

## BONE ACCESSORY OF A BRONZE AGE NECKLACE\*

ANCA POPESCU

In the Bronze Age settlements from Sărata Monteoru<sup>1</sup>, Coroteni<sup>2</sup> and Derșida<sup>3</sup> some long plates made of bone with perforations, were discovered as a result of the archaeological investigations (fig. 1/1-4). Such accessories in bone occur on a large area, especially in the Middle Danube zone; they were meant to keep apart the strings of beads (*bone spacer-plate*, *Knochenschieber*) (fig. 3). Taking into account the spreading area, the archaeological context, the types of objects it is associated with, the bone spacer is an important artefact in establishing cross-cultural links between cultural/ceramics groups from the Lower Danube area and Central Europe<sup>4</sup>.

## LIST OF DISCOVERIES\*\*:

Abbreviations: L = length; w = width; th = thickness; C = child; F = female; M = male.

1. ABRAHÁM, Galanta district, Slovakia. Cemetery: 181 skeleton graves. Nitra and Aunjetitz cultures. Grave 83: 2 entire spacer-plates. Nitra culture. A. Točík, *ArchRozhl*, 15, 1963, 6, p. 722, fig. 250.

2. BAKONSZEG, Hajdú-Bihar district, Hungary. Settlement; 7 levels. Cultural context: Otomani B, Gyulavarsánd. Several spacer-plates were identified in the fourth level and only two fragmented pieces were illustrated. M. Sz. Máthé, in T. Kovács, I. Stanczik (eds), *Bronze Age Tell-Settlements of the Great Hungarian Plain I*, IPH, 1, 1988, p. 27-32.

3. BRANČ, Nitra district, Slovakia. Cemetery: 307 skeleton graves. Nitra (237 graves) and Aunjetitz (46 graves) cultures. J. Vladár, *Pohrebiská zo staršej doby bronzovej v Branči in Archaeologica Slovaca-Fontes*, 12, Bratislava, 1973.

Grave 10: crouched position, left side, F; spacer-plate with 8 perforations (L = 5.1 cm, w = 0.6 cm, th = 0.25 cm), 382+102 bone beads, 4 copper tubes, 3 copper spirals, 4 copper hair-rings, bone pin. Nitra culture. J. Vladár, *op. cit.*, p. 14, fig. I/17-25.

Grave 16: crouched position, left, F; 2 spacer-plates with 10 perforations, a spacer's fragment (L<sub>1</sub> = 5.2 cm, L<sub>2</sub> = 6.2 cm, w = 0.6 cm, th = 0.2 cm), 582 bone beads,

\* I express my gratitude to Mr. I. Motzoi-Chicideanu for drawing my attention to this necklace accessory and urging me to write this article. The conclusion I have come to does not coincide with Mr. I. Motzoi-Chicideanu's.

\*\*There are two important studies on this topic that I couldn't use here: S. Kadrow and I. Machnic's "Kultura Mierzanowicka. Chronologia, taksonomia i rozwój przestrzenny", Kraków 1997, which I didn't get in time, and J. Batora's "Das Gräberfeld von Jelšovce/Slowakei. Ein Beitrag zur Frühbronzezeit im nordwestlichen Karpatenbecken", PAS 16, 2000, 1-2, published after I had turned in this article. Fortunately, neither of them affects my conclusions.

<sup>1</sup> E. Zaharia, *Dacia*, N.S., 31, 1987, p. 39, fig. 4/13.

<sup>2</sup> V. Bobi, *VranceaStCom*, 8-10, 1991, p. 17-39, fig. 14/2-5; *idem*, *Materiale*, 1, 1992, p. 31-50, fig. 9/8.

<sup>3</sup> N. Chidioșan, *Contribuții la istoria tracilor din nord-vestul României. Așezarea Wietenberg de la Derșida*, Oradea, 1980, p. 64, fig. 39/29; N. G. O. Boroffka, *Die Wietenberg-Kultur. Ein Beitrag zur Erforschung der Bronzezeit in Südosteuropa*, UPA, 19, 1994, p. 225.

<sup>4</sup> The relations between Monteoru and Wietenberg cultures and other cultural environments out of Romania's territory have been also discussed. I quote only a few studies: E. Zaharia, *Dacia*, N.S., 3, 1959, p. 103-134; A. Točík, *ArchRozhledy*, 15, 1963, 6, p. 716-774; A. Oancea, *Thraco-Dacica*, 1, 1976, p. 59-75; A. Vulpe, in *PAS*, 1, 1982, p. 321-328; E. Sava, *Thraco-Dacica*, 12, 1991, 1-2, p. 15-37; I. Motzoi-Chicideanu, in *PAS*, 11, 1995, p. 219-242; J. Lichardus, J. Vladár, *SlovArch*, 64, 1996, 1, p. 25-93; R. Băjenaru, *SCIWA*, 47, 1996, 3, p. 313-323; A. Vulpe, *Memoriile Secției de Științe Istorice și Arheologie a Academiei Române*, seria 4, tom. 21, 1996 (1997), p. 33-47; N. Boroffka, *Eurasia Antiqua*, 4, 1998, p. 81-135.

faience bead, copper tubes, copper spirals, 3 copper hair-rings, bone piercer, obsidian fragment, 2 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p.16-17, fig. II/15-26.

Grave 17: crouched position, left, F; a spacer-plate with 5 perforations (L = 3.3 cm, w = 0.7 cm, th = 0.3 cm), 78 bone beads, 4 copper hair-rings. Nitra culture. J. Vladár, *op. cit.*, p. 17, fig. III/1-7.

Grave 21: crouched position, left, F; 3 spacer-plates, 2 with 5 perforations and one with 6 perforations (L<sub>1</sub> = 4.2 cm, L<sub>2</sub> = 4.3 cm, L<sub>3</sub> = 4.1 cm, w<sub>1</sub> = 0.7 cm, w<sub>2</sub> = 0.9 cm, w<sub>3</sub> = 0.9 cm, th<sub>1,3</sub> = 0.2-0.3 cm), 202 bone beads, 2 bone beads segments, 5 copper hair-rings, bone pin. Nitra culture. J. Vladár, *op. cit.*, p. 18, fig. III/9-19.

Grave 30: crouched position, left, F; spacer-plate with 5 perforations (L = 4.2 cm, w = 0.9 cm, th = 0.3 cm), 378 bone beads. Nitra culture. J. Vladár, *op. cit.*, p. 20, fig. IV/4-5.

Grave 43: crouched position, left, F; spacer-plate with 6 perforations (L = 3.7 cm, w = 0.6 cm, th = 0.3 cm), 326 bone beads, 9 segments of bone beads, 2 copper tubes, a copper hair-ring, bone piercer, 2 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 23-24, fig. VI/6-11.

Grave 47: crouched position, left, F; spacer-plate with 8 perforations (L = 5.5 cm, w = 0.7 cm, th = 0.7 cm), 240 bone beads. Nitra culture. J. Vladár, *op. cit.*, p. 24, fig. VI/4-5.

Grave 82: crouched position, left, F; 2 fragments of spacer-plates (L<sub>1</sub> = 4.1 cm, L<sub>2</sub> = 2 cm, w = 1 cm, th = 0.3 cm), 420 bone beads, 3 faience beads, 3 copper tubes, copper spiral, 10 copper hair-rings, copper pin with rolled head, one cup, 2 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 32, fig. IX/1-18.

Grave 142: crouched position, left, F; spacer-plate with 6 perforations and one fragment of spacer-plate (L<sub>1</sub> = 4.1 cm, L<sub>2</sub> = 2 cm, w = 1 cm, th = 0.3 cm), 429 bone beads, 10 faience beads, 10 copper tubes, 3 Cardium shells, bone pendant, copper spiral, 6 copper hair-rings, 2 bone pins, bone piercer, 2 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 44-45, fig. XIV/1-18.

Grave 160: crouched position, left, F; 3 spacer-plates, one with 8 perforations and 2 with 6 perforations (L<sub>1</sub> = 5 cm, L<sub>2,3</sub> = 3.8 cm, w<sub>1</sub> = 0.7 cm, w<sub>2,3</sub> = 0.8 cm, th<sub>1</sub> = 4.4 cm, th<sub>2,3</sub> = 0.3 cm), 86 + 175 bone beads, 150 faience beads, 3 Cardium shells, 9 Dentalium, copper spirals, 9 copper tubes, 13 copper hair-rings, 2 copper bracelets, copper necklace with more spirals (*Halsring*), bone pin. Nitra culture. J. Vladár, *op. cit.*, p. 49-50, fig. XV/1-21, XVI/7-13.

Grave 161: crouched, left, F; a piece of spacer-plate (w = 0.9 cm, th = 0.3 cm), 620+96 bone beads, 5 copper tubes, copper spirals, 8 copper hair-rings, bone pin, 2 cattle ribs. Nitra culture. Vladár, *op. cit.*, p. 50, fig. XVII/2-16.

Grave 170: double grave (F+C). Grave 170a: crouched, left, F; spacer-plate with 8 perforations (L = 5.1 cm, w = 0.7 cm, th = 0.3 cm), 215+218+390 bone beads, 20 faience beads, 10 copper spirals, 9 copper tubes, 14 Dentalium, 8 copper hair-rings, bone pin, bone

piercer, cattle ribs. Nitra culture. Vladár, *op. cit.*, p. 53-54., fig. XVIII/1-19.

Grave 171: crouched, left, C; spacer-plate with 6 perforations (L = 3.6 cm, w = 0.7 cm, th = 0.3 cm), 188 bone beads, 17 Dentalium, copper hair-ring, 2 bracelets, bone pin, 2 cattle ribs and bone rabbit. Nitra culture. J. Vladár, *op. cit.*, p.54-55., fig. XIX/1-9.

Grave 183: crouched, left, F; a piece of spacer-plate (L = 1.5 cm, w = 0.6 cm, th = 0.35 cm), 387 bone beads, Dentalium, 7 copper hair-rings, 2 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 61, fig. XIX/19-28.

Grave 186: crouched, left, F; spacer-plate with 4 perforations, 2 pieces of spacer-plate (L<sub>1</sub> = 3.5 cm, w<sub>1</sub> = 0.7 cm, w<sub>2,3</sub> = 0.6 cm, th<sub>1</sub> = 0.3 cm, th<sub>2,3</sub> = 0.2 cm), 214 bone beads, faience beads, 6 copper tubes, copper spirals, 4 copper hair-rings, 4 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 63-64, fig. XXII/12-22.

Grave 188: crouched, right, C; a piece of spacer-plate (L = 4.1 cm, w = 0.9 cm, th = 0.2 cm), 69 bone beads, 3 copper tubes, 3 boar tusks, bracelet, 2 rings, a piece of dagger, bone piercer. Nitra culture. J. Vladár, *op. cit.*, p. 64-65., fig. XXVI/8-20.

Grave 194: crouched, left, F; spacer-plate with 6 perforations (L = 4.5 cm, w = 0.7 cm, th = 0.3 cm), 233 bone beads, 2 bone pins, vessel, 2 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 67-68, fig. XXIII/12-16.

Grave 196: crouched, left, F; a piece of spacer-plate (L = 3.6 cm, w = 0.8 cm, th = 0.4 cm), 110+381 bone beads, 9 copper hair-rings, copper bracelet, ring, 4 cattle ribs. Nitra culture. J. Vladár, *op. cit.*, p. 70-71, fig. XXIV.

Grave 229: crouched, left, F; a piece of spacer-plate (L = 2.7 cm, w = 0.7 cm, th = 0.4 cm), 272 bone beads. Nitra culture. J. Vladár, *op. cit.*, p. 76-78, fig. XXV/5-6.

Grave 248: crouched, left, F; 3 pieces possibly from the same spacer-plate (w = 0.6 cm, th = 0.35 cm), 53 bone beads, 5 bone beads segments, 2 faience beads, copper spiral, 4 copper tubes, 4 copper hair-rings, 2 copper rings. Nitra culture. J. Vladár, *op. cit.*, p. 83, fig. XXIX/8-20.

Grave 267: crouched, left, F(?); spacer-plate with 5 perforations (L = 4.9 cm, w = 0.8 cm, th = 0.4 cm), 4 pieces of spacer-plate (w = 0.7 cm, th = 0.3 cm), 351 bone beads. Nitra culture. J. Vladár, *op. cit.*, p. 84-85, fig. XXIX/22-25.

Grave 297: crouched, left, F; a piece of spacer-plate (w = 0.8 cm, th = 0.4 cm), 38 bone beads, 10 bone beads segments, 2 faience beads, 2 copper tubes, 3 Dentalium, 2 copper hair-rings, bone pin, bone instrument. Nitra culture. Vladár, *op. cit.*, p. 89-90, fig. XXXI/3-11.

4. COROTENI, Vrancea district, Romania. Settlement. Monteoru culture, phase IC<sub>4.3</sub>. In the dwelling no. 1 (l = 11.5 m, depth about 2.60 m) 3 entire bone spacer-plates and a piece of bone spacer were discovered. V. Bobi, VranceaStCom, 8-10, 1991, p. 17-39, fig. 14/3-5.

5. DERȘIDA, Sălaj district, Romania. Settlement; 5 levels, numbered from down to top. Wienberg culture. In level no. 1: 3 bone spacer plates. N. Chidioșan, *Contribuții la istoria tracilor din nord-vestul României*.

- Așezarea Wietenberg de la Derșida*, Oradea, 1980, p. 64, fig. 39/29.
6. JELŠOVCE, Nitra district, Slovakia. Cemetery: 226 skeleton graves. Chľopice-Veselé, Nitra, Aunjetitz, Maďarovce cultures. Grave 313: crouched, left, B(?), Maturus II; spacer-plate with 9 perforations (L = 6.5 cm), 170 antler beads, 3 copper hair-rings. Aunjetitz culture, Nitra-Aunjetitz stage. J. Bátor, in T. Kovács (eds), *Studien zur Metallindustrie im Karpatenbecken und den benachbarten Regionen* (Festschrift für Amália Mozsolics zum 85. Geburtstag), 1996, p. 61.
7. KOMJATICE I, Nové Zámky district, Slovakia. Cemetery: 100 skeleton graves. Culture Nitra. Grave; spacer-plate with 6 perforations (L = 3.8 cm), 177 antler beads, hair-ring. Točík also presents a piece of spacer-plate without mentioning the context. A. Točík, *Výčapy-Opatovce a ďalšie pohrebiská zo staršej doby bronzovej na juhovýchodnom Slovensku*, Nitra, 1979, p. 162, fig. LXIV/16-17.
8. LUDANICE-Mýtna Nová Ves, Topoľčany district, Slovakia. Cemetery. Nitra and Aunjetitz cultures. Grave 376: crouched, left; spacer-plates with 4 perforations (L = 4 cm, w = 0.9 cm, th = 0.3 cm), 165 antler beads, 2 bone tubes, 3 hair-rings, bone pin, bone piercer, cup. Aunjetitz culture, Nitra-Aunjetitz stage. J. Bátor, PAS, 1996, p. 62-63., fig. 6/1-10.
9. MIERZANOWICE, Tarnobrzeg district, Poland. Settlement and cemetery. Mierzanowice culture. Spacer-plate with 13 perforations. J. Machnik, *Frühbronzezeit Polens (Übersicht über die Kulturen und Kulturgruppen)*, Prace Komisji Archeologicznej, 15, 1977, p. 75, fig. XI/28.
10. RUMANOVÁ, Nitra district, Slovakia. Grave. Aunjetitz culture, classical stage. A piece of spacer-plate (L = 4 cm, w = 1 cm), bone beads. V. Furmánek, L. Veliachik, J. Vladár, PAS, 15, 1999, p.144, fig. 68/36.
11. ŠAĽA I, Galanta district, Slovakia. Cemetery: 44 skeleton graves. Nitra culture. Grave 9: crouched, left, F; spacer-plate with 6 perforations (L = 4.5 cm), 100 antler beads. A. Točík, *op .cit.*, p 147, fig. LX/7.
12. ŠAĽA II, Galanta district, Slovakia. Cemetery: 12 skeleton graves. Nitra culture. Grave 5/63: crouched, left ; 2 pieces of spacer-plate (L<sub>1</sub> = 1.2 cm, L<sub>2</sub> = 1.5 cm), 80 antler beads, 3 bronze hair-rings. A. Točík, *op .cit.*, p.157, fig. LXII/1-5.
13. SĂRATA MONTEORU, Buzău district, Romania. Settlement: 12 levels (from down to top: IC<sub>4-1</sub>, IC<sub>4-2</sub>, IC<sub>4-3</sub>, IC<sub>3-1</sub>, IC<sub>3-2</sub>, IC<sub>3-3</sub>, IC<sub>2-1</sub>, IC<sub>2-2</sub>, IC<sub>1</sub>, Ib, Iia, Iib). Monteoru culture. A piece of bone spacer-plate comes from IC<sub>4-2</sub>. E. Zaharia, *Dacia*, N.S., 31, 1987, p. 39, fig. 4/13.
14. STRZYŻÓW, Zamość district, Poland. Settlement. Strzyżów culture. A piece of spacer-plate (L = 6.9 cm, w = 1.6 cm, th = 0.2 cm). J. Głosik, *MatStar*, 7, 1961, p. 136, fig. VII/3; J. Machnik, *op .cit.*, fig. XV/20.
15. ŚWINIARY STARE, Sandomierz district, Poland. Cemetery. Mierzanowice culture. Grave 59: crouched, right; spacer-plate with 3 perforations (L = 2 cm, w = 0.8 cm, th = 0.5 cm), arrowhead, a boar tusk. J.I.A. Kraussowie, *MatArch*, 12, 1971, p. 120, 126, fig. 28.
16. SZARBIA, Kielce district, Poland. Cemetery ; 40 skeleton graves. Mierzanowice culture.
- Grave 3/III : NE-SW, poorly conserved ; a piece of spacer-plate, possibly with 8 perforations (L = 7.8 cm, w = 1 cm), faience beads, shell beads, button, silex flint blade, pottery sherds. Mierzanowice culture, classical phase. B. Baczyńska, *Cmentarzysko kultury mierzanowickiej w Szarbi, woj. Kieleckie. Studium obrządku pogrzebowego*, Kraków, 1994, p.62, fig. IIIA. Grave 16/IX: poorly conserved; a piece of spacer-plate (L = 2.9 cm, w = 0.8 cm), 13 faience beads, 16 shell beads. Mierzanowice culture, unspecified phase. B. Baczyńska, *op.cit.*, p. 74, fig. XXV A.
17. VELKY GROB, Galanta district, Slovakia. Cemetery: 65 skeleton graves. Nitra and Aunjetitz cultures. Grave 61: SSE-NNW, F; a piece of spacer-plate, 23 faience beads, 170 bone beads, 2 collar wires (*Halsketten*), spirals, 4 rings, 6 hair rings, washer-shaped head pin. Nitra culture, Nitra-Aunjetitz stage. B. Chropovský, in B. Chropovský, M. Dušek, B. Polla (eds), *Gräberfelder aus der älteren Bronzezeit in der Slowakei I*, Bratislava, 1960, p. 12-136.
18. VOZOKANY, Galanta district, Slovakia. Cemetery. Aunjetitz culture. Grave 3: spacer-plates with 4 perforations, bone beads. M. Novotná, in J. Bátor, J. Peška (eds), *Aktuelle Probleme der Erforschung der Frühbronzezeit in Böhmen und Mähren und in der Slowakei*, Nitra, 1999, p. 97-100, fig. 1/2.
19. VÝČAPY-OPATOVCE, Nitra district, Slovakia. Cemetery: 317 skeleton graves. Nitra culture.
- Grave 56: crouched, left, F; spacer-plate with 5 perforations (L = 3.9 cm, w = 0.9 cm), 32 bone beads, bone piercer. A. Točík, *op .cit.*, p.76, fig. XXXV/18-20. Grave 116: crouched, left, F; a piece of spacer-plates (L = 2.2 cm, w = 0.8 cm), 220 antler beads, 7 bronze tubes, 6 bronze hair-rings. A. Točík, *op .cit.*, p. 88, fig. XXXIX/11-19. Grave 141: crouched, left, F; spacer-plate with 4 perforations (L = 4.1 cm, w = 1 cm), 97 antler beads, 3 bronze hair-rings, bone piercer, 2 bone instrument. A. Točík, *op .cit.*, p. 93, fig. XL/17-22.

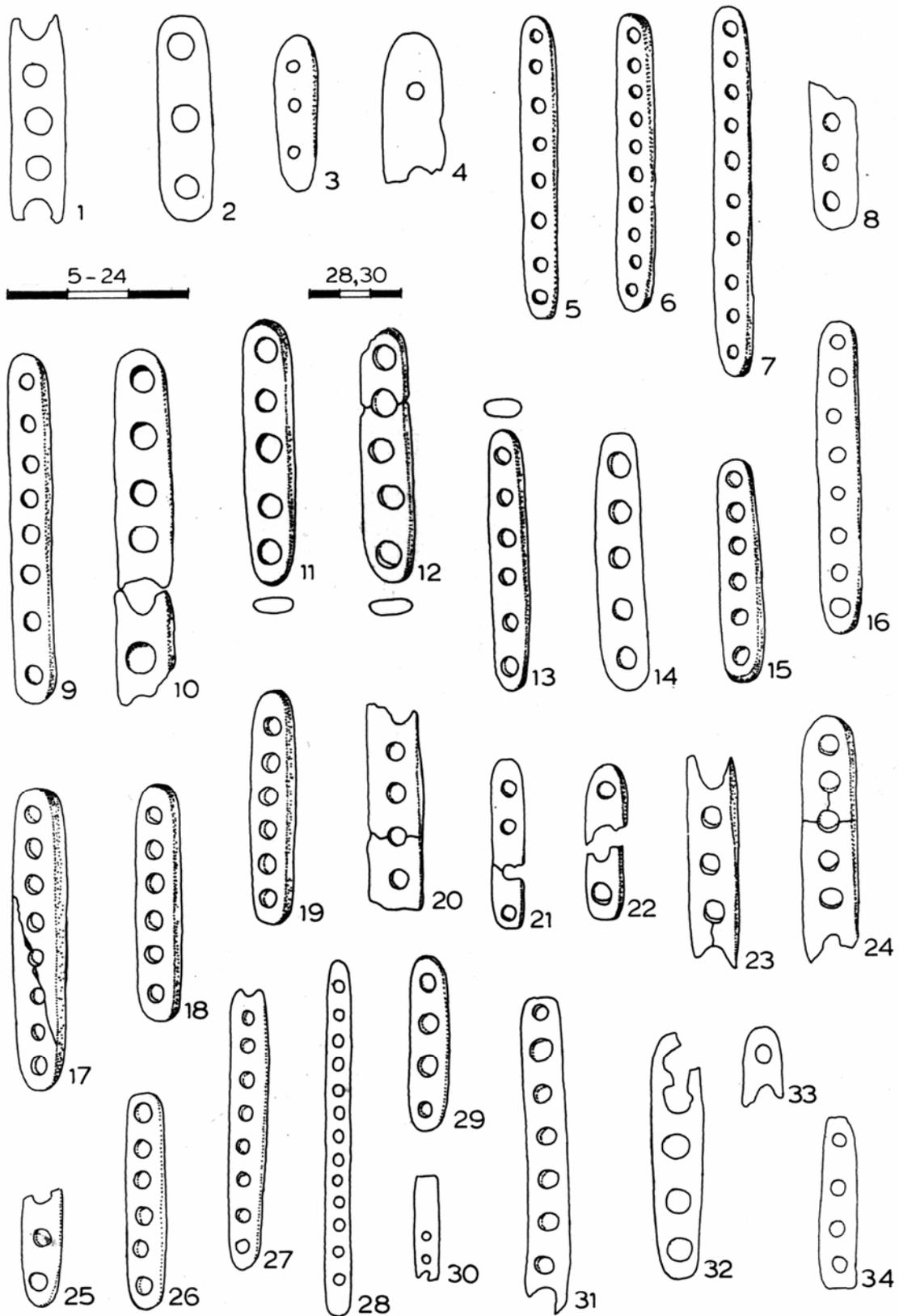


Fig. 1. 1 Sărata Monteoru; 2-4 Coroteni; 5-24 Branč; 25-26 Komjatice; 27 Jelšovce; 28 Mierzanowice; 29 Ludanice-Mýtina Nová Ves; 30 Strzyżów; 31 Szarbia; 32-34 Výčapy-Opatovce (1 after E. Zaharia, 1987; 2-4 after V. Bobi, 1991; 5-24 after J. Vladár, 1973; 23-26, 32-34 after A. Točík, 1979; 27, 29 after J. Bátora, 1996; 28, 30 after J. Machnik, 1977; 31 after B. Baczyńska, 1994).

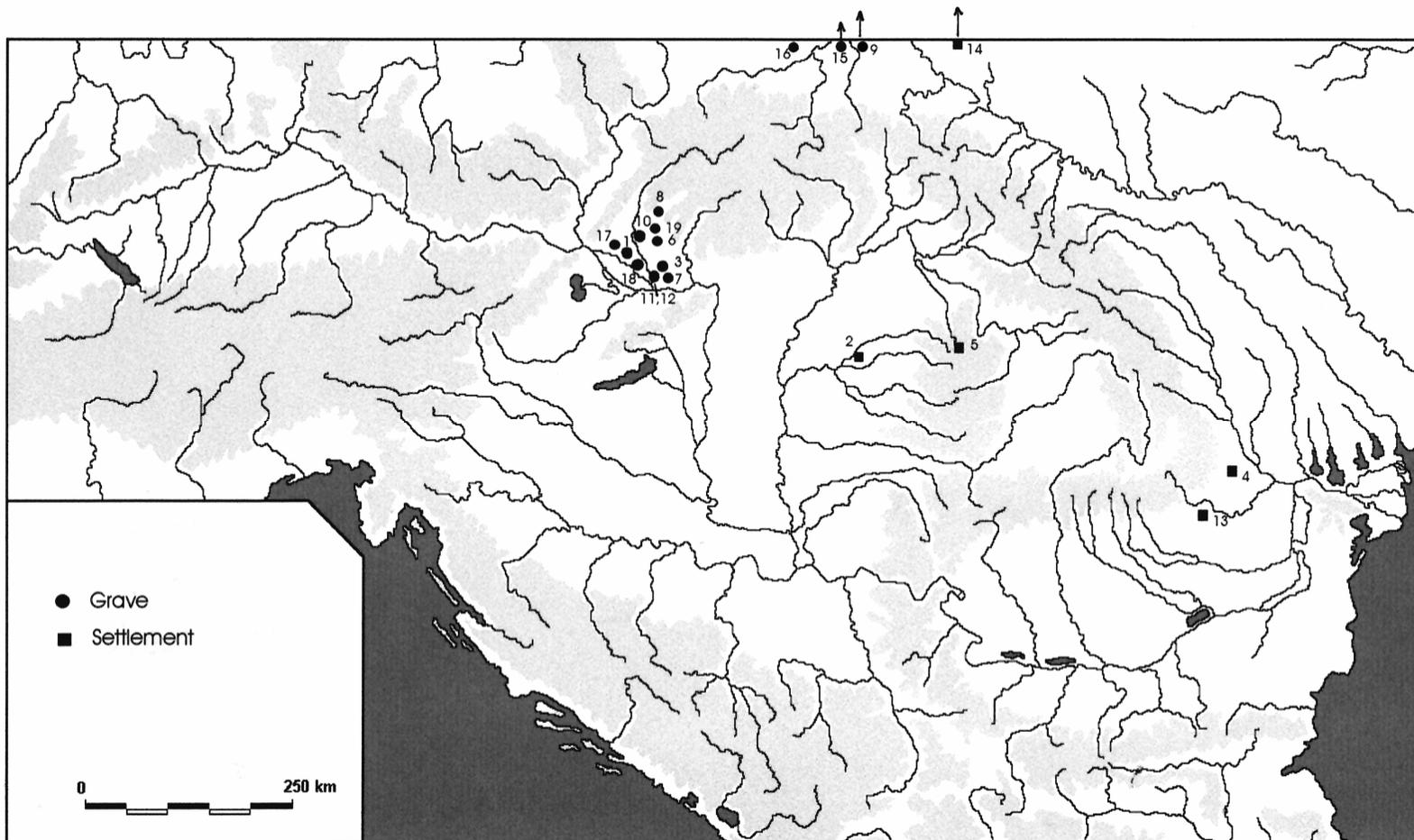


Fig. 2. Distribution of the bone spacer-plates. 1 Abrahám; 2 Bakonszeg; 3 Branč; 4 Coroteni; 5 Derşida; 6 Jelšovce; 7 Komjatice; 8 Ludanice-Mýtina Nová Ves; 9 Mierzanowice; 10 Rumanová; 11 Šal'a I; 12 Šal'a II; 13 Sărata Monteoru; 14 Strzyżów; 15 Świniary-Stare; 16 Szarbia; 17 Vel'ky Grob; 18 Vozokany; 19 Výčapy-Opatovce.

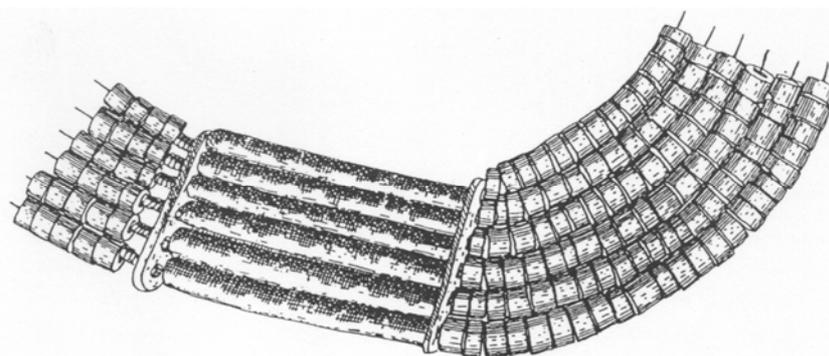


Fig. 3. Reconstruction of the necklace from Branč-Grave 160 (after J. Vladár, 1973).

The distribution of the bone spacer-plates shows an agglomeration in south-western Slovakia, precisely on the middle and lower course of the river Nitra and on the lower course of the river Váh (fig. 2): Abrahám (no. 1), Branč (no. 3), Jelšovce (no. 6), Komjatice (no. 7), Ludanice-Mýtina Nova Ves (no. 8), Rumanová (no. 10), Šal'a I (no. 11), Šal'a II (no. 12), Veľky Grob (no. 17), Vozokany (no. 18), Výčapy Opatovce (no. 19), belonging to the Nitra and Aunjetitz cultures. I know about only one discovery in Hungary at Bakonszeg-“Kádárdomb” (no. 2) which belongs to the Otomani culture. Bone spacer-plates are spread on a large area including also Poland and Romania. In Poland the pieces were located at Mierzanowice (no. 8), Świniary Stare (no. 15), Szarbia (no. 16), attributed to the Mierzanowice culture and Strzyzów (no. 14), belonging to the Strzyzów culture. I have already mentioned that in Romania such artefacts have been discovered in Monteoru and Wietenberg settlements at Coroteni (no. 4), Sărata Monteoru (no. 13), Derșida (no. 5).

In Slovakia, all the samples come from skeleton graves. At Branč, from 237 graves belonging to the Nitra culture 22 contained spacer-plates (9.2%), at Výčapy Opatovce only 3 graves out of 317 (0.9%), at Šal'a I one grave out of 44 (2.2%), at Šal'a II one grave out of 12 (8.3%). So, 28 entire pieces have been published in Slovakia of which 19 discovered at Branč. In Poland, at Świniary Stare and Szarbia, the spacer-plates were discovered in graves while at Strzyzów they were found inside the settlement. At Bakonszeg (Hungary) the pieces were in the settlement too. In Romania all pieces were discovered only inside the settlement. The concentration of the items in Slovakia suggests that here is the “core” area. The standardization of the set adornment probably imposed the presence of a certain ceremonial equipment of which the spacer-plate was part (having mostly a functional use).

As regards the shape of this necklace accessory, in most cases, the spacer-plate has rounded ends. There are only three samples with cut off ends (an entire piece at Výčapy Opatovce Grave 141, a fragment at Bakonszeg and another one at Strzyzów) which makes me consider them to be random appearances, a typology on this criterion being irrelevant. A typology of spacer-plates can be established taking into account the number of perforations. For the entire pieces it varies from 3 to 13. Out of 33 entire pieces 4 have 3 perforations (Świniary Stare-1, Coroteni-3), 19 between 4 and 6 perforations, 7 between 8 and 10 and only one sample has 13 perforation (Mierzanowice). The observation regarding the number of perforations could be important because a higher number of them suggests a necklace with more strings of beads, more elaborated corresponding eventually to more luxurious clothing. A certain meaning may also have the link between the existence of spacer-plates with a different number of perforations in the same grave and their disposal around the deceased (Branč- Graves: 16, 21, 142, 160, 186, 267). The bone spacer-plates were found by the neck, the chest or the pelvis but also by the legs of the deceased (fig. 4-6). In the case of the samples found by the neck or chest it is plausible that the necklace to which the bone spacer belonged was an adornment “worn” by the deceased at the time of the burial. For the samples found close to the basin or legs there are two assumptions. According to one, the beads and the spacer-plates had been sewn on the clothes (in which case the utility of the spacer-plate is not justified; it is a clothing element and not a necklace accessory). According to the other, the necklace with the spacer-plates was placed inside the grave, close to the deceased or over him. An example could be Grave 186 at Branč where 2 bone spacer-plates fragments along with 320 bone beads, 6 copper tubes,

14 copper spirals were found by the deceased's chest and a bone spacer along with 214 bone beads, a faience bead and a copper tube were found by the legs. In most cases the spacer-plates were discovered in women's graves<sup>5</sup>. Grave 171 and Grave 188 belong to children. The child from Grave 188 at Branč and the deceased from Grave 59 at Świniary Stare were buried according to the male ceremony (male disposal rule)<sup>6</sup>. As one can notice, the graves furniture is unitary: there are necklace accessories – bone beads, glassy paste beads, copper beads, shells, snails, animal teeth, bone pendants, copper spirals, copper tubes –, jewelry for the head (*Weidenblattförmige*, *Noppenringe*), spirally bracelets, rings, washer-shaped head pin (*Scheibenkopfnadel*), bone pins, stone and bone instruments, cattle ribs. A few graves contain pottery (entire vessels: Branč- Graves 82 and 194, Ludanice- Grave 376; pottery sherds: Szarbia- Grave 3/III).

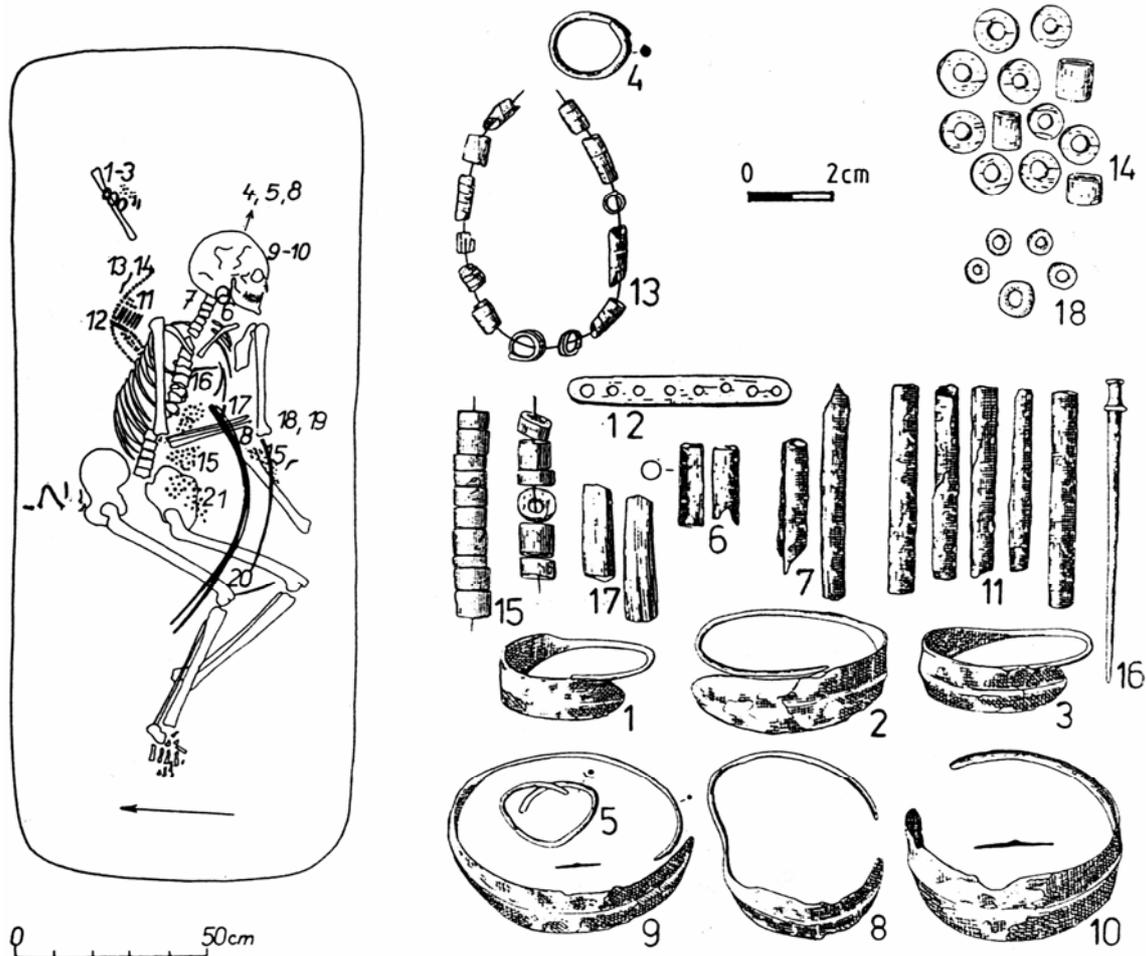


Fig. 4. Branč-Grave 170 (after J. Vladár, 1973).

In Slovakia, the spacer-plates were discovered in graves belonging to the Nitra and Aunjetitz cultures<sup>7</sup>. Contacts between these cultures had already existed since the early phase of the Aunjetitz culture

<sup>5</sup> There are anthropological determinations for the Branč graves. For the other cemeteries the sex determination was established by taking into account the funerary inventory, see J. Bátor, in J. Bátor, J. Peška (eds), *Aktuelle Probleme der Erforschung der Frühbronzezeit in Böhmen und Mähren und in der Slowakei*, Nitra, 1999, p. 41-52, and the afferent literature.

<sup>6</sup> In the Nitra and Mierzanowice cultures the men were buried in a flexed posture on the right side, W-E oriented, and women in a flexed posture, on the left side, E-W oriented.

There are some deviations from the standard orientation, but the bipolarity rule is maintained in such cases too. For the deceased disposal rules, see M. Primas, *BerRGK*, 58, 1977, 1, p. 75-76.

<sup>7</sup> The Nitra culture was divided into three stages: the early stage (directly related to Chłopice-Veselé culture); the classic and the late stages (the last frequently called the Nitra-Aunjetitz stage). The local aspect of the Aunjetitz culture in Slovakia was divided into three stages: Nitra-Aunjetitz (or the late phase of the Nitra culture in which Aunjetitz elements

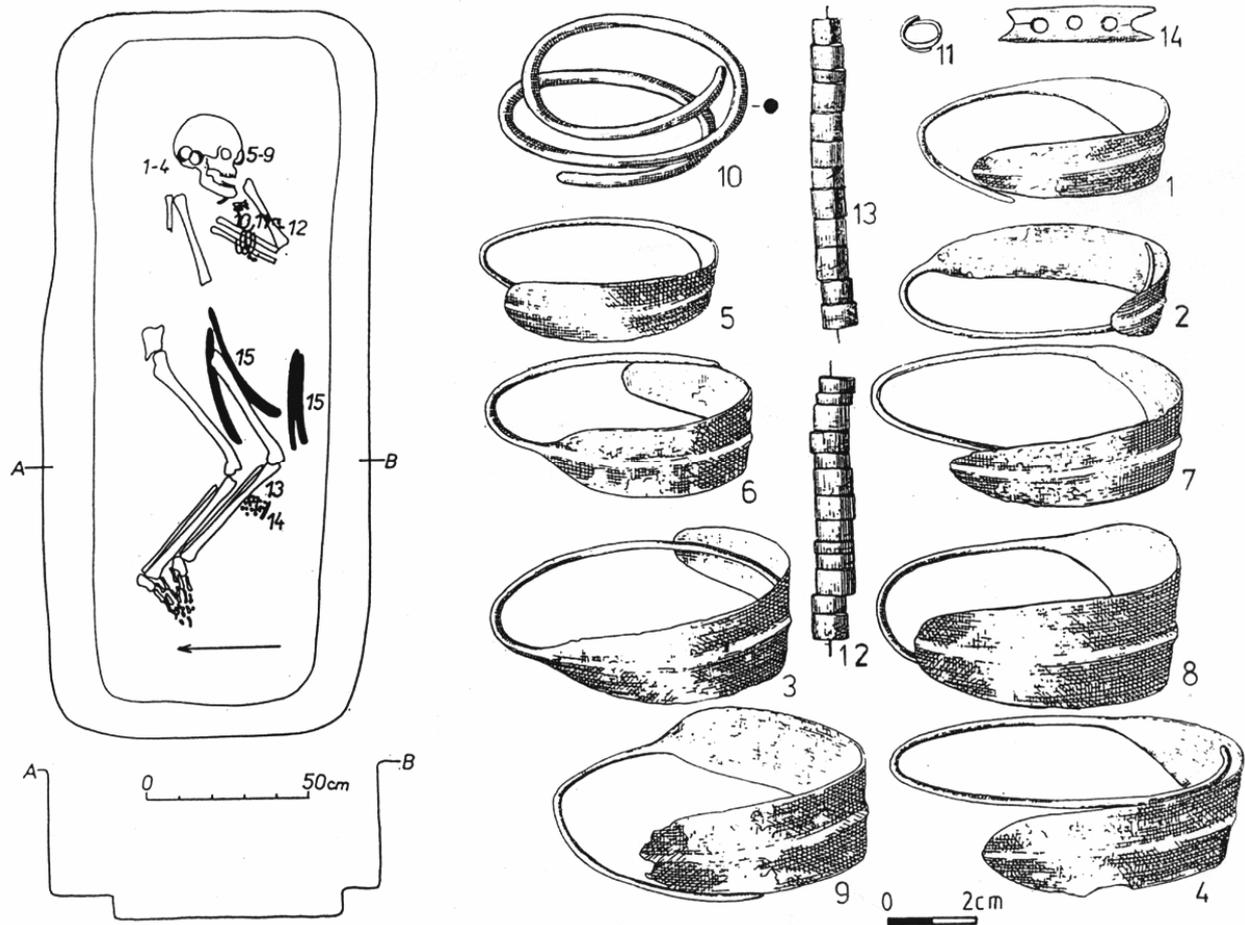


Fig. 5. Branč-Grave 196 (after J. Vladár, 1973).

(phases 2 and 3 known as *Altaunjetitz* and *Mittelaunjetitz* in line with Moucha's chronology)<sup>8</sup>; but they increased during the fourth phase (*Vorklassische*) of the Aunjetitz culture<sup>9</sup>. Typical products of these Aunjetitz phases were found in the cemeteries from Ludanice, Vel'ky Grob, Jelšovce, in Slovakia<sup>10</sup>. There are links between the southwestern Slovakia and eastern Moravia (Nitra culture) and southern Germany (Singen group). Thus, an "atlantic" dagger similar to those from the Singen graves was found in Grave 182 at Branč<sup>11</sup>. Furthermore, a faience bead from Grave 82 in the Singen cemetery has the chemical composition similar to the one of the beads discovered in the settlements from eastern Moravia<sup>12</sup>. Wiselburg pottery was found in Grave 82 at Branč (the grave contains a bone spacer-plate) but also in the

appear); the classical Aunjetitz and the Aunjetitz-Mad'arovec stages. As one may notice, there are a few vaguenesses in the cultural attribution of the Nitra-Aunjetitz phase. In the list of spacer-plate finds I have observed the cultural attribution indicated by the authors. See, A. Točík, J. Vladár, *SlovArch* 19, 1971, p. 365-422; A. Točík, *Výčapy-Opatovce a ďalšie pohrebiská zo staršej doby bronzovej na juhovýchodnom Slovensku*, Nitra, 1979, p. 34-40; M. Novotná, B. Novotný, in N. Tasić (ed.), *Kulturen der Frühbronzezeit des Karpatenbeckens und Nordbalkans*, Beograd, 1984, p.299, 307-309; *idem*, *ActaAKøb*, 67, 1996, p. 91; J. Batora, *SlovArch*, 39, 1991, 1-2, p. 91; V. Furmánek, L. Veliáčik, J. Vladár, in *PAS*, 15, 1999, p. 28-29, 38; M. Novotná, in J. Batora, J. Peška (eds), *op. cit.*, p. 99 (n. 5).

<sup>8</sup> V. Moucha, *FontesArchPrag*, 4, 1961, p. 32-35; M. Novotná, B. Novotný, in N. Tasić (ed.), *op. cit.*, p. 302.

<sup>9</sup> M. Novotná, B. Novotný, in N. Tasić (ed.), *op. cit.*, p. 308.

<sup>10</sup> *Ibidem*.

<sup>11</sup> J. Vladár, *Pohrebiská zo staršej doby bronzovej v Branči*, Bratislava 1973; R. Krause, *Die endneolithischen und frühbronzezeitlichen Grabfunde auf der Nordstradterasse von Singen am Hohentwiel*, Stuttgart, 1988, p. 56-63 (I quote on Singen); *idem*, *ActaAKøb*, 67, 1996, p. 73-86; B. Becker, R. Krause, B. Kromer, *Germania*, 67, 1989, 2, p. 426-442; S. Gerloff, *PZ*, 68, 1993, 1, p. 75-76 (especially note 48); M. Novotná, B. Novotný, *ActaAKøb*, 67, 1996, p. 88, 91.

<sup>12</sup> R. Krause, *Singen*, 1988, p. 101-103; J. Batora, *SlovArch*, 39, 1991, 1-2, p.104; *idem*, *PAS*, 11, 1995, p. 189.

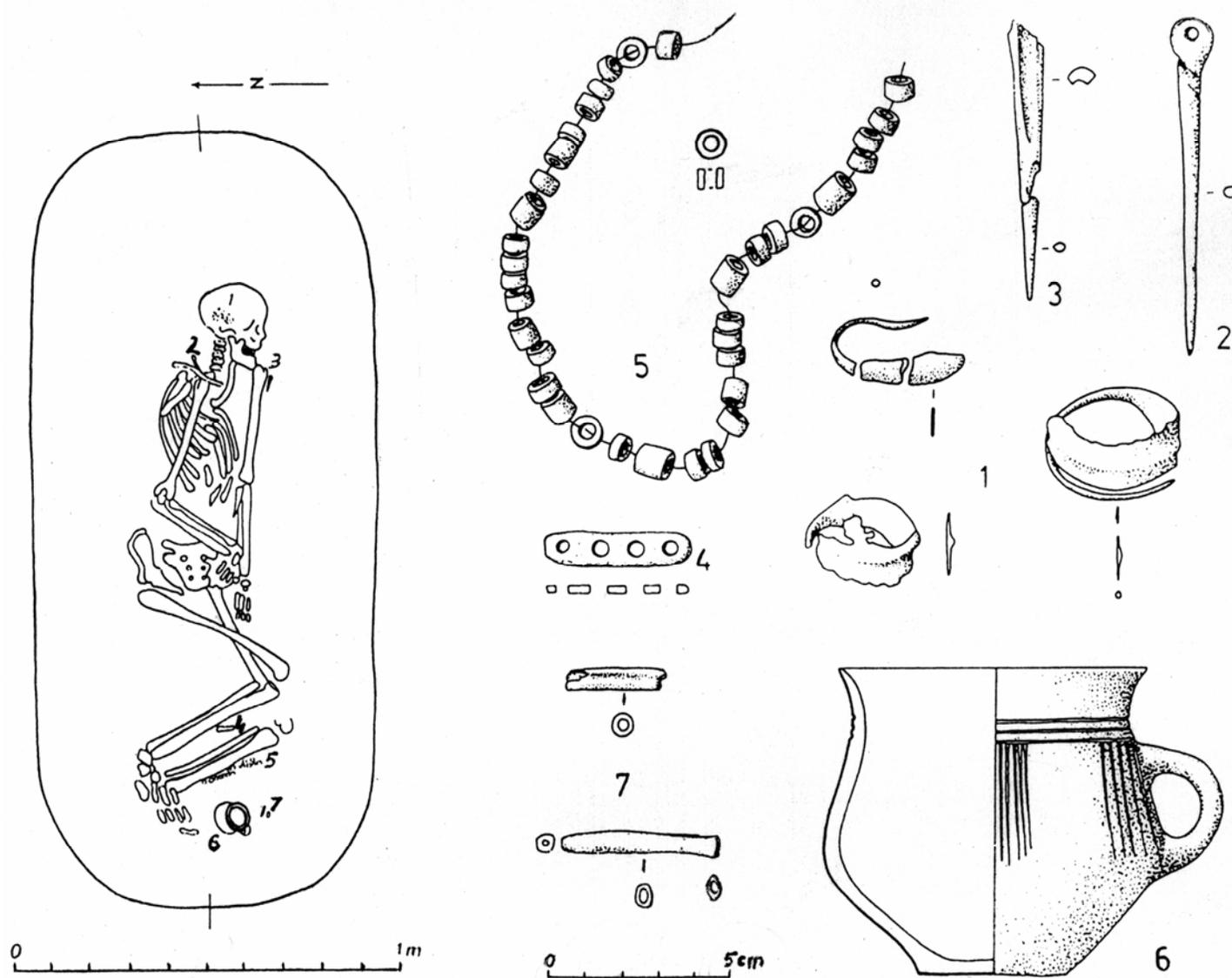


Fig. 6. Ludanice-Grave 376 (after J. Bátor, 1996).

inventory of some graves at Vel'ky Grob<sup>13</sup>. At Szarbia, one of the graves, containing spacer-plates was assigned to the classic phase of the Mierzanowice culture<sup>14</sup>. The chronological phase has not been specified for the other grave. The Nitra culture is partially contemporary with the Mierzanowice culture, more exactly with the early and classic phases. On the other hand, contacts between the Mierzanowice and the Aunjetitz cultures have been noticed, especially at the level of the third and fourth phases of the latter<sup>15</sup>. As regards the chronological position of the Strzyżów culture it is considered that its evolutions started with the middle stage of the classic phase and continued along the late phase of the Mierzanowice culture<sup>16</sup>. A few bone spacer-plates have been identified on the fourth level of the Bakonszeg settlement, assigned to the end of the Otomani I culture (broom-stroked decoration, textile-impressed ornament, incised zig-zags lines)<sup>17</sup>.

As can be seen, the bone spacer-plates circulation is restricted to a well limited chronological sequence corroborated by radiocarbon dating. Five samples were taken from the Branč cemetery, 4 from the Nitra culture and one from the Aunjetitz culture, the Aunjetitz-Mad'arovec phase<sup>18</sup>. Out of the 4 Nitra graves, 3 contain spacer-plates as furniture and one contains the "atlantic" dagger brought earlier as an argument to support the existence of a link between the Nitra culture and the Singen group. The calibrated values of the first four samples show in the area of 1σ the span between 2130-1970 cal BC and in the area of 2σ, 2140-1950/1940 cal BC (fig. 7-10). After the calibration of some <sup>14</sup>C samples from the Jelšovce graves, assigned to the Nitra, Aunjetitz and Mad'arovec cultures, the span resulted is 2140-1480 cal BC<sup>19</sup>. For the Szarbia cemetery there are calibrated values of 8 samples, but all samples have been taken from graves without spacer-plates like furniture<sup>20</sup>. The span resulted in the field of 1σ is 2200-1740 cal BC and with 2σ it is 2300-1650 cal BC. Comparing the results from Szarbia with the calibrated radiocarbon data of the Iwanowice-"Babia Gora" settlement,<sup>21</sup> we can restrict this chronological series. As one can notice, the calibrated radiocarbon data confirm the cultural synchronizations still discussed. Taking into account the values obtained for the Branč cemetery, the most probable time-span of such bone spacer-plates in the Middle Danube area could be 2140-1950 cal BC. Two samples (Bln-1645 and Bln-2499) were taken from the Bakonszeg settlement but in none of the cases the source levels were specified<sup>22</sup>. Thus, we cannot directly correlate these samples with the fourth level where the spacer-plates were found. The first sample is published as originating from a Nyírség context and the second in the Otomani context. In the studies

<sup>13</sup> B. Chropovský, in B. Chropovský, M. Dušek, B. Polla (eds), *Gräberfelder aus der älteren Bronzezeit in der Slowakei I*, Bratislava, 1960, p. 91-117; M. Novotná, B. Novotný, in Tasić (ed.), *op. cit.*, p. 309-310; V. Furmánek, L. Veliačik, J. Vladár, in PAS, 15, 1999, p. 40.

<sup>14</sup> A chronological distinction inside the Mierzanowice culture was possible based on the stratigraphic situation of Iwanowice-"Babia Gora". Moreover, the stratigraphic contexts were correlated with the stylistic series obtained on pottery and provided by radiocarbon data. In this way, the Mierzanowice culture was divided into four stages: Proto-Mierzanowice, identified as the Chłopice-Veselé culture; early Mierzanowice (the second construction phase and the second Iwanowice-"Babia Gora" pottery series); the classical Mierzanowice (the 3-5 construction phases and the third pottery Iwanowice series) synchronized with the Aunjetitz culture starting with the old phase (*Altaunjetitz*) until the beginning of the classical Aunjetitz phase; the late Mierzanowice (the 6-7 construction phases and the fourth Iwanowice pottery series) synchronized with the late phases of the Aunjetitz culture in Bohemia. See, S. Kadrow, *Iwanowice, stanowisko Babia Góra I*, Kraków 1991; S. Kadrow, J. Machnik, PZ, 68, 1993, 2, p.201-241). For Szarbia cemetery, B. Baczyńska, *Cmentarzysko kultury mierzanowickiej w Szarbi, woj. Kieleckie*, Kraków, 1994.

<sup>15</sup> S. Kadrow, J. Machnik, *op. cit.*, p. 223.

<sup>16</sup> S. Kadrow, A.u.J. Machnikowie, *Iwanowice, stanowisko Babia Góra II*, Kraków, 1992, p. 112.

<sup>17</sup> There are also elements characteristic for the Otomani II stage, for instance the incised arches. According to M.Sz. Máthé level 4 belongs to the Otomani B stage or to the so-called Hatvan-Otomani culture. Generally, Hungarian archaeology uses the term Otomani to call what in Romanian literature is known as phase I of the Otomani culture. Things get more complicated because of the use of different notions, such as Nyírség II, Otomani I, Hatvan for the same type of discoveries. M.Sz. Máthé, *ActaArchHungarica*, 36, 1984, 1-4, p. 157; *idem*, in T. Kovács, I. Sanczik (eds), *Bronze Age Tell Settlement on the Great Hungarian Plain, I*, IPH, Budapest, 1988, p. 27-32; P. Roman, *SCIIVA*, 35, 1984, 3, p. 267-269; P. Roman, I. Némethi, *SCIIVA*, 37, 1986, 3, p. 198-232.

<sup>18</sup> S. Gerloff, *op. cit.*, p. 95 (n. 11).

<sup>19</sup> V. Furmánek, L. Veliačik, J. Vladár, in PAS, 15, 1999, p. 17. Neither the exact context nor the BP dates are published for checking.

<sup>20</sup> B. Baczyńska, *op. cit.*, p. 50; M. Pazdur and others, *Radiocarbon*, 36, 1994, 2, p. 257-279.

<sup>21</sup> S. Kadrow, J. Machnik, *op. cit.*, p. 208-209; K. Rassmann, *ActaAKøb*, 67, 1996, p. 20.

<sup>22</sup> P. Raczky, E. Hertelendi, F. Horváth, in W. Meier-Arendt (ed.), *Bronzezeit in Ungarn. Forschungen in Tell-Siedlungen an Donau und Theiss*, Frankfurt am Main, 1992, p. 43-44. (I quote on *Bronzezeit*).

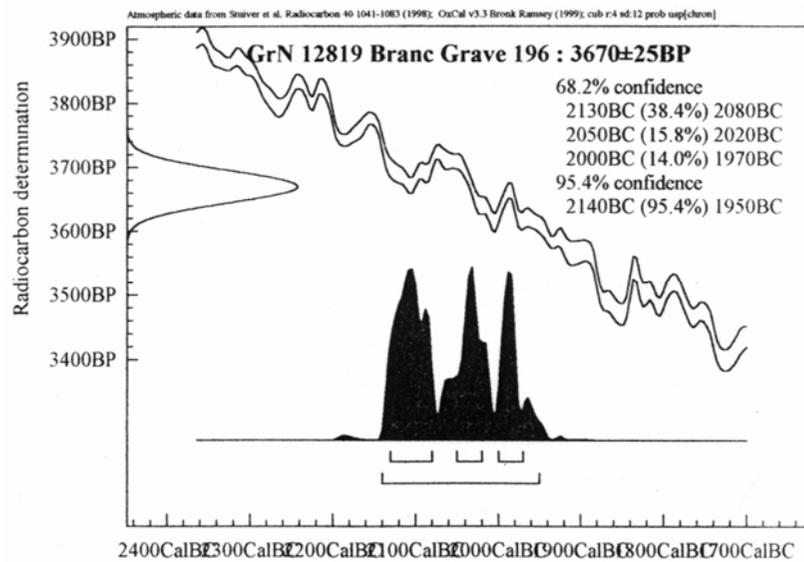


Fig. 7. Histogram of the calibrated date GrN 12819. from Branč-Grave 196.

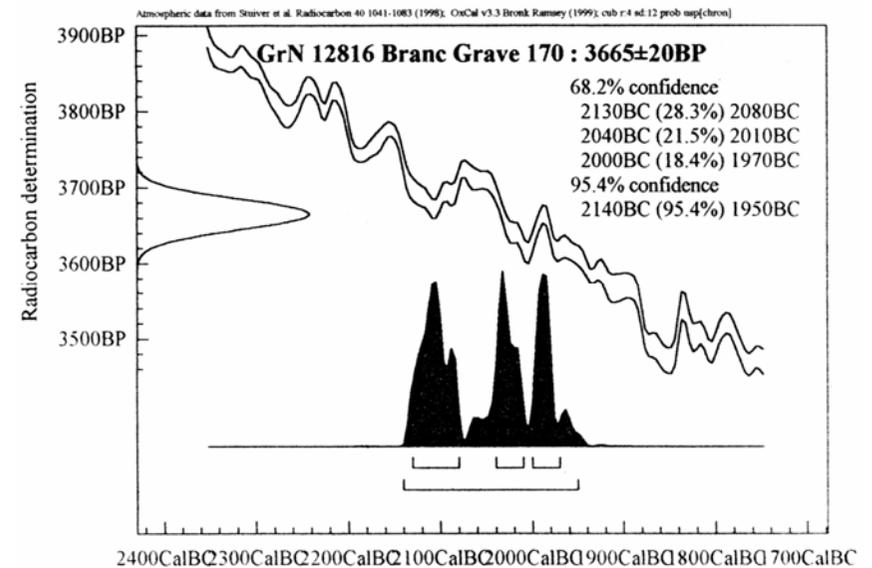


Fig. 8. Histogram of the calibrated date GrN 12816. from Branč-Grave 170.

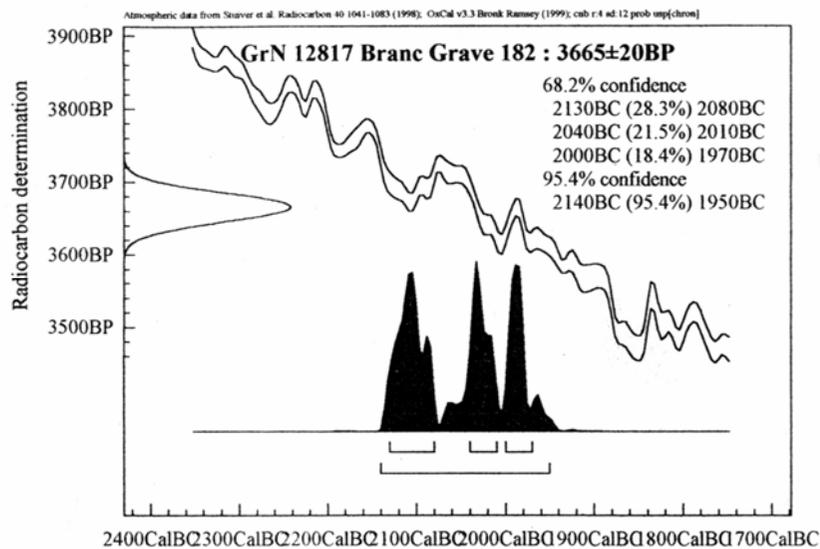


Fig. 9. Histogram of the calibrated date GrN 12817. from Branč-Grave 182.

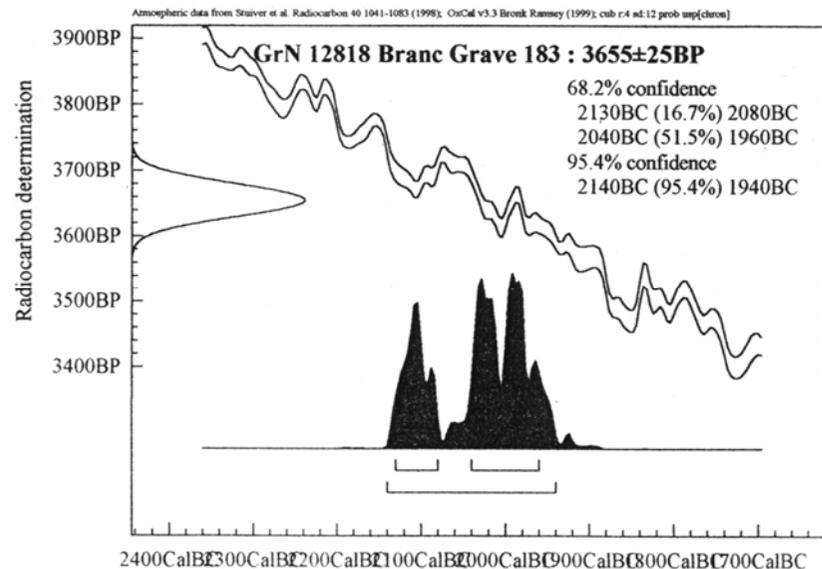


Fig. 10. Histogram of the calibrated date GrN 12818. from Branč-Grave 183.

published so far about the Bakonszeg settlement there is no information about the existence of a Nyírség level. Furthermore, it is argued that the Bakonszeg tell was build during the Otomani period<sup>23</sup>. The age of sample Bln-1645, considered as coming from the Nyírség context, is 3624±40 BP, and the calibrated value is 2050-1880 calBC (2σ, 82.7%), which is too late date for the Nyírség culture. Near Bakonszeg there is the Gáborjan-“Csapszékpart” settlement, which present several Nyírség, Otomani, Gyulavarsánd levels<sup>24</sup>. The calibration of the samples taken from the Otomani levels reveals an older span for the beginning of the Otomani culture than the one showed by the samples taken from the Nyírség context at Bakonszeg<sup>25</sup>. The sample from Bakonszeg may have been attributed to a so-called Nyírség II context, notion used for discoveries which, on other occasions, had been attributed to the first phase of the Otomani culture. The number of levels from the Bakonszeg settlement is 7, counted from top to bottom, out of which 6 are Otomani. We do not know which Otomani level has provided the second sample Bln-2499, but the span it indicates is between 1950-1450 calBC (2σ, 95.4%) which is too late and too wide a sequence for the first phase of the Otomani culture. In conclusion, the span resulted from the calibration of sample Bln-1645 would better fit the period during which the spacer-plate was used in Slovakia, but the sample is published as being taken from the Nyírség context. The span resulted after the calibration of the second Bakonszeg sample (Bln-2499, Otomani level) would fit, but only at its higher limit, the existence period of the spacer-plate as a result of the large margin of error of <sup>14</sup>C sample (±100). In order to clarify this situation we should resort once more to the dates of the samples (Bln-1641: 3680 ± 75 BP; Bln-1643: 3690 ± 40 BP) belonging to the early Otomani context discovered in the Gáborjan-“Csapszékpart” tell<sup>26</sup>: the calibrated value shows a span between 2290-1870 calBC (2σ). This dating is much closer to the ones from Slovakia and it seems to me to be the real one.

In Romania, the spacer-plates were only discovered in settlements, and in a settlement mixture of materials cannot be excluded. So, in the absence of detailed information on the archaeological context, the attribution by living levels of small objects in particularly, may be questionable. The Derşida published pieces originate, according to Chidioşan’s stratigraphic observations, from level I within stage I of Wietenberg culture (stage A1 according to N. Boroffka)<sup>27</sup>. The Sărata Monteoru spacer fragment was attributed to level IC<sub>4.2</sub><sup>28</sup>. At Coroteni, bone spacers were discovered in a so-called dwelling (dwelling no. 1) with several levels separated by hearths<sup>29</sup>. No specification of the level where they were found. V. Bobi noticed no changes in the pottery from one level to another. The dwelling was dated in stage IC<sub>4.3</sub> of the Monteoru culture. In this case, the Coroteni settlement would be the only one in which several IC<sub>4.3</sub> levels exist. The so-called dwelling seems to have several levels and, probably, the lower level is IC<sub>4.3</sub>, but it is not excluded that the higher levels belong to stage IC<sub>3</sub> of the Monteoru culture; such supposition is plausible on account of the differences between IC<sub>4.3</sub> and IC<sub>3</sub> pottery being hard to tell. Anyway, the Coroteni dwelling does not seem to exceed stage IC<sub>3</sub>. It may be noticed that in the three situations there is no satisfactory information concerning the archaeological context of the pieces; consequently, the question arises whether, in the Monteoru environment<sup>30</sup>, the bone spacers belong to the levels wherefrom they are said to have been recovered, or they slipped from a higher level, such fact not being taken into account by the researchers of the two sites. A solution may be the comparison of adornment sets present in the Nitra and Monteoru interments. In graves attributed to the Nitra culture, beads made of glassy paste (the so-called faience), flat-ended leaf-shaped hair rings (*Weidenblattförmige*), double-thread hair rings (*Noppenringe*), “Cypriot” pins (*Schleifennadel*) were discovered which appear in the inventory of late Monteoru graves. But in the Monteoru graves from stages Ia-IIb, the adornment set also includes pieces, probably also imported from the Middle Danube area, having a post-Nitra circulation. Such examples

<sup>23</sup> M.Sz. Máthé, in T. Kovács, I. Stanczik (eds), *op. cit.*, p. 30-32 (n. 17); *idem*, in *Bronzezeit*, p. 166-167.

<sup>24</sup> M.Sz. Máthé, in T. Kovács, I. Stanczik (eds), *op. cit.*, p. 30-32. In the Maghiar terminology the Otomani classical stage is called Fűzesabony or Gyulavarsánd. The use of the two notions does not imply a chronological differentiation, Fűzesabony and Gyulavarsánd being in fact regional variants of the same culture.

<sup>25</sup> *Bronzezeit*, p. 44.

<sup>26</sup> *Ibidem*.

<sup>27</sup> N. Chidioşan, *op. cit.*, p. 64; N. Boroffka, *op. cit.*, p. 249 (n. 3).

<sup>28</sup> E. Zaharia, *op. cit.*, p. 39 (n. 1).

<sup>29</sup> V. Bobi, *VranceaStCom*, 8-10, 1991, p. 17-39; *idem*, *Materiale*, 1, 1992, p. 31-50.

<sup>30</sup> I would rather discuss the chronological implications of the spacer-plate especially for the Monteoru culture which, as compared to the Wietenberg culture, benefits from more numerous stratigraphic observations.

are: heart-shaped pendants, broad bracelets decorated with in-relief longitudinal ribs, the necklace with rolled ends and twisted body. Heart-shaped pendants with central pin<sup>31</sup> are specific for the Füzesabony-Otomani, Mad'arovce, Vatyva cultures, but they have a longer existence, being also present in the inventory of Tumulus culture cemeteries<sup>32</sup>. A heart-shaped pendant – of a different type than the one previously discussed –, discovered in a grave at Căndești<sup>33</sup>, finds the best analogies among the pieces identified in the upper basin of the Tisza<sup>34</sup>, but the earliest occurrences are not dated before the Koszider horizon<sup>35</sup>. Bracelets with longitudinal ribs, similar to the ones from Căndești<sup>36</sup> and Sărata Monteoru<sup>37</sup>, are known in the inventory of the graves and deposits from the late stage of the Aunjetitz culture<sup>38</sup>. In the area of the Middle Danube they are present in the settlements and graves of the Mad'arovce culture (a mould was discovered in the settlement of Nitriansky Hradok, Slovakia, Mad'arovce level)<sup>39</sup>. The “fashion” of such bracelets is spread among the populations of the Tumulus culture cemeteries<sup>40</sup>. A necklace with rolled ends and twisted body was published as belonging to the inventory of a grave in cemetery 2 from Sărata Monteoru, grave dated (as well as whole cemetery) to stage Monteoru Ia<sup>41</sup>; similar pieces are present in late Bronze Age and early Hallstatt<sup>42</sup>. As may be noticed, the graves attributed to late Monteoru stages (Ia-IIb) seem to cover a longer chronological sequence. Taking into account all discussed evidence, I consider that the late stages of the Monteoru culture are subsequent to the Nitra culture and, as such, the spacer-plate is situated in an earlier context within the Monteoru environment.

In conclusion, the bone spacer had a short existence in the Middle Danube area, situated in Br. A<sub>1</sub> period. Also according to the stratigraphic observations from the settlement, the most probable moment of its circulation within the Monteoru environment is placed at the level of the IC<sub>3</sub> stage<sup>43</sup>. The IC<sub>3</sub> Monteoru

<sup>31</sup> Heart-shaped pendants with central pin (variant 4 according to B. Hänsel) were discovered in Grave 666 of the Căndești necropolis and in Grave 31 of the Pietroasa Mică necropolis; both graves were attributed to stage Ib of the Monteoru culture. M. Florescu, A. Florescu, *Materiale* 15, 1983, p. 112-123, fig. 1; A. Oancea, *Dacia*, N.S., 25, 1981, p. 131-191, fig. 14/9; B. Hänsel, *Beiträge zur Chronologie der mittleren Bronzezeit im Karpatenbecken*, Bonn, 1968, p. 115-118.

<sup>32</sup> V. Furmánek, *Die Anhänger in der Slowakei*, PBF, 11, 1980, 3, p. 24-25.

<sup>33</sup> M. Petrescu-Dîmbovița, *Der Arm- und Beinschmuck in Rumänien*, PBF, 10, 1998, 4, p. 62, fig. 174/D. Mention should be made that the vessel was not published based on which the grave had been attributed to the Monteoru culture.

<sup>34</sup> A. Mozsolics, *Bronze- und Goldfunde des Karpatenbeckens. Depotfundhorizonte von Forró und Ópályi*, Budapest 1973, p. 169, fig. 77/ A9. A. Mozsolics, *Bronze- und Goldfunde des Karpatenbeckens. Depotfundhorizonte von Aranyos, Kurd und Gyermely*, Budapest, 1985, p. 132-132, 199-200, 157-158, 169-170, pl. 192/7-8; 195/16-17; 211/11-12, 20; 258/7; T. Kemenczei, *Die Spätbronzezeit Nordostungarns*, Budapest, 1984, p. 182, fig. CLXXXVIa/4-5, 7-8.

<sup>35</sup> A. Mozsolics, *Bronze- und Goldfunde des Karpatenbeckens. Depotfundhorizonte von Forró und Ópályi*, Budapest, 1973, p. 108, 169.

<sup>36</sup> Grave 245 was attributed to the Monteoru stage Ib, but no publication was made of the pottery based on which such attributions had been done. M. Petrescu-Dîmbovița, *op. cit.*, p. 183, fig. 174/E (n. 33).

<sup>37</sup> Grave 2 belongs to cemetery 2 in stage Ia. Again no publication of the pottery which should have certified the cultural attribution. M. Petrescu-Dîmbovița, *op. cit.*, p. 182, fig. 158/2256 (n. 3).

<sup>38</sup> M. Bartelheim, *Studien zur böhmischen Aunjetitzer Kultur- Chronologische und chorologische Untersuchungen*, UPA, 46, 1998, 1, p. 84-85.

<sup>39</sup> E. Schubert, *BerRGK*, 54, 1973, p. 28-29, fig. 11/2; J. Bartík, in J. Bátorá, J. Peška (eds), *op. cit.*, p. 187, fig. 6 (n. 5).

<sup>40</sup> I. Richter, *Der Arm- und Beinschmuck der Bronze- und Urnenfelderzeit in Hessen und Rheinhessen*, PBF, 10, 1970, 1, p. 68-73.

<sup>41</sup> S. Junghans, E. Sangmeister, M. Schroeder, *Studien zu den Anfängen der Metallurgie*, II, Berlin, 1968, p. 238; A. Vulpe, *Jahresbericht des Instituts für Vorgeschichte der Universität Frankfurt*, Frankfurt am Main, 1977, p. 103, fig. 2/12.

<sup>42</sup> U. Wels-Weyrauch, *Die Anhänger und Halsringe in Südwestdeutschland und Nordbayern*, PBF, 11, 1978, 1, p. 162; M. Novotná, *Halsringe und Diademe in der Slowakei*, PBF, 11, 1984, 4, p. 33-34.

<sup>43</sup> It is not certain that every level at Sărata Monteoru is also a stage of this culture. For instance, differences between potteries IC<sub>4.3</sub> and IC<sub>3</sub> or Ia and IIa do not seem essential to me; it is possible that IC<sub>4.3</sub>-IC<sub>3</sub> and Ia-IIa may form each, as reported to the area of the whole culture, one stage. Also, we do not have significant evidence to consider stages IC<sub>1</sub> or Ib, supported by the Sărata Monteoru thin deposits, as being characteristic for the whole area of the Monteoru culture. Most of the finds attributed to these stages originate in surface discoveries, and their number is surprisingly small as compared to the number of the finds of the preceding stage. It is nevertheless possible that actually the IC<sub>2</sub> and Ia-IIa stages may have been much closer in time. But in the present stage of the publication of the Monteoru culture materials, any correction seems premature and would be sooner grounded on “impressions” than on a representative sample. See to this effect the doubts expressed by A. Vulpe, *Dacia*, N.S., 5, 1961, p. 105-122; A. Oancea, V. Drâmbocianu, *SCIVA*, 28, 1977, 4, p. 520; I. Motzoi-Chicideanu, M. Sandor-Chicideanu, *Materiale S. N.*, 1, 1999 (2001), p. 68, n. 15.

stage is seemingly contemporary with the beginning of the Wietenberg culture: at Feldioara, where Wietenberg pottery was identified, were discovered snail-shaped handles and fragments of large vessels with protrusions pulled from the edge and indented existing at Sărata Monteoru in levels IC<sub>4-3</sub>-IC<sub>3</sub><sup>44</sup>. Typical IC<sub>4-3</sub>-IC<sub>3</sub> Monteoru pottery fragments have been also identified in other southeastern Transylvania points, probably representing imports within the Wietenberg environment<sup>45</sup>. I have mentioned that level 4 at Bakonszeg which contains bone spacer-plates, could be attributed to the end of the so-called Otomani I stage or maybe the first part of the Otomani II stage<sup>46</sup>. On the basis of reciprocal imports (especially pottery) between the Otomani and Wietenberg cultures we can estimate a partially simultaneous beginning of both cultural phenomena<sup>47</sup>. It results that the spacer-plates are present within close time spans situated at the IC<sub>3</sub> Monteoru stage and at the beginning of the Wietenberg and Otomani cultures. The discovery in the cultural environments of Monteoru and Wietenberg of necklace accessories frequently met in the Middle and Upper Danube area, allows inclusion of the intra- and extra-Carpathians regions within the larger and more complex phenomenon of goods exchange. Pieces having circulated within a limited period or time, such as the bone spacer-plate, contribute to a more precise chronological positioning of the cultural groups from the Lower Danube. In such context, I consider that the IC<sub>3</sub> Monteoru stage<sup>48</sup> may be contemporary with the Nitra and Mierzanowice (classical stage) cultures, and, implicitly, with the early stage of the Aunjetitz cultural environment, i. e. in absolute dates, 2200-2000 calBC<sup>49</sup>.

<sup>44</sup> N. Boroffka, *op. cit.*, II, fig. 72/5; 73/4-7,8; E. Zaharia, *op. cit.*, fig. 13/3,6; 14/1; *idem*, *Dacia*, N.S., 34, 1990, fig. 19/4; 20/1; 26/3,10.

<sup>45</sup> I. Motzoi-Chicideanu, in *Enciclopedia Arheologiei și Istoriei Vechi a României*, III, București, 2000, p.121-122.

<sup>46</sup> The pottery of this level has analogies with the pottery of Tiszaluc (IIb-III4) and Toszeg (B2 level), attributed to the middle stage of the Hatvan culture. It was noticed partially contemporaneous development of early and middle stages of the Hatvan culture, the first stage and maybe the beginning of the second stage of the Otomani culture and the Nitra culture. See, N. Kalicz, *Die Frühbronzezeit in Nordost-Ungarn*, ArchHung, 45, 1968, fig. 45-50; A. Mozsolics, *ActaArchHung*, 1952, p. 35-69; E. Schalk, *Dacia*, N.S., 25, 1981, p. 63-129; N. Kalicz, in N. Tasić (ed.), *op. cit.*, p. 203-205; E. Schalk, *Das Gräberfeld von Hernádkak. Studien zum Beginn der Frühbronzezeit im nordöstlichen Karpatenbecken*, UPA, 9, 1992, p. 221-224.

<sup>47</sup> For more precision of the relationship between the Otomani, Wietenberg and Hatvan cultural environments, see N. Chidioșan, *op. cit.*, p. 88-90 (n. 3); N. Boroffka, *op. cit.*, p. 286-288 (n. 3).

<sup>48</sup> From Sărata Monteoru two <sup>14</sup>C samples were collected fifty years ago: Bln-3065, 3690 ± 60 ("Cetățuia", level IC<sub>3</sub>, analyzed material: *Hordeum vulgare* and *Triticum dococum*; Bln-4619, 3919 ± 48 (level IC<sub>2</sub>). I. Motzoi-Chicideanu, *op. cit.*, p. 224 (n. 4); N. Boroffka, *op. cit.*, p. 117 (n. 4). After calibration, Bln-3065 indicates as time span 2210-1880 calBC (2σ, 93.5%); Bln-4619 shows 2500-2270 calBC (2σ, 89.5%). The discrepancy between the calibration of the two samples is obvious, in the sense that level IC<sub>2</sub> appears as being older than level IC<sub>3</sub>; in the framework of our discussion, sample Bln-3065 of level IC<sub>3</sub> seems to be the correct one. Calibration of the samples mentioned in the text was performed by program OxCal 3.0.

<sup>49</sup> For a chronology of the Monteoru culture, see R. Băjenaru, *SCIVA*, 47, 1996, 3, p. 313-323; A. Vulpe, in V. Nistor, D. Zaharia (eds), *Timpul Istoriei. Memorie și Patrimoniu (In honorem emeritae Ligiae Bârzu)*, 1997, p. 37-49; *idem*, *Memoriile Secției de Științe Istorie și Arheologie a Academiei Române*, seria 4, tom. 21, 1996(1997), p. 33-47; I. Motzoi-Chicideanu, in *Enciclopedia Arheologiei și Istoriei Vechi a României*, III, București, 2000, p.121-123.