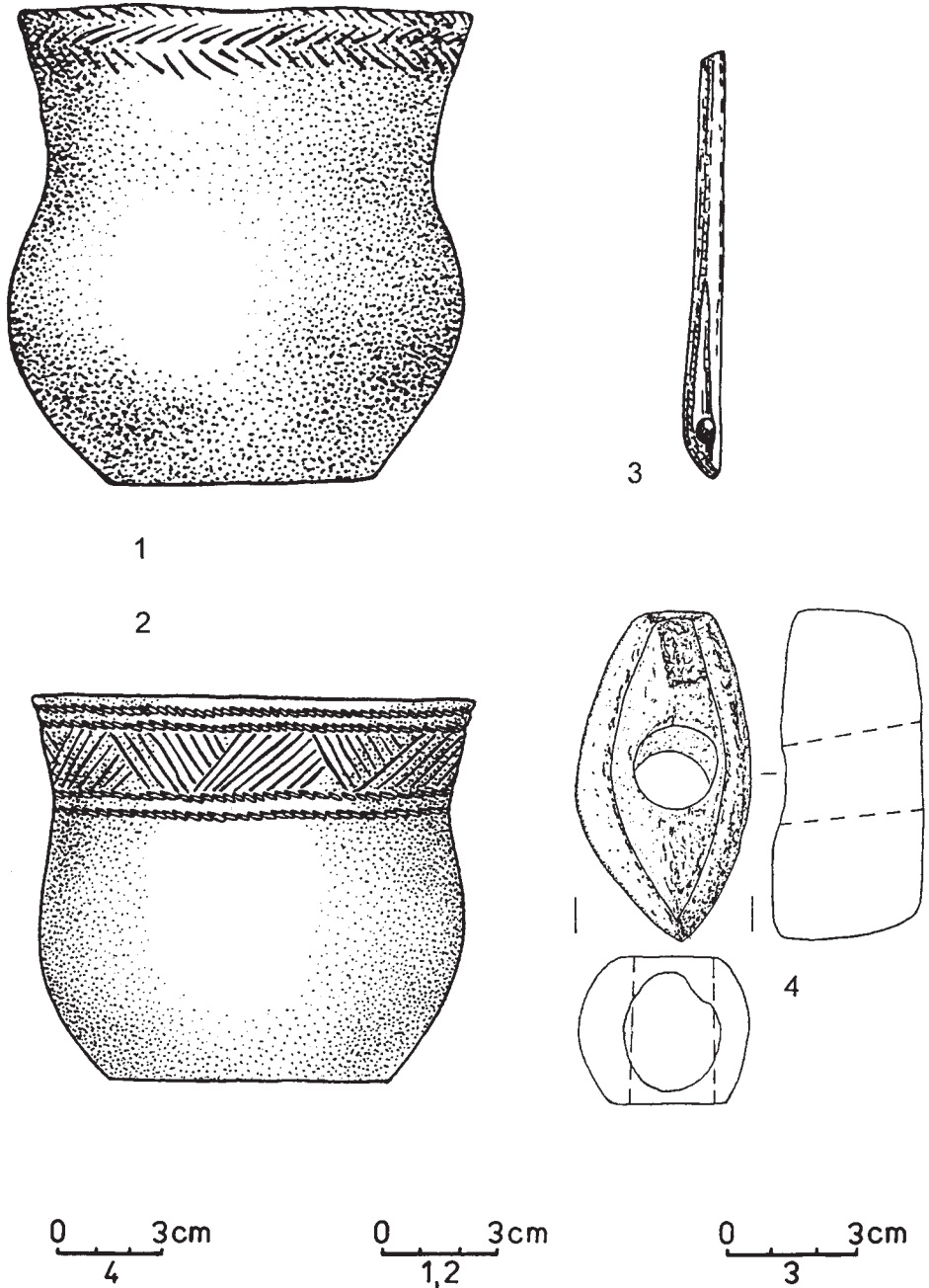


Fig. 9. Grave implement from the Corded Ware culture grave at Rusakova site 2 (2 - bowl; 4 - stone axe with a hole) and from the grave in Krasnoselsk flint mines (1 - bowl; 3 - bone needle)

mental Radiogeochemistry (National Academy of Sciences of Ukraine). The results obtained are shown in the following Table 1.

Table 1

Parkhuty site 1 - the dated complex

No.	Site	Material	Lab. No	Date		
				BP	Cal BC	
					1-sigma	2-sigma
1	Parkhuty 1 grave (feat. No. 14)	Fragment of grave vessel with admixture of charcoals in its dough	Ki-6212	3665±40	2126-2084 2042-1972	2138-1922

Thus, the individual grave discovered in Parkhuty site 1 is preliminarily ascribed to the CWC of the Niemen river basin and dated to the period of the third and second millennia BC (according to calibration dates).

Translated by Marina Lakiza

ABBREVIATIONS

AO	– Arkheologicheskiye otkrytiya, 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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