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AN EARLY BRONZE AGE SETTLEMENT PIT WITH HUMAN SKELETAL REMAINS

ABSTRACT — Find of a hitherto unknown settlement belonging to the Únětice Culture made in Brno-Židenice, in January 1986. Four of the discovered objects were located only in remains in the sections of excavation trenches, with fragments of Únětice pottery. The fifth pit (No. 2) 0.7 m deep had a flat horizontal circular floor (\varnothing 2.2 m) in loess. Right at the bottom of the pit there was a "hocker" skeleton of a 50 years old man; it was lying on its right side. On the crouched lower limbs, on the right knee there was a coarse-grained pebble of a red-hued sandstone, with other burial gifts, i.e. two recently damaged vessels, flaked stone artifacts and lumps of red ochre. The trunk has been turned on the belly, an exception among similar finds. The skeleton is complete, there are no dislocations. It is one of the numerous examples of a Bronze Age burial rite in a characteristic pit of the Únětice Culture. The robust skeleton of the 50 years old man with long and high acrocranic skull indicates that the find is very much in line with other skeletal finds of the Early Bronze Age.

KEY WORDS: Bronze Age — Únětice Culture — Moravia.

When digging the foundations for a new foundry hall at the First Brno Engineering Works in Brno-Židenice in January 1986 the workers disturbed a hitherto unknown settlement belonging to the Únětice Culture.

The emergency research realized by the staff of the Anthropos Institute and by the Prehistoric Department of the Moravian Museum in Brno discovered five pits of an Early Bronze Age site of the Únětice Culture and rescued a characteristic pit containing a human skeleton partially disturbed by the excavator.

The nearest site of this type was found in Brno-Černá Pole in 1948–49 (K. Tihelka and V. Hank, 1949). It yielded three Únětice-type pits with six human skeletons.

THE ARCHAEOLOGICAL SITUATION

The site is in the SSW part of the cadastre of Brno-Židenice, on an originally slightly exposed slope on the left-bank terrace of the River Svitava. The emergency research was realized on the excavated site (6.5 × 5.1 m) at the depth of 2.1 m. All five discovered pits were in light yellow-brown loess covered with up to 0.5 m thick layer of black earth, with numerous traces of recent interference, as seen in the sections. Four pits have been preserved in remains, in the sections of the excavation. They yielded several pottery fragments of little importance and they can be

generally placed at the Early Bronze Age. Only one of the pits, No. 2, has been better preserved and on its floor we found a human skeleton partially disturbed by the excavator (*Fig. 1*).

The oblique walls of the pit abruptly passed to a horizontal flat bottom of circular shape (\varnothing 2.2 m), 0.7 m deep in the loess. This part of the pit was filled with black clay. In the north-western part of the pit there



FIGURE 1. General view of the excavated site.

was a skeleton of an adult man. It was situated on the floor of the pit in "hooker" position, lying on his right side, in the SEE-NWW direction. The skull was originally at the centre of the circular pit floor. Parts of the skeleton were damaged during the excavation of the foundation trenches and were lifted prematurely and in an incompetent way. Besides parts of the pelvis, sacrum, lumbar vertebrae, distal end of the left tibia and proximal end of the left femur the entire north-eastern part of the skeleton, including the skull, was affected in this way. It seems that the skull originally rested on the right palm or very close to it, facing NE or NEE. It is, however, quite possible that the skull was facing down, as we know that the trunk of the skeleton was turned on its belly and its chest rested on his bent right arm. The left forearm was near the left shoulder under a sharp angle. The right leg was strongly crouched, with its knee touching the left ulna. The left leg was also bent and its femur rested on the right tibia. On the right knee there was a coarse-grained pebble of a reddish sandstone. A fragment of the braincase and a fragment of a rib were found at the southern edge of the pit. There were also five minor stones, a pottery sherd, a mollusc shell and two small lumps of ochre pigment (Fig. 2).

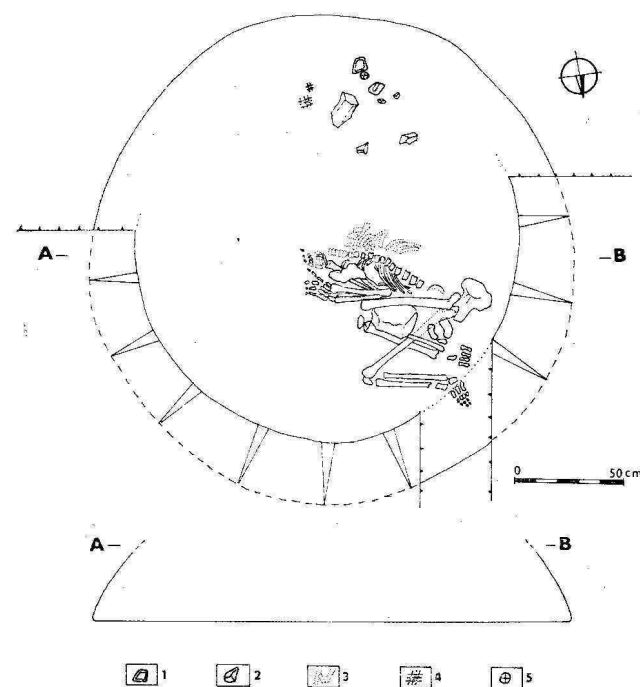


FIGURE 2. Brno-Židenice. Ground plan of the excavation with the situation of the settlement pit (No. 2); 1 — pottery sherd, 2 — stone, 3 — dislocated human bones, 4 — ochre pigment, 5 — shell.

Five pieces of flaked stone artifacts of silicite were removed in an incompetent manner. The silicites were originally situated around the upper limbs. Four of the artifacts are unworked flakes, in three cases with a clear bulb. The fifth specimen is a relatively large flake with smooth base and with an expressive bulb. The material of these finds differs, they are made of three various types of silicites.

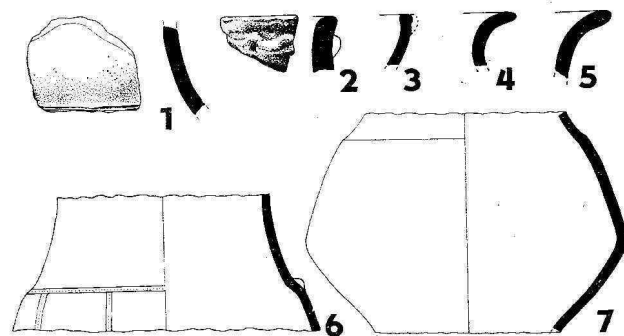


FIGURE 3. 1 — part of the vessel body decorated with engraved motifs, 2 — part of a funnel-shaped rim with decorations, 3 — part of a tapered bowl, 4—5 fragments of rims of various earthenware vessels, 6 — part of the neck of a vessel, the dividing line between the neck and shoulders is decorated with a horizontal line, 7 — part of the vessel with a bent concave part, the shoulders of the vessel are so separated from the bent neck with an edge.

In the earth filling of the pit around the lower limbs there were small fragments of pottery accompanied by small amorphous fragments of pugging. The sherds come from at least eight vessels, it seems that only two of them were complete. Most fragments come from a smaller, relatively thin-walled vessel, most probably a jug. Its higher neck is separated from the shoulders by a not too expressive edge decorated with a series of stabs, bordered with simple grooves. A similar engraved ornamental motif — situated vertically on the edge of the shoulders — and in one case on a protrusion — is decorating also the body of the vessel (Fig. 3/6). From a second vessel — presumably a complete amphora — part of the body has been reconstructed. Its clear-cut more bent concave part is situated somewhat lower and the shoulders of the vessel are also separated from the neck by an edge (Fig. 3/7).

From the rest of the fragments let us mention part of a higher neck of a bigger vessel decorated in the area between the neck and shoulders with an engraved horizontal line (Fig. 3/1), further there is a funnel-shaped rim ornamented with a wavy plastic strip of finger marks or finger-tip impressions (Fig. 3/2), part of a tapered bowl with a groove beneath its rim (Fig. 3/3) and fragments of arched open vessel rims (Fig. 3/4-5).

ANTHROPOLOGICAL FINDS

The skeleton belonged to an adult male. This fact is documented by typical male characters: by the morphological construction of the skull, especially of the supraorbital region, by the size of the mastoid processes and the shape of the mandible with an expressive mental prominence and a typical male pelvis. The whole skeleton has a typical male robusticity.

The skeletal material is well preserved, although there are some minor fractures in the individual bones, they had not been inflicted intentionally. They are covered with flowstone, which means that they are old. Most probably they have been damaged by the pressure of the soil.



FIGURE 4. The skull of a man belonging to the Únětice Culture. 4/a Front view, 4/b Lateral view, 4/c Vertical view with the position of the cranial depression, 4/d Occipital view, 4/e Mandible. Lateral view, 4/f Mandible. Vertical view of the occlusal surface.



FIGURE 5. Detailed view of the depression in the obelion region.

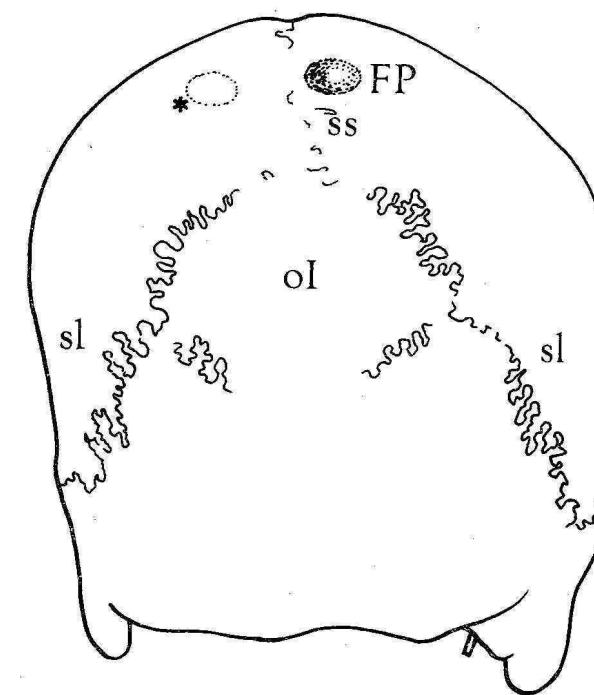


FIGURE 6. General view of the occipital region with a right circular depression and with the suggestion of another symmetrical left depression.

The skull is slightly deformed and damaged in the region of foramen magnum, in the right sphenoid bone, and partially also in the temporal bone. The scale of the frontal bone is high and well vaulted. The frontal bosses are absent. Between the robust supraorbital ridges there is a medium-vaulted glabella (Broca 3). The upper edges of the orbits are rounded. Instead of the left foramen ovale there is only a notch in the orbital edge. The orbits are medium-wide and low (mesoconch), the left orbit has not been fully preserved. The nasal root is wide and medium-deep. The nose was high and narrow (leptorrhine), at the lower edge the piriform opening passes into an expressive broad nasal spine. In general the face is high and narrow (acrocranic), on the maxilla there is a slight fossa canina, its right side is damaged. The mandible is high, the tubercula mentalia form an expressive mental prominence. The medium-sized foramen mentale is situated under the second premolar, almost at the half of the mandible body's height. The gonion angle is slightly inverted (Fig. 4a).

In lateral view (Fig. 4b) the skull is high. The high vaulted front passes at a sharp angle into a very prominent convex-shaped nasal bone. The zygomatic arch is robust. On the malar bone we can see a suggestion of a marginal process. The temporal squama is high and broad, with well-developed supramastoid ridge. The occipitomastoideal and parietomastoideal sutures are of very complicated shape and there are interstitial bones in them. The external auricular meatus is oval in shape, the mastoid processes are large. The parietal bone is long the upper part of the occipital squama is slightly protruding. From the lower part (planum nuchale) it is separated by a slight torus of the linea nuchae suprema.

The deformation of the skull, the longitudinal declination of the axis of the left side parietal bone is well perceptible in occipital view (Fig. 4d). The mastoids are of unequal size and the parietal bosses are also asymmetrical. In the right parietal bone near the obelion and 3 mm from the sagittal suture there is a small circular depression (14 × 10 mm), its longer axis is parallel to the sagittal suture. The depression has a round margin, and is 2 mm deep. The endocranial surface remained unchanged. Contralaterally there is a suggestion of another similar depression on the left parietal bone. This feature is developed in the area of the foramina parietalia (obelion) showing a suturariae depression due to an anomaly in the growth of the sagittal edge of the right parietal bone. (Figs. 5, 6). The occipital bone is high, with the intercalated os ircae.

In the norma verticalis (Fig. 4c) the skull has an ablong elliptic shape, it is hyperdolichocran (69.2) and slightly deformed. Hyperdolichocranic and acrocranic braincases are typical features of the Únětice populations. Along the complex sagittal suture the bone is porous.

The skull base is incomplete, the preserved palate is deep, in the left half roughly behind the second premolar the bone is missing. The right half of the maxilla has closed alveols after the first and third molars were lost in vivo. The dental arc is slightly diverging towards the molars, the palate is deep, with

a bony process in its right half. The teeth show traces heavy attrition, down to the dentine. The second incisor on the left has been lost postmortally.

The mandible is fairly large (Fig. 4e), especially in the symphysis, with high and prominent chin. Both branches are medium-high and broad, with tuberosities for the attached muscles, both on the internal and external sides. On the internal side there is a well developed mylohyoid line and a medium-sized mental spine. The dental arc is of parabolic shape, on the mesial side of the neck of the first left molar there is large caries (Fig. 4f).

The postcranial skeleton is well preserved, the few small missing fragments were lost during the earthmoving operations.

According to the length of the long bones the height of the stature has been calculated 163 cm according to Bach and 165 cm according to Breiting. On the humerus there is a strong crista tuberculi majoris and a well developed tuberosity for the attachment of the deltoid muscle. The lateral margin of the distal end of the bone shaft has a strong suprapicondylar ridge. On the lower arm bones there are strong cristae interossae.

The edges of the thoracal and lumbar vertebral bodies show traces of arthritic changes. We can recognize arthritic changes on X. and XI., thoracal vertebra, in the shape of fine sharp spondylotic osteophytes, 3–6 mm long, copying the course of Ligg. flava (Fig. 7). At the sixth cervical vertebra there is a double foramen costotransversarium on the left side. The tenth left rib in the area of tuberculum costae has a healed fracture, represented in

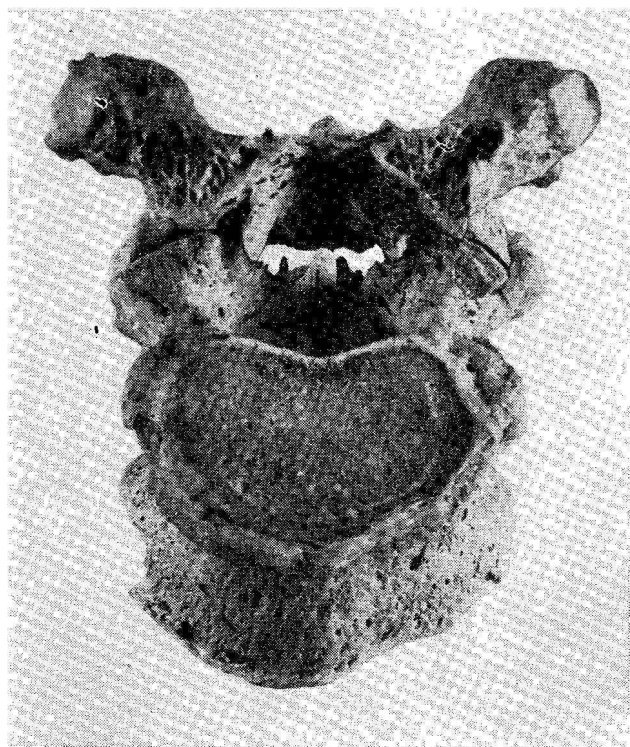


FIGURE 7. Front view of the osteophytes formed along Ligg. flava.

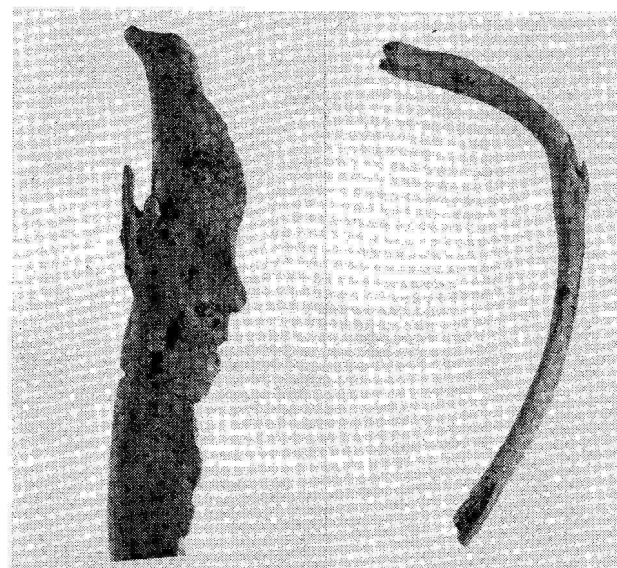


FIGURE 8. Healed rib fracture with an osteophyte.

a 10 × 4 mm large osteophyte (Figs. 8). In the pelvis there is a deep acetabulum, and a clearly male shape of the incisura ischiadica major.

CONCLUSION

According to the found pottery remains the settlement pit with the male skeleton belongs to the Early Bronze Únětice Culture. Finer dating is impossible since the applied motif of engraved decorations is insignificant from the viewpoint of the internal chronology of Únětice Culture and the shapes of the vessels are also of little help. Pit No. 2 with its shape is a classical supply pit, with an adult male buried in it, not quite in ritual position. Exceptional is the turning of the trunk, so that it lies on its belly, and unusual is also the pebble on the strongly bent leg. Both these exceptions are probably the result of

similar motivations as the unusual human burial in a pit on the living site. Since the two recently damaged, presumably originally intact earthenware vessels, as well as the flaked artifacts (although only untrimmed flakes) and the lumps of ochre pigment are evidently burial gifts, the find can be regarded as a burial in a settlement pit. The sherds of the other vessels may have been mixed with the filling of the pit by accident.

TABLE 1. Brno-Židenice, cranial dimensions and indices of the Early Bronze Age skull

1	Maximal cranial length	192
1d	Nasion-opisthoecranion length	190
2a	Nasion-inion length	171
2	Glabella-inion length	176
3	Glabella-lambda length	181
5	Nasion-basion length	101 (?)
26	Nasion-bregma arc	124
29	Nasion-bregma chord	107
27	Bregma-lambda arc	120
30	Bregma-lambda chord	113
28	Lambda-opisthion arc	52
31	Lambda-opisthion chord	50
24	Transversal cranial arc (au-b-au)	316
8	Cranial breadth	133
9	Minimal frontal breadth	99
10	Maximal frontal breadth	113 (?)
11	Biauricular breadth	106
12	Occipital breadth (biasterion)	104
13	Bimastoideal breadth	89
17	Basion-bregma height	137 (?)
20	Auricular height	129 (?)
23	Cranial circumference	360
55	Nasal height	52
54	Nasal breadth	22,5
52	Left orbital height	32
51	Left orbital breadth	39
52	Right orbital height	30
51	Right orbital breadth	37
44	Biorbital breadth	93
50	Interorbital breadth	23
43	Upper facial breadth	103
8 : 1	Cranial index	69,2
9 : 8	Frontoparietal index	74,4
9 : 10	Frontal index	87,6
17 : 1	Length-height index	71,3
17 : 8	Breadth-height index	103
20 : 1	Auricula-height-length index	67,1
20 : 8	Auricular height-breadth index	96,9
54 : 55	Nasal index	43,2
52 : 51	Left orbital index	82
52 : 51	Right orbital index	81

TABLE 2. Brno-Židenice, dimensions and indices, of the Early Bronze Age mandible

68/1	Mandibular length	103
65	Mandibular breadth	118
66	Bigonial breadth	99
71	Minimal breadth of ascending branch	32
70	Height of mandibular ascending branch	57
69	Symphyseal height	36
69/1	Mandibular height at M ₂	15
69/2	Mandibular thickness at M ₂	26
68 : 65	Length-breadth mandibular index	90,60
71 : 70	Ascending branch index	56,14
66 : 65	Mandibular breadth index	83,89
69/2 : 69	Mandibular body thickness	72,22

TABLE 3. Brno-Židenice, dimensions and indices of the long bones of Early Bronze Age skeleton

HUMERUS		R	L
1	Maximum length	296	298
2	Total length	299	303
4	Epicondylar breadth	65	66
5	Maximum diameter of the diaphysis	22	21
6	Minimum diameter of the diaphysis	18	17
7	Minimum diaphysis circumference	65	63
7 : 1	Robusticity index	21,95	21,14
6 : 5	Index of the diaphysis diameters	81,81	80,95
RADIUS		R	L
1	Maximum length	241	239
2	Total length	228	226
3	Minimum circumference	43	39
4	Transversal diameter of the diaphysis	17	16
5	Sagittal diameter of the diaphysis	12	11
3 : 2	Robusticity index	18,85	17,25
5 : 4	Index of diaphysis diameters	70,58	68,75
ULNA		R	L
1	Maximum length	266	265
2	Total length	231	232
3	Minimum diameter of the diaphysis	38	37
11	Sagittal diameter of the diaphysis	12	14
12	Transversal diameter of the diaphysis	19	18
3 : 2	Robusticity index	16,45	15,94
12 : 11	Index of the diaphysis diameter	63,15	77,77
FEMUR		R	L
1	Maximum length	431	—
2	Total length	428	—
6	Sagittal diameter of the diaphysis	26	—
7	Transversal diameter of the diaphysis	28	—
8	Circumference of the diaphysis	83	—
9	Upper transversal diameter	33	—
10	Upper sagittal diameter	25	—
8 : 2	Length-breadth index	19,39	—
(6 + 7) : 2	Robusticity index	12,61	—
6 : 7	Pilastric index	92,85	—
10 : 9	Platymetric index	75,75	—

Tab. 3. Continuing.

TIBIA		R	L
1	Maximum length	353	—
8	Maximum diameter of the middle diaphysis	30	—
8a	Sagittal diameter of the diaphysis	35	33
9	Transversal diameter of the middle diaphysis	20	20
9a	Diameter at the foramen nutritium	21	20
9 : 8	Index of the diameters of the shaft	66,66	—
9a : 8a	Index cnemicus	60,00	60,60

The morphological characters of the skull (the shape of the front, of the supraorbital region, the size of the mandible and the shape of the occipital region) and the robusticity of the postcranial skeleton are typical male characters. The obliteration of the cranial sutures and the attrition of the teeth show that the man died in his fifties. With its shape and dimensions the skeleton fits in with the known anthropological data of the Moravian Únětice population with typical high and hyperdolichocranic skull.

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