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NEOLITHIC SETTLEMENT BURIALS OF ADULT AND JUVENILE INDIVIDUALS IN MORAVIA, CZECH REPUBLIC

ABSTRACT: Numerous finds of skeletal remains from Neolithic settlements testify to different modes of burials and associated rituals. From the milieu of three Neolithic cultures in Moravia one could evaluate 42 individuals of the Linear Pottery Culture (LBK, 5700–4900 BC), 12 individuals of the Stroked Pottery Culture (STK, 4900–4700 BC) and 20 individuals of the Moravian Painted Pottery Culture (LgK, 4700–4000 BC). The first analysis of funerary customs, which was focused on settlement burials of children, proved that Neolithic burials conform to stable rules with regard to burial rite (Dočkalová, Čižmář 2007). This paper presents a review of settlement burials in 74 adult and juvenile individuals from 34 sites (Figure 1, Table 1). It shows the approach of prehistoric society to burial customs in various Neolithic cultures, comprising both regular burials in settlement features and cases of non-standard manipulation with human skeletons and partial skeletal remains. The skeletal material studied had been anthropologically analysed whereby one could identify 33 females, 20 males, 12 juveniles and 9 undetermined individuals. In general, the percentage of females was higher than that of males, and the most adults were aged 20–29. The analysis of skeletal material proved in 27 individuals permanent changes in humeri and femurs due to hard physical load, but also displays of repeated working activity (osteophytes on finger phalanges), and the use of teeth as a working tool. The range of detected alterations and damages was fully individual; the changes proceeded gradually at the level of individuals. At the population level one could record in both sexes' differences in the body height, which was in all cultural periods higher in males than in females, however, a gradually diminishing average body height in the course of time (LBK → LgK) was detected.

Social differentiation of the society caused a transformation of social structure; the adaptation to new living conditions in the first farmers was associated with construction of cultic areas, the displays of spiritual culture and burial rituals, which were typical of the New Stone Age population.

KEY WORDS: Czech Republic – Moravia – Neolithic burials – Settlement burials – Anthropological characteristics – Morphological aspects

INTRODUCTION

During the New Stone Age (5700–4000 BC), the first Neolithic people radically changed the hunter-gathering way of life into an agrarian one. The life in the Neolithic required growing and processing of crops, domestication of animals and construction of dwellings. The Neolithic farmers adapted themselves to new living conditions and developed throughout Central Europe different cultural displays and burial practices.

The beginnings of systematic burials in the Neolithic were connected with a sedentary way of life of the first farmers who buried the deceased people in both cemeteries not far from the settlements and directly within the settlement areas. Settlement burials were spread all over the Central European prehistory (Rulf 1996) and in Moravia, as well. In the Moravian environment, the inhumation and cremation burials have been detected directly within settlement features or in regular grave pits. In Moravia more than 300 Neolithic settlements are known; extensive



FIGURE 1. Map of the Czech Republic, highlighting Neolithic settlement sites in Moravia.

archaeological excavations from recent years 1999–2008 helped to increase the number of new findings. An accrual could be detected in burials of the Linear Pottery Culture (LBK), a steady stagnation was recorded in the Stroked Pottery Culture (STK) and in the Moravian Painted Pottery Culture (LgK) only isolated finds were registered (Čižmář *et al.* 2008).

ARCHAEOLOGICAL CHARACTERISTICS

The richest source base in Moravia is shown by the oldest Neolithic culture with linear pottery (LBK), on the territory of which we record the existence of relatively large cemeteries (Vedrovice–"Široká u lesa" and "Za Dvorem" or Kralice na Hané–"Kralický háj"), grave groups within settlement agglomerations (Těšetice–Kyjovice–"Sutny"), isolated graves (e.g. newly Modřice) and many isolated or multiple forced burials inside settlement features (e.g. Brno–Bohunice, Starý Lískovec, Nový Lískovec, Žádovice, Slatinky, Olšany, Blučina, etc.). This relatively high variety of burials and ways of disposal of dead individuals is also associated with variously rich finding assemblages. These are of course most abundant in the burials within large cemeteries, but in several cases surprisingly also in grave groups or isolated burials at settlements. Much fewer archaeological artefacts can be recorded in forced

burials, the dating of which is often enabled only by help of associated finds from the feature's backfill, or indirectly according to their placement within the settlement, e.g. with regard to nearby house plans.

In the deeply analysed necropolis at Vedrovice–"Široká u lesa" (Podborský *et al.* 2002), 37 of 81 anthropologically determined individuals were females (45.68%) and 25 males (30.86%). The most typical grave goods of this period – pottery – occurred in almost the same number of female (16) and male (13) burials. While the polished industry (above all shoe-last celts) is associated with male burials, the distinctly non-ceramic components of funerary assemblages – Spondylus shells occur more often in female (13) than in male (8) burials (Podborský *et al.* 2002, 304–310). The other biritual cemetery at Kralice na Hané–"Kralický háj", representing later phases of LBK, is characteristic mainly through cremation burial rite. 69 of total 78 burials are cremation burials whereby within this large group there are distinctly outstanding male burials with shoe-last celts (Šmíd 2008, 60–61). An interesting aspect is represented by the fragmentarily preserved ceramic grave goods, which could have been damaged in the course of millennia in the sub-ploughsoil layer, but they could also represent only symbolical grave goods instead of entire vessels (so-called *pars pro toto*). This aspect has been observed in both the Vedrovice cemetery (Podborský *et al.* 2002, 304) and at several other sites, mainly within



FIGURE 2. Modřice. LBK, Burial 800/2004, female 50–55 yrs.



FIGURE 3. Modřice. LBK, Burial 801/2004, female 50–55 yrs.

a group of graves at Těšetice–Kyjovice–"Sutny". The talk is above all of a pitcher fragment from the burial H18, two incomplete conical bowls from the burial H20 and a bottle fragment from the burial H23 (Dočkalová, Koštuřík 1996). Of a similarly symbolical meaning may be also the concentrations of finds from the sites of Žádovice (Čižmář, Geislerová 1998) or Kuřim (Bálek *et al.* 2000), which are associated with children burials. However, the major part of burials do not yield any grave goods.

In the following two cultures with stroked and Moravian painted pottery we can register a considerable decrease in the source base with regard to burial rite. The voluminous group of problematic, ill-dated, older or unpreserved findings with lowered testimonial value remained unclear. In the Stroked Pottery Culture the burial evidences are known from 7 sites, some of them being disputable and without recorded finding conditions (e.g. Nová Ves). The only important assemblage thus comprises the finds from 5 burials at Těšetice–Kyjovice–"Sutny": H2, 5, 7, 10 (Kazdová, Lorencová 1989–1990) and 12 (Kazdová 1989–1990), most recently evaluated in 1992 in a study by Kazdová (Kazdová 1992, 7–24). Burials of the people with Moravian Painted Ware in the early Neolithic stage (LgK Ia–c, Lengyel I) in Moravia are basically not known from newer finds, despite the fact that south of this territory large cemeteries from this period have been discovered. To the turn between the Neolithic and Aeneolithic we then date back another part of finds, falling into the phase IIa (Lengyel III), e.g. burial H3 from Těšetice–Kyjovice–"Sutny" (Koštuřík 1972) or the recent find from Dluhonice–"Dlouhý Újezd" (Schenk *et al.* 2007). The findings from following phases already pertain to the earliest stage of the Aeneolithic (e.g. Brno–Královo Pole or Mostkovice).

In the description presented we bring in only the anthropological finds from settlements and cemeteries, in which all finding conditions and documentation are known and which are positively dated by archaeological finds. The complete review of finds (Table 1) involved in the anthropological analysis does not contain any more detailed archaeological data. These data are not identifiable in older finds from museum and other collections, which were included into the overall evaluation in order to supplement the anthropological analysis.

LINEAR POTTERY CULTURE

Isolated burials in grave pits

Site: Modřice (Brno–venkov District)

The recognition of independent isolated graves within settlement agglomerations was enabled through a development-led excavation in 2004, performed by the Institute of Archaeological Heritage Protection in Brno, v. v. i., during the construction of so-called Storage hall II inside the industrial zone in the municipal cadastre of Modřice–"Sádky" (Čižmář, Přichystal 2006, 7–37). On the investigated settlement area with ground plans of seven aboveground longhouses there occurred two finding situations interpreted as forced burials of two mature females.

In the burial No. 800 at the bottom of an oval pit (1.63×0.78×0.77 m) with long axis directed NW–SE rested a female skeleton (Feature No. 551) in supine position, directed NW–SE, with slightly lift-up head (Figure 2). The left arm bent at the elbow at a right angle, the right arm resting with the hand in pelvis. Lower extremities extremely flexed and outspread. The left leg lay at the bottom of the pit, the right leg, drawn up to the trunk, lay upon the right forearm. The find is dated into the phase Ib of the Moravian LBK.

Burial No. 801 with a female skeleton was situated in the northeast portion of a semicircular pit at the bottom of the Feature No. 734 sized 1.78×1.73×0.79 m. The grave's bottom was still recessed by 0.11 m underneath the bottom level of the pit. The female rested in the NW–SE direction, in left-flexed position, the upper part of the trunk together with the skull turned facedown. Upper extremities bent at the elbow at a right angle, lying under the trunk, both legs strongly flexed (Figure 3). The find is dated into the phase Ib of the Moravian LBK.

Site: Těšetice–Kyjovice–"Sutny" (Znojmo District)

To the largest groups of LBK graves from settlement agglomerations pertain the finds of isolated burials from the site of Těšetice–Kyjovice uncovered already in 1988, but mostly during the investigations in 1992–1993 when the groups of isolated burials were detected, probably the remnant of a larger necropolis (Figure 4).

TABLE 1. List of sites and burials with finds of adult and infant individuals from the LBK, STK and LgK periods.

Site	Grave No.	Culture	Sex	Age
Brno Bohunice (Starý Lískovec)	str.2621/K802/2006	LBK	?	adult
Brno Bohunice (Starý Lískovec)	str.2601/K801/2006	LBK	male?	45–55 yrs
Brno Bohunice (Starý Lískovec)	str.2565/K800/2007	LBK	male?	40–60 yrs
Brno Bohunice (Starý Lískovec)	str.5817/K803/2007	LBK	male	20–21 yrs
Brno Bohunice (Starý Lískovec)	str.7714/K805/2008	LBK	male	14–19 yrs
Brno Bohunice (Starý Lískovec)	str.7727/K806/2008	LBK	male	50–59 yrs
Brno Komín	44/38	LgK	male	20–25 yrs
Brno Královo Pole	18	LgK	female	18–20 yrs
Brno Maloměřice	11	LgK	?	adult
Dolní Újezd-Dluhonice (Předmostí)	str.126/H1/2006	LgK	female	40–45 yrs
Držovice	H2/1998	LBK	female	25–30 yrs
Hluboké Mašůvky	str.654/H1/2003	LBK	female	25–30 yrs
Hluboké Mašůvky	str.654/H2/2003	LBK	female	18–20 yrs
Hluboké Mašůvky – Panská cihelna	17/1897	LgK	?	20–29 yrs
Hnanice I, okr. Znojmo	str. 3/1992	LgK	female	20–25 yrs
Holubice	10	LgK	?	19–20 yrs
Chornice	H1	LBK	male	35–40 yrs
Kralice na Hané	K1683/2003	LBK	?	18–21 yrs
Krumlovský les	H1/2002	LgK	female	25–35 yrs
Krumlovský les	H2a/2002	LgK	female	35–40 yrs
Kuřim	str.243/1996	LBK	?	20–29 yrs
Mašovice u Znojma	H1/K1066/41/2003	LgK	male	20–29 yrs
Mašovice u Znojma	H2/2003	LBK	female	15–17 yrs
Mikulov-Jelení louka	1/1970	LBK	?	adult
Modřice	str. 551/H800/2004	LBK	female	50–55 yrs
Modřice	str. 734/H801/2004	LBK	female	50–55 yrs
Moravský Krumlov	1/80	LgK	female	25–30 yrs
Nová Ves u Oslavan	37/1950	STK	male	20–29 yrs
Nová Ves u Oslavan	H1/16/1950	STK	?	25–30 yrs
Olšany	K506/H1/2001	LBK	?	30–39 yrs
Opava	IV/1612	LBK	female	20–25 yrs
Pohořelice Šumice	IV/1611/1959	LBK	?	20–25 yrs
Prostějov – Čechůvky	K1535/2004	LgK	female?	14–15 yrs
Rybníky	35/1939	STK	female	30–35 yrs
Střelice	H I, 12	LgK	female	60+ yrs
Střelice	14/II	LgK	female	20–40 yrs
Střelice	9/15	LgK	?	30–40 yrs
Střelice	str.523/K800/2005	LgK	?	16 yrs
Těšetice Kyjovice	H2/1/1968	STK	male	40–45 yrs
Těšetice Kyjovice	H2/2/1968	STK	?	35–45 yrs
Těšetice Kyjovice	H3/1972	LgK	male	24–30 yrs
Těšetice Kyjovice	H4/1974	LgK	male	20–24 yrs
Těšetice Kyjovice	H7/1976	STK	?	?
Těšetice Kyjovice	H8/1976	LgK	female	20–25 yrs
Těšetice Kyjovice	H10/1/1981	STK	male	30–35 yrs
Těšetice Kyjovice	H10/2/1981	STK	female	45–55 yrs
Těšetice Kyjovice	H11/1986	LBK	female	45–55 yrs
Těšetice Kyjovice	H12/1987	STK	?	adult
Těšetice Kyjovice	H 13/1989	STK	?	20–25 yrs

TABLE 1. List of sites and burials with finds of adult and infant individuals from the LBK, STK and LgK periods. (Continue)

Site	Grave No.	Culture	Sex	Age
Těšetice Kyjovice	H14/1988	LBK	female	20–25 yrs
Těšetice Kyjovice	str.321/H14/1989	LgK	female	adult
Těšetice Kyjovice	H18/1992	LBK	female	20–25 yrs
Těšetice Kyjovice	H19/1992	LBK	male	16–18 yrs
Těšetice Kyjovice	H20/1992	LBK	male	17–19 yrs
Těšetice Kyjovice	H21/1992	LBK	male	20–22 yrs
Trstěnice	36/1957	STK	female	35–40 yrs
Určice Alojzov	K529/1999	LBK	?	40–50 yrs
Vedrovice, Široká u lesa – settlement	H9/1974	LBK	female	50–59 yrs
Vedrovice, Široká u lesa – settlement	H10/1974	LBK	male	40–49 yrs
Vedrovice, Široká u lesa – settlement	H11/1974	LBK	male	45–55 yrs
Vedrovice, Za dvorem	H1/1985	LBK	female	20–25 yrs
Vedrovice, Za dvorem	H2/1985	LBK	male	25–30 yrs
Vedrovice, Za dvorem	H6/1988	LBK	female	50+ yrs
Vedrovice, Za dvorem	H7/1988	LBK	female	35–45 yrs
Vedrovice, Za dvorem	H8/1988	LBK	?	13–15 yrs
Vedrovice, Za dvorem	H9/1988	LBK	female?	18 yrs
Vedrovice, Za dvorem	H10/1989	LBK	female	20–25 yrs
Vedrovice, Za dvorem	H11/1997	LBK	female	50+ yrs
Vedrovice, Za dvorem	H14/1997	LBK	male	18–20 yrs
Velatice Padělky	278	LBK	female	adult
Vyškov	H37/1960	STK	?	15 yrs
Žadovice	str.109/1986	LBK	?	35–45 yrs
Želešice u Brna	I/1979	LBK	female	25–30 yrs
Židlochovice	1617	LBK	male	adult

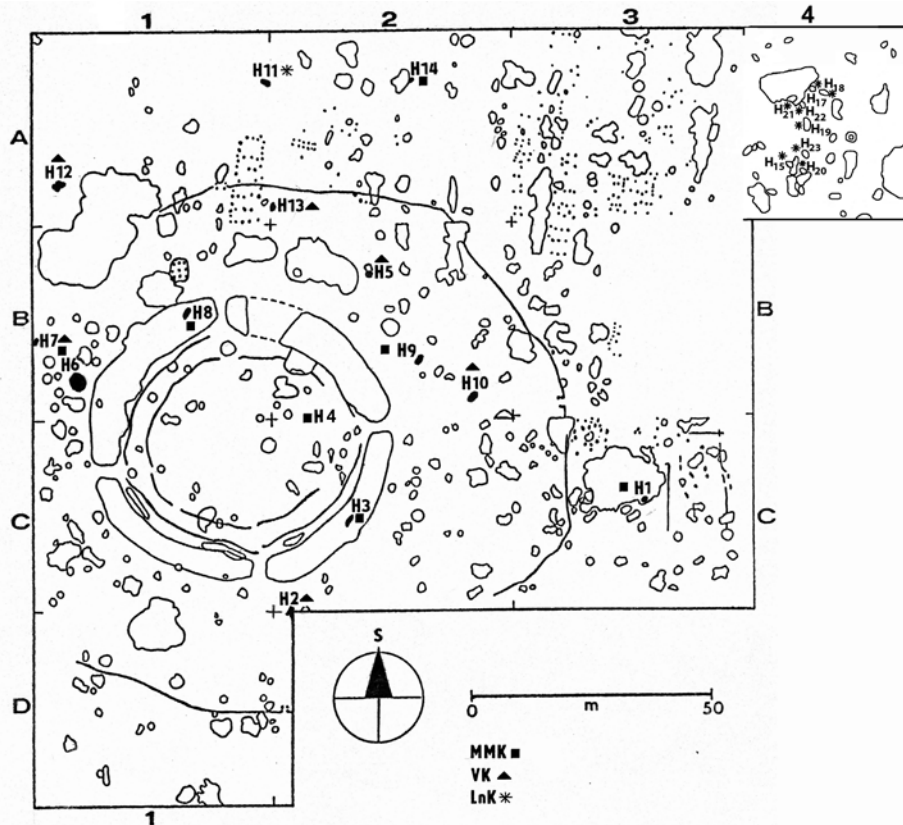


FIGURE 4. Těšetice–Kyjovice. Plan of the excavated area from 1967–2004.

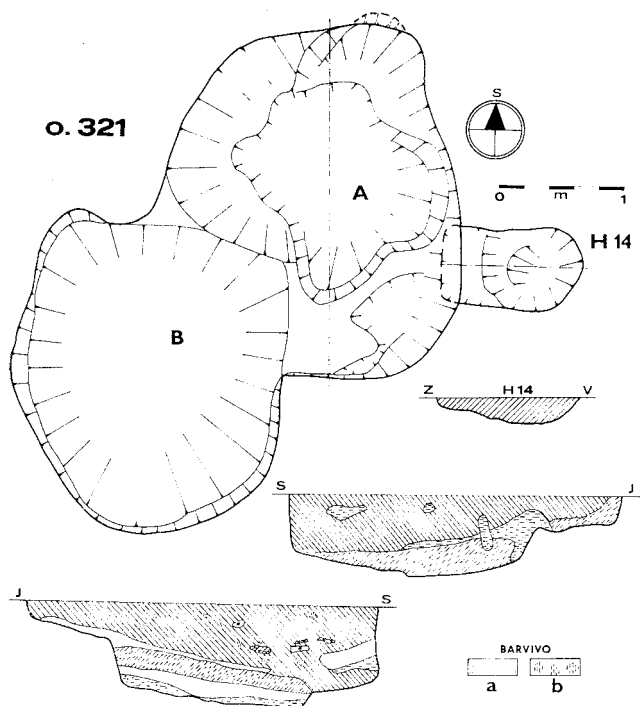
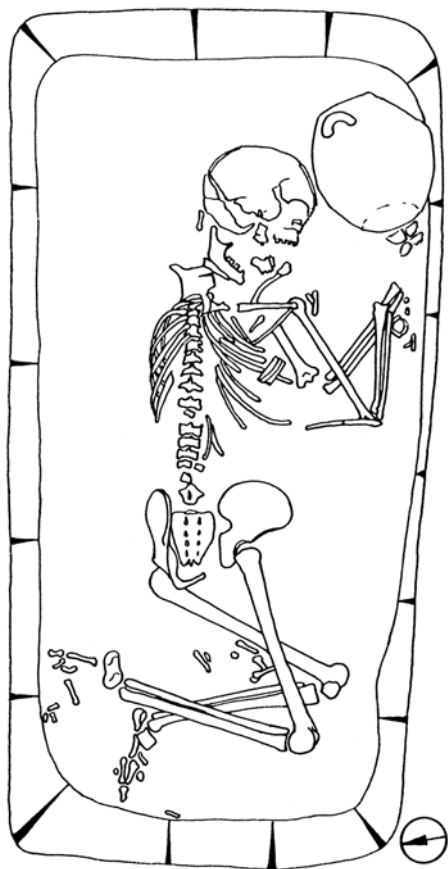


FIGURE 5. Těšetice–Kyjovice. Grave pit of LBK with skeleton H14 disturbed by Feature 321.



FIGURE 6. Těšetice–Kyjovice. LBK, Burial H14/1988 incomplete female skeleton, 20–25 yrs.



FIGURES 7a, b. Těšetice–Kyjovice. LBK, Burial H18/1992, female 20–25 yrs.



The first inhumation burial H11 from the LBK period was found in sector A1 in 1986 (Košťuřík, Lorencová 1989–1990). The female skeleton rested in a left-flexed position directed WN–ES, facing NE, inside an oval grave pit 130 cm long, 65 cm wide and only 20 cm deep above the loess subsoil. Beside the skeleton one could find fragments of two ceramic vessels (deep conical bowl, part of a semi-globular vessel), and near the left hand a stone anvil (grinding stone). The skeleton was dated by C14 to 6150±35 BP.

Burial 14 was discovered in the north part of sector A2 in 1988, outside the territory enclosed by the outer palisade, close to the settlement feature 321 (Košťuřík, Dočkalová 1992). The grave pit of smaller size (85×60 cm) was penetrated by the adjacent feature 321 (Figure 5), which damaged the lower part of the skeleton of a buried female (Figure 6). The head was directed towards E, facing SW, on the left side of the body rested the left humerus, forearm bones and the right hand. The burial was dated into the LgK period, basing on a vessel fragment deposited near the mandible. The dating of this inhumation burial was unequivocal, due to a secondary intervention into the grave. The new radiometric dating in 2007 in the VERA laboratory (4363) 6925±40 BP and in Poznań 6210±40 BP proved the classification of the find into the LBK period, as opposed to the so far published dating into the early LgK (Lengyel) stage.

Burial H18 was uncovered in sector A4 in 1992. The grave pit sized 150×75 cm and 58 cm deep was not distinct and its backfill rather merged with the surrounding landscape. The female rested in a left-flexed position, the skull strewn with red dye. The finding conditions indicate a non-standard way of inhumation by a gradual filling up the grave pit: the female was first buried under a 17 cm thick layer of loess and brown clay, and a second, 28 cm thick layer of calciferous clay and loess. At this height a partial vessel – pitcher was placed, which projected out above the level of the grave pit (Figure 7a, b). The find, according to the vessel with typical decoration, falls into the phase Ib (Ib1) of the Moravian LBK.

In the same year and in the same area the burial H19 (125×67 cm, 18 cm in depth) was uncovered. The grave neighbored on the post holes 821, 822 in the northwest, on the child's burial H22 and on the feature 396 (Figure 8a, b). The buried individual rested in a strongly right-flexed position with his head towards S, facing W. The right hand was placed on the chin and the left one leant against the right thigh. The burial was dated by C14 to 6225±35 BP.

The ongoing excavations in 1992 in sector A4 yielded the discovery of the deepest grave of the entire Neolithic agglomeration at Těšetice, namely the burial H20. The grave pit was 165 cm long, 97 cm wide and 72 cm deep. The grave's sidewalls were adjusted to the form of a circumferential step (Figure 9a, b). The male rested in a left-flexed position, equipped with ceramic vessels placed 60 cm above the pit bottom (in both cases it was a conical bowl). With regard to the burial rite, in burials H18 and

H20 the steady traditional way of depositing funerary equipment close to the body of the deceased person was not respected, instead we can register symbolical ceramic grave goods designated as *pars pro toto*. The burial was dated by C14 to 6210±35 BP.

In the end of the excavation campaign 1992 one could uncover the secondarily disturbed burial H21 of the LBK Culture, containing the remains of an adult individual and a child (Dočkalová 2005). The grave was situated in sector A4 at the south edge of the clay exploitation pit 373 near the north part of the feature 406. The original position and shape of this grave pit could not be detected. In an oval depression (180×150 cm) lay scattered long bones and particular skeletal parts of two individuals. At the depth of 20 cm underneath the surface occurred the main accumulation of human and animal bones, and at the depth from 20 to 40 cm rested fragments of human thoracic bones. From 40 cm to 60 cm downward there were no skeletal finds, and at the depth from 65 cm to 85 cm the other main accumulation of a child's skeleton was detected. The burial H21/92 was dated by C14 to 6210±35 BP.

Isolated burials in settlement features

Sites: Brno–Starý Lískovec and Nový Lískovec, Bohunice

Archaeological research performed since 2006 by the Institute of Archaeological Heritage Protection in Brno, v. v. i. (Přichystal 2006) yielded interesting discoveries, e. g. a cremation burial in the pit 2621, charred animal bones in the pit H 802 of ca 80 cm in diameter, with fragments of coarse pottery vessels preliminarily dated to later LBK phases.

In 2006, in the pit 2601 skeletal remains of a mature male H 801 were found, in close vicinity thereto an oven was detected, and at the bottom of a pit sized 2×1.5 m at the depth of 0.2 m rested the skeleton of a young male in a left-flexed position oriented NE–SW. The find was not classified more precisely within the LBK.

In 2007–2008 in an enclosed LBK settlement many features with skeletal remains were detected, among them the skeletal remains of three adult individuals and three males in features 803 and 805, and of a mature male in the feature 806 (Přichystal 2008). An interesting fact is that 5 children and 5 males could be detected at the site, while female skeletal remains were fully missing. The excavation results and interpretation of finding conditions will be published by Přichystal and Kos, to whom we owe our gratitude for the documentation provided. At this site one could record very peculiar burial practices in the feature 803, burial of a young male in a right-flexed position with the right arm bent at the elbow and the left one placed under the body (Figure 10a, b). Burial of a very young male in the feature H 805, in a left-flexed position with the head violently turned by 90° and with the right hand laid upon. In the feature H 806 one could detect the burial of a very old male resting in prone position with the right arm bent, the left one stretched along the body. The left leg bent at the

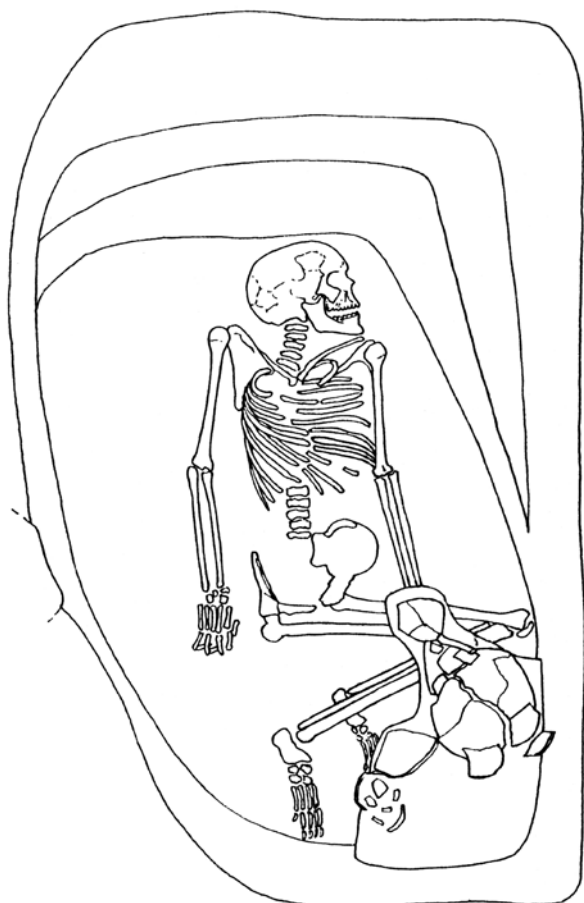


FIGURE 8 a, b. Těšetice–Kyjovice. LBK, Burial H19/1992 male 16–18 yrs.

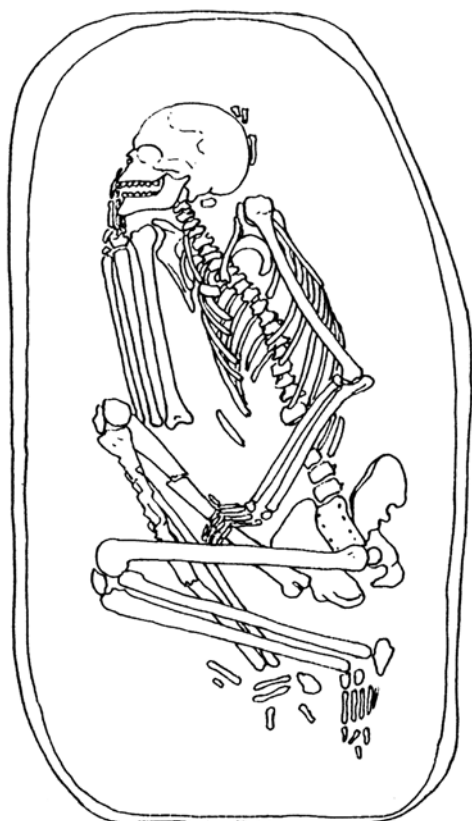
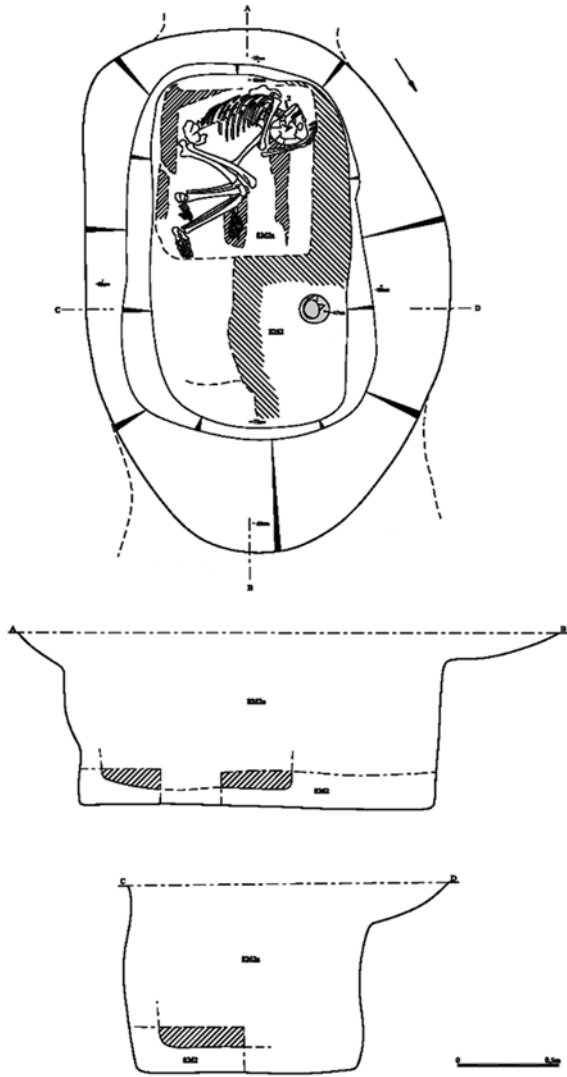
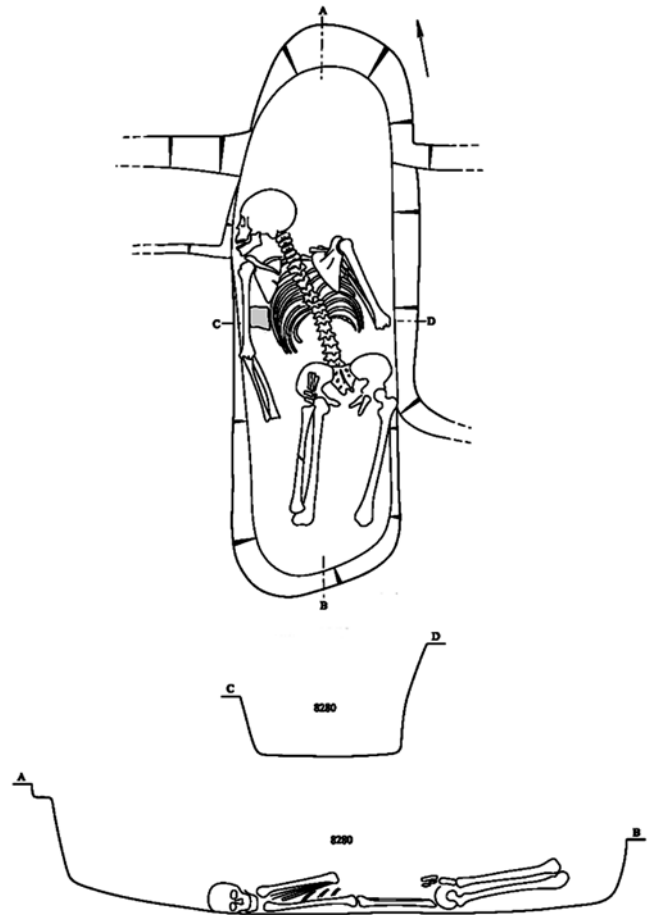


FIGURE 9 a,b. Těšetice–Kyjovice. LBK, Burial H20/1992 male 17–19 yrs.



FIGURES 10 a, b. Brno-Bohunice. LBK, Burial 805/2008 male 14–19 yrs.



FIGURES 11 a, b. Brno-Bohunice. LBK, Burial 806/2008 male 50–59 yrs.



FIGURE 12. Držovice. LBK, Burial H2/1998 female 25–30 yrs.

knee, tibia lying in a reversed position upon the femur, the foot in the lumbar area of the backbone (*Figure 11a, b*).

Site: Držovice (Prostějov District)

In 1998, within the frame of a development-led archaeological excavation an oval depression has been detected, resembling in its size a grave pit. At the bottom of the feature 516/521 the skeleton of a young female was found, oriented NE-SW (*Figure 12*). The female rested in supine position, facing west, the legs right-flexed. Inside the feature several pottery fragments occurred, which date the find to the phase IIb of the Moravian LBK (Čižmář, Procházková 1999, 45–73).

Site: Chornice

During the construction of the so-called German motorway during World War II an inhumation burial had been discovered. It was dated to the LBK period, without any more precise classification. Of the skeleton described only a few fragments were preserved, which belong to a male of adult age.



FIGURE 13. Mašovice–Pšeničné. LBK, Pit 613, Burial 1/2003 female 20–29 yrs.



FIGURE 14. Olšany–Zlatiska. LBK, Feature 506/Burial 1/2001 female 30–39 yrs.

Site: Kralice na Hané (Prostějov District)

In 2003 during a development-led excavation (Šmíd 2004, 2006, 2008) of a settlement agglomeration the pit K 1683 was uncovered, containing the skeleton of a juvenile individual. Ceramic material from the feature dates this find to later LBK phases (IIa/b).

Site: Mašovice–"Pšeničné" (Znojmo District)

In 2003 during a road construction, in the pit 613 (H1 – 3×2 m) the skeleton of a young female resting in a right-flexed position, facing north, was discovered. The upper half of the body lay in prone position with the arms stretched along the body, lower extremities bent at the knees (*Figure 13*). With regard to complete absence of grave goods and finds in the feature's backfill, the dating was preliminarily determined to LBK (Čižmář 2006), basing on the character of the filling. This preliminary dating was then verified by

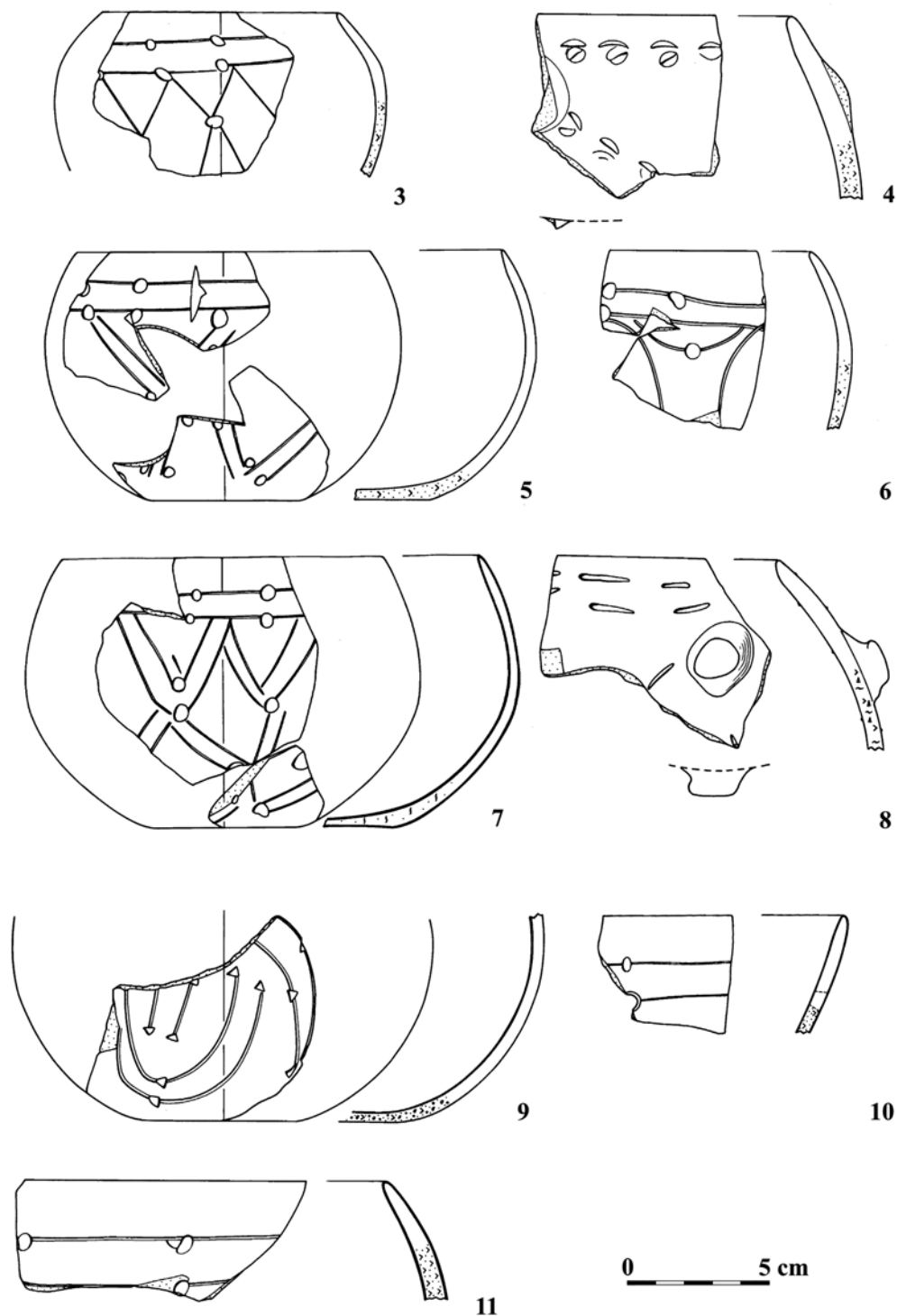


FIGURE 15. Olšany–Zlatiska. LBK, pottery finds with note-head decoration.

radiocarbon C14 method (with financial support of the grant GAČR 206/1120/06), which classified the find to the late LBK phase, VERA-4370, C14 – 6190±40 BP.

Site: Olšany–"Zlatiska" (Prostějov District)

In 2001, in the feature 506 sized 3.5×0.8 m an isolated female skeleton was discovered (Šmíd 2002). The skeleton in a shallow depression adjacent to a storage pit was

found in a very unusual position, which indicates possible violent death (Figure 14). The female rested on her right side, strongly bend backward like a bow. In the waist area occurred besides an LBK ceramic fragment also a unique bone tool, probably part of the personal effects of the deceased female. The bone stick of ca 10 cm in length had smooth ends, one of them round and the other oval. This artefact has been interpreted as a unique ceramic decoration



FIGURE 16a. Blučina 1945. LBK, reconstructed necklace with 400 beads.



FIGURE 16b. Blučina 1945. LBK, roe deer antler with traces of red ochre.

tool, by help of which one could create so-called note-heads (Figure 15). The voluminous finding assemblage enables to date the burial to the phase IIb of the Moravian LBK.

Multiple burials

Site: Blučina (Brno-venkov District)

The pit with a burial of three individuals of LBK was discovered on 1 March, 1945 when digging military fortifications, at the depth of 290 cm at the foothills of Cézavy near Blučina. At the bottom of an oval pit there was a male lying in extended supine position, and on his left rested a female in a slightly right-flexed position. Between the two adult individuals a small child was lying on its back with its arms stretched along the trunk (Desort 1963: 10–11, 108–109). The grave pit further included

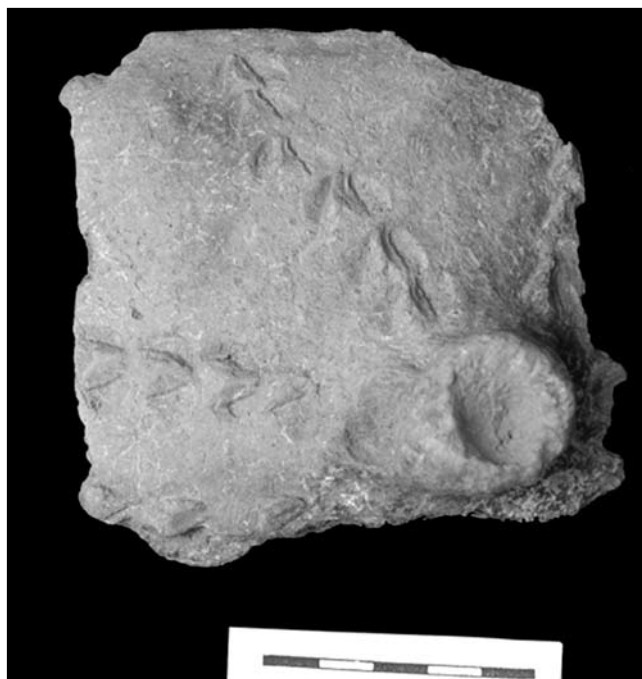


FIGURE 16c. Blučina 1945. LBK, ceramic fragment from the backfill of a grave pit.

grave goods; a large set of beads (Figure 16a – a necklace being reconstructed putting together 400 of them), two bladelets, animal bones covered with red ochre (Figure 16b) and pottery fragments (Figure 16c) from the grave pit filling have dated the find to the phase IIa of the Moravian LBK.

Site: Brno-Komín (Brno-město District)

According to J. Poulík's find report (Poulík 1947), an LBK feature (220×150 cm), entrenched by 20 cm into the loess, was discovered in 1947 during a garden reconstruction in Brno-Komín. The structure included skeletons of three adult individuals and one child. From the photo documentation follows that at least one adult rested in an extended supine position, the other then in a slightly left-flexed position. The position of the remaining two skeletons (one of them infant) cannot be identified. The find was situated in the middle of an LBK settlement, the features of which were prevailingly dated to later phases of LBK. The find was not preserved.

Site: Hluboké Mašůvky (Znojmo District)

In 2003, an area with evidences of LBK settlement activity sized 0.5 ha was uncovered at the location "Nivky". To this settlement belonged also a building complex of the house No. VIII, comprising also two large construction pits (826 and 654) placed along the long side of the house. Inside the storage pit No. 654 (2.75×1.5×1.4 m) a burial of three individuals has been discovered (Čižmář 2004, 124; Čižmář, Dočkalová 2004, 41–54, Čižmář 2008b). Almost

in the middle of the feature at the depth of 60 cm below the landscape surface rested a female in a left-flexed position, with her head bent towards north, facing east, the legs and arms forming an acute angle (Figure 17). Near the north wall of the pit there was another individual, a young female resting on her left side oriented E–W. Just as in the first female, the extremities formed an acute angle, and at the forearm there was a tiny globular vessel with characteristic engraved decoration. The third individual (child) was discovered below the skeleton of the younger female at the depth of 20 cm above the bottom of the feature, in reversed position on the right side. The former two individuals were found inside a fire horizon with numerous finds of daub, small pieces of charcoal and charred grains. It seems that the dead bodies might have been deposited into a partly filled-in functional storage pit, destroyed by fire. Archaeological finds together with the scorched forearm in skeleton No. 2 indicate the possibility of the individuals' death during a huge fire that might have destroyed the house No. VIII as well as three other structures in its close vicinity. The find has been dated to the phase Ib of the Moravian LBK.

STROKED POTTERY CULTURE

Site: Těšetice–Kyjovice (Znojmo District)

In 1968–1989, at the Neolithic settlement a total of 5 burials from the STK period had been uncovered, two of these finds being exceptional – the twin burial H2/1968, H12/1987 and the triple burial H10/1981 (Kazdová, Lorencová 1985).

Individual burials

In 1973 in sector B, quadrant 1e, the grave H7 was uncovered, containing several fragments of a damaged skeleton of an adult individual (Ševčíková 1980).

Primary and secondary multiple burials

In sectors C, D, quadrant 11h of the excavated area, the grave H2 (170×40 cm) of the Stroked Pottery Culture including two individuals was discovered in 1968 (Podborský 1969, 1973–1974, tab. XIII: 2). This burial was the southernmost one of the STK group, because no other grave was found on the area, only the feature 277 containing fragments of stroked pottery. The remains of the first individual, a male, rested in a left-flexed position. Of the other individual, a female, a part of the skeleton and skull fragments survived, scattered over the bottom of the pit.

In sector B1, quadrants 19g, h of the Neolithic settlement the grave H10 with three individuals was discovered. The feature had an irregular shape of 198×149 cm and a depth of 23 cm. The male skeleton No. 1 rested 12 cm below the landscape surface, and at the depth of 20–23 cm there were a female and an infant skeletons together with a fragment of a stone anvil and several pottery fragments. The deposition of skeletons must have been subsequent, the female lying in the middle on her back, her legs flexed and placed on the right side across the child's skeleton. The child rested



FIGURE 17. Hluboké Mašůvky. LBK, Feature 654/H1/2003 female 25–30 yrs

in a right-flexed position, the arms and legs drawn up to the body. At last the male had been buried into the grave, partly overlapping the female and infant skeletons. The burial of three individuals (male, female, child) in an average-sized settlement pit is a most interesting evidence of funerary ritual practices of the Neolithic society (Kazdová, Lorencová 1985).

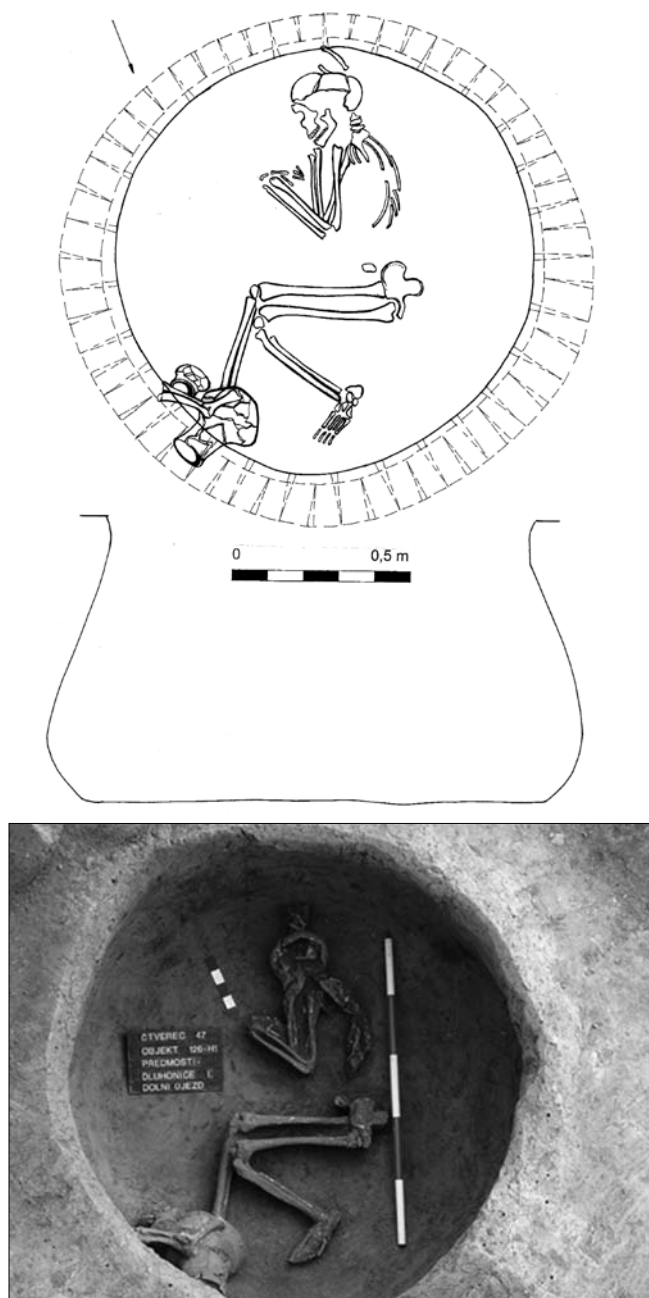
In the southwest sector A1, the settlement pit 305 was discovered in 1987, including the burial H12; after taking away the filling and lowering the level by 10 cm fragments of human bones and pottery clusters appeared. The pit was 184 cm long, 155 cm wide and 50 cm deep. Burial H12 (Kazdová 1989–1990), contained bone accumulations of several individuals of various age, some of them scorched and showing traces of spiral fractures (Dočkalová 2005). The ceramic grave goods consisted of six vessels, fragments of thick-walled vessels, a smaller vessel and beaker deposited below a bowl. In the grave also three animal bones and two lithic artefacts were found. With regard to relative chronology, the STK burials from Těšetice belong to the early stage of this culture (phases II/III and III). The differences in burial practices of the STK people within one settlement testify to an absence of any steady and mandatory rules in funeral ceremonies. At "Sutny" and at other Moravian sites of that period with isolated burials, inhumation prevails. Only in two burials from Těšetice scorch or burn marks on skeletal remains have been detected, most visible in the mandible from burial H13 (Kazdová 1992, Dočkalová 2005).

MORAVIAN PAINTED WARE CULTURE (LENGYEL)

Isolated burials

Site: Těšetice – Kyjovice (Znojmo District)

The inhumation ritual burial H3 with ceramic grave goods was discovered in 1972 inside the fortification ditch of the LgK settlement in sector D, quadrants 14d and 14e. The grave pit was ellipsoid in shape, elongated in SW–NE direction, sized 130 cm in length. The grave was recessed



FIGURES 18a, b. Dolní Újezd–Dluhonice. LBK, Burial 1/2006 female 40–45 yrs.

into the ditch by 130 cm, at the bottom of the pit rested a male skeleton in supine position, the legs strongly flexed and drawn up to the body (Košťurík 1972). Near the left arm there was a thin-walled beaker, at the right elbow lay a partial vase-shaped vessel in upside-down position. According to the pottery, the burial with equipment was dated to the LgK IIa phase (Lengyel II – Košťurík 1972).

On the area of sector B, quadrant 7d the burial H8 was discovered at the depth of 80 cm. Neither the grave pit could be distinguished in the backfill of the LgK ditch nor could the recess of the ditch be followed up. The skeleton of an adult female rested in a left-flexed position with her head



FIGURES 19a, b. Mašovice–Pšeničné. LgK. Burial 2/2003 male 20–29 yrs.

turned WWS, facing NW. The arms crossed on the chest, the fingers of the left hand lying under the mandible, the right hand in front of the chin. The legs flexed, with knees touching the elbow joints. The right foot was flexed and the left one extended. Close to the skull there were ceramic shards and a cluster of large stones whose relation to the female burial was unequivocal.

Finds of isolated parts of human skeletons

In 1972, an incomplete part of a broken human skull of an adult male from the burial H4 was discovered near the surface level of the feature 151, inside the fortified part of the enclosure area. This find was important because of the feature's location inside the fortification in sector B2 of the LgK settlement, and it has been attributed with a cultic function (Podborský 1988).

Isolated burials in settlement features

Site: "Dolní Újezd" Dluhonice (Přerov District)

On a river terrace in the cadastre "Dolní Újezd" Dluhonice several settlement features from the LBK period have been detected, and settlement activity from the stage II

of the Moravian Painted Ware Culture (Schenk 2001, 372). The ritual burial of a female was discovered in 2006 inside a LgK settlement pit. At the bottom of a settlement pit (Feature 126) an adult female directed SW–NE was resting in a right-flexed position, facing east (Figure 18a). The settlement pit of 120 cm in diameter and 150 cm in depth contained rich ceramic grave goods placed upon the right foot of the female (Figure 18b), three ceramic vessels (pedestal bowl, biconical pot with cylindrical neck, thin-walled beaker), animal bones, pendants of perforated deer teeth, a flint flake and a clothing adornment of copper wire sized 4×3.5 cm. This burial of an adult woman in a settlement pit can be considered as a ritual burial with a unique bronze adornment and with interesting funerary equipment including also meat food – an entire animal leg (Schenk *et al.* 2007).

Examples of non-standard manipulation with entire human skeletons

Isolated finds

Site: Mašovice–Pšeničné (Znojmo District)

At the Neolithic settlement of Mašovice (Znojmo District) the skeleton of an adult male H2, K 1066 was discovered in 2003 in the Feature 705 (pit diameter around 1.5 m, depth 1 m); it had been intentionally thrown into a settlement pit (Figure 19a). The male was found lying in an unnatural position with his head near the bottom, and the protruding pelvic area in the upper part of the feature charged with massive stones. The right arm laid in front of the skull, bent at the elbow, directed towards the edge of the pit with clenched fist, the left arm was laid under the body. The left leg was stretched (towards the pit wall), as opposed to the right leg, which was extremely bent at the knee joint, with the foot laid on the right side of the skull (Figure 19b). After recovering the skeleton it became clear that the male died by violent death, which is proved by numerous unhealed injuries on the skull and upper extremities. The find has been dated by VERA-4362 to 5690±35 BP, which roughly corresponds to the LgK IIa phase (Lengyel II).

Collective finds

Site: Krumlovský les (Znojmo District)

In Krumlovský les (cadastre Moravský Krumlov, Znojmo District) prehistoric extraction areas have been researched (Oliva 2005), proving the manufacture of chipped stone industry in the late LgK stage. In 2002, in an excavation trench ca 16 m long and 2 m wide, 8 extraction shafts were discovered. In shaft No. 4 at the depth of 2 m there was a Late Lengyel bowl, the place of its deposition was dated by GrN-27500 to 5490±60 BP. Below the bowl at the depth of 5.5 m there was the skeleton of a stray hare lying in anatomical position. Inside a shaft's niche at the depth of 6 m rested the female skeleton H2 (Figure 20) in a strongly flexed and disturbed position with dislocated left arm. At the bottom of the niche at the depth of 7 m there was the skeleton of an adult woman H1 lying in supine position, the arms stretched and hands clasped behind the

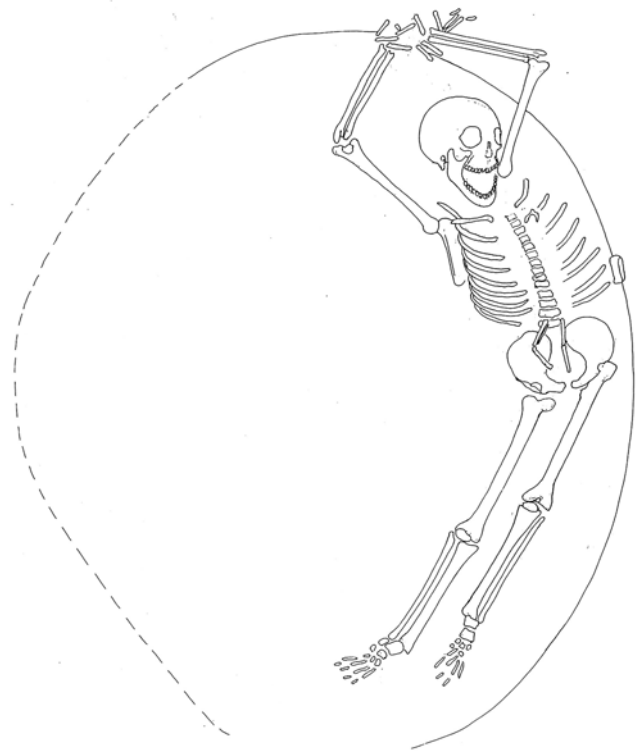


FIGURE 20. Krumlovský les. LgK. Burial H1/2002, female 25–35 yrs.

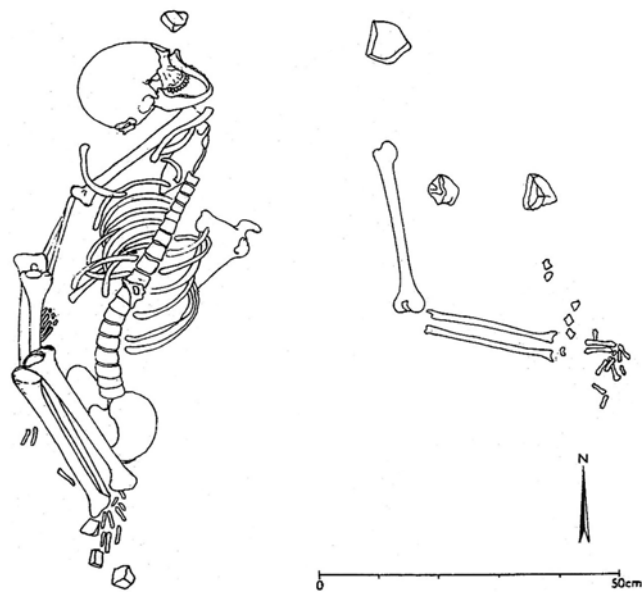


FIGURE 21. Krumlovský les. LgK. Burial H2/2002, female 35–40 yrs.

head. The female died while delivering, the unborn child rested in her pelvic and abdominal area (Figure 20), above the head there were scattered partial skeletal remains of a small dog. Human skeletal remains of both these females were radiometrically dated at Groningen laboratory, GrA-22839: 5380±50 BP.

POPULATION ANTHROPOLOGY OF NEOLITHIC SETTLEMENTS

Material

The material studied came from various archaeological excavations or eventually some ill-defined gatherings or development-led digs. Although the finding conditions are in many cases not known, certain information records on the finds' existence fill in the mosaic of the present knowledge on the population from Neolithic settlements in Moravia, mainly in terms of anthropology.

Skeletal remains of altogether 62 adult and 12 juvenile individuals from 34 sites (*Figure 1, Table 1*) have been available for the purpose of anthropological analysis. The degree of preservation of the skeletal material was diverse, some of the skeletons were completely preserved, but others incomplete or strongly damaged and unidentifiable, and the state of preservation unfortunately limited also the possibilities of the anthropological analysis.

Method

The skeletal material has been evaluated basing on morphological features and the developmental stage of morphoscopic features; the study of skeletal finds and determination of human bones has been performed according to standard anthropological methods recommended by the European Association of Anthropologists (Ferembach *et al.* 1980). Skulls were studied with regard to developmental stage of morphoscopic features (Ferembach *et al.* 1980), the closing of skull sutures after Meindel, Lovejoy (1985). Teeth were evaluated according to the degree of mineralisation of deciduous and permanent dentition (Ubelaker 1978), the age of adult individuals after the scheme of dental abrasion by Lovejoy (1985). For the purpose of a metrical evaluation of skeletal material the system of measurement units elaborated by Martin, Knussman (1988) was used; body height was calculated according to methods defined by Olivier (1969) and with the help of equations elaborated by Sjøvold (1973, 1990).

Evaluation of human finds

Brno (cadastral territories Bohunice, Nový Lískovec, Starý Lískovec):

Feature 2621/H 802/2006: Skeletal material was mistakenly designated as a cremation burial (Přichystal 2007). Anthropological analysis proved indistinct secondary scorching on the bone fragments of an adult individual.

Feature 2601/H 801/2006: Archaeological excavation trench fully damaged the burial of an adult male deceased at the age of 45–50. Of the whole skeleton only cranial bones, mandible fragments, isolated teeth and fragments of postcranial skeleton were preserved.

Feature 2565/H 800/2007: Cranial bones, two teeth, and a robust femur of a male deceased between 40–60 yrs of age.

Feature 5817/H 803/2007: Well-preserved skeleton of a young male aged 20–21, on the skull damaged left orbit (*Figure 22a*), *cribra orbitalia* in the right orbit. The

forehead is wide, arched, with a flat glabella (*Figure 22b*) and massive mastoids. The skull is dolichocranic, cranial occiput slightly prominent with rough tuberosities (*Figure 22c*). The mandible is robust, wide, high, teeth are without caries. The postcranial skeleton is robust, displaying permanent physical load: in clavicles widened *impressio ligamenti costoclaviculare* of medial parts. Reduced height of lumbar vertebral bodies in such a young male is unusual, together with *tuberositas glutea* in form of a bony crest on both femurs; body height 167.7 cm.

Feature 7414/H 805/2008: Incomplete skeleton of a juvenile male aged 14–19. *Calvarium* is gracile, forehead arched with a flat glabella. Cranial occiput without tuberosities, right mastoid small. Mandible is short with prominent chin, holding 14 healthy teeth without caries, M3 are not erupted. Postcranial skeleton is damaged.

Feature 7727/H 806/2008: Very well preserved skeleton of an elderly male aged 50–59. Robust skull, wide forehead, *arcus superciliaris* medium strong, glabella of stage II (*Figure 23a*), *cribra orbitalia* in both orbits. Maxilla holds teeth with irregular abrasion and bilateral pathological fusion of alveoli in M2, M3. Mastoids are large (*Figure 23b*) with a long supramastoid crest. Cranial occiput arched, below the nuchal line runs the edge of *fossa transversa* (*Figure 23c*). Mandible is wide, high with uneven base, gonion everted. Anthropometric characteristics: dolichocrany, orthocrany, acrocrany, euryprosopy, leptoprosopy, lepteny, mesoconchy, leptorrhiny, leptostaphyliny, orthognathy. Postcranial skeleton is robust, with displays of physical load, pathologies and changes. In the backbone there are pathological osteophytes on *dens axis*, fusions of cervical vertebrae C3–C5 and of the spinous processes. Healed fracture in *clavicula dx.*, deformation of shape in *clavicula sin.* Distinctive tuberosities (*m. deltoideus*), rough surface on femurs in places of *tuberositas glutea* and *linea aspera*. Femurs strongly pilasteric, tibiae eurycnemic with Harris lines (*Figure 51*); body height 165.1 cm.

Brno–Komín, Burial 44/1938: Skull of an adult individual with incomplete face, the nose and a part of the left orbit are missing (*Figure 24a*). The forehead is arched, with glabella of stage I, *arcus superciliaris* medium strong, *processus marginalis* formed on cheekbones, mastoids of medium size (*Figure 24b*). The skull of the 20–25-year-old male is short – brachyranic, narrow – stenometopic, in the occipital area there is a distinct *linea nuchale suprema*, inserted wormian bones *ossiculum suturae sagittalis*, *ossiculum suturae lambdae* (*Figure 24c*). Mandible strong, wide, gonion everted, caries in the right M2, the remaining teeth are healthy.

Brno–Královo Pole, No. 18/year?: Postcranial skeleton of an adult individual with typical female pelvis and open *incisura ischiadica major*. The stage of fusion between epiphyses and diaphysis in lower extremities, and that on *crista iliaca* correspond to the age of 18–20 yrs. Femurs and tibiae without any distinct tuberosities: platymeric, hyperplatycnemic, corresponding to medium developed musculature in this female; body height 152.9 cm.



FIGURES 22a, b, c. Brno-Bohunice. Skull No. 803. Frontal, lateral and occipital views of the skull of a 20–21-year-old male.



FIGURES 23a, b, c. Brno-Bohunice. Skull No. 806. Frontal, lateral and occipital views of the skull of a 50–59-year-old male.



FIGURES 24a, b, c. Brno-Komín. Skull No. 44/38. Frontal, lateral and occipital views of the skull of a 20–25-year-old male.

Brno–Maloměřice, No. 11/year?: Of the skull of an adult individual only a fragment of right parietal bone was found with a part of closed cranial suture *sutura sagittalis*.

Dolní Újezd–Dluhonice (Předmostí), Feature 126/Burial 1/2006: Skeleton of an adult female aged 40–45. The skull is missing face and cranial base. Frontal bone is narrow, forehead recessive, with indistinct *arcus superciliaris* and glabella of stage I, *cribra orbitalia* in orbits. Maxilla holds small, strongly abraded teeth, on the right a pathological fusion of alveoli M1, M2, M3. On the right parietal bone a healed injury – round depression sized 3×2 cm (Figures 43 a, b). Postcranial skeleton gracile, articular heads small, topography indistinct. Pelvis of female shape without *sulcus auricularis*, the female had not delivered. Femurs long, slender, tuberosities indistinct, pilaster weakly-developed. Tibiae gracile, mesocnemic, with Harris lines.

Držovice – Burial 2/1998: Skeleton of an adult female aged 25–30, with indistinct muscle topography. The skull deformed, medium wide – mesocranic, forehead flat, wide, with flat glabella. Cranial occiput arched, inserted wormian bones *ossicula suturae lambdae*, occipital bone pathologically porous on the outer side. Mandible is short, gracile, dental wear corresponds to adult age. Postcranial skeleton belonged to a very small gracile female with body height of 146.7 cm. Articular heads are small, in the right humerus there is a perforation of *fossa olecrani*. On the phalanges of four fingers osteophytes have been detected, caused by repeated working activity (Figure 46). On the pelvis postpartum *sulcus praeauricularis*, the female had delivered. Tibiae mesocnemic, with Harris lines.

Hluboké Mašůvky–Panská cihelna 17/1897: Skull of an adult individual aged 20–29 without mandible. Forehead wide, arched, with flat glabella (Figure 25a), *arcus superciliaris* indistinct. Orbits large, nose medium-sized. Cheekbones wide with *tuberculum marginale*, mastoids medium-sized (Figure 25b). Cranial occiput arched, topography indistinct (Figure 25c). Anthropometric characteristics: brachycrany, hypsicrany, metriocrany, metriometopy, lepteny, leptoprosopy, hypsiconchy, mesorrhiny, leptostaphyliny, orthognathy.

Hluboké Mašůvky – triple burial H1/skeleton 1/2003: Adult female deceased at the age of 25–30. On the skull a broadly arched forehead, glabella of stage I, distinct *arcus superciliaris*, small orbits, wide nose (Figure 26a). On the cheekbone *tuberculum marginale*, massive mastoids (Figure 26b). Cranial occiput with distinctive topography, in the *sutura lambdae* inserted wormian bones *ossicula suturae lambdae* (Figure 26c). Mandible short, wide, chin distinctive, gonion slightly everted. Anthropometric characteristics: ultradolichocrany, chamaecrany, acrocrany, eurymetopy, leptoprosopy, chamaeconchy, orthognathy. Postcranial skeleton is robust, articular heads massive, femurs hyperplatymetric, tibiae mesocnemic, with Harris lines; body height 167.4 cm.

Hluboké Mašůvky – triple burial H1/skeleton 2/2003: Skeleton of a subadult gracile female aged 18–20. The skull slightly prognathic, forehead arched, with metopic suture

(Figure 27a), nose and orbits of medium size, teeth without caries, mastoids small (Figure 27b). Cranial occiput arched, topography indistinct, cranial sutures are curvy, open (Figure 27c). Anthropometric characteristics: mesocrany, eurymetopy, chamaeprosopy, mesorrhiny, leptostaphyliny. Postcranial skeleton gracile, indistinctive. Long bones are slender, femurs platymetric without distinct tuberosities, tibiae mesocnemic.

Hnanice 1/Burial 3/1992: Skeleton of an adult female aged 20–25 with pathological findings. The skull deformed by soil pressure, divided by *sutura coronalis*, with *sutura metopica*, damaged cranial base. Mastoids medium-sized, cranial occiput arched, inserted *ossiculum suturae sagittalis*, two wormian bones *ossicula suturae lambdae*. Mandible short, wide, dentition healthy. Postcranial skeleton medium-sized, long bones slender without distinct tuberosities, articular heads small. On two ribs tuberculous changes (sized 7×5 mm), congenital defect *canalis sacralis apertus* of the spinal channel (Figure 54). On the pelvis *sulcus praeauricularis*, the female had delivered. Femurs with weakly-developed pilaster, tibiae mesocnemic, with Harris lines (Figure 48); body height 153.9 cm.

Holubice, Burial 10/year?: Preserved left half of the frontal bone and mandible. In the left orbit *cribra orbitalia*. Mandible short, wide, teeth without caries. The age of 19–20, sex cannot be determined.

Chornice, Burial 1/year?: Only 3 isolated teeth (C, P2, M) of an adult male aged 35–40 have been preserved.

Kralice na Hané, K 1683/2003: Partial skeleton of a juvenile individual aged 18–21. Skull fragments, with caries in the mandibular M2. Only fragments of long bones remained of the postcranial skeleton.

Krumlovský les – Burial 1/2002: Well-preserved skeleton of a female aged 25–35. Skull with a wide flat forehead, flat glabella, medium-sized orbits, wide nose (Figure 28a), wide cheekbones with *tuberculum marginale*, medium-sized mastoids, arched cranial occiput (Figure 28 b), a weakly-developed *torus occipitalis* on the *planum nuchale* (Figure 28c). Mandible short, wide, chin distinctive, teeth without caries. Anthropometric characteristics: mesocrany, hypsicrany, acrocrany, eurymetopy, hyperchamaeprosopy, chamaeconchy, mesoconchy, hyperchamaerhiny, leptostaphyliny, orthognathy. Postcranial skeleton gracile, lumbar vertebrae with arthritic osteophytes. *Os sacrum* with open spinal channel – *spina bifida compacta*. Humeri with small articular heads and distinct deltoid tuberosities. On the pelvis *sulcus praeauricularis*, the female had delivered. Femurs with distinct gluteal tuberosities, *trochanter tertius* in form of flat bony projections towards the attachment site of *m. gluteus maximus*, underneath the trochanter there is a deep groove (Figure 44). Tibiae eurycnemic, with Harris lines; body height 148.7 cm.

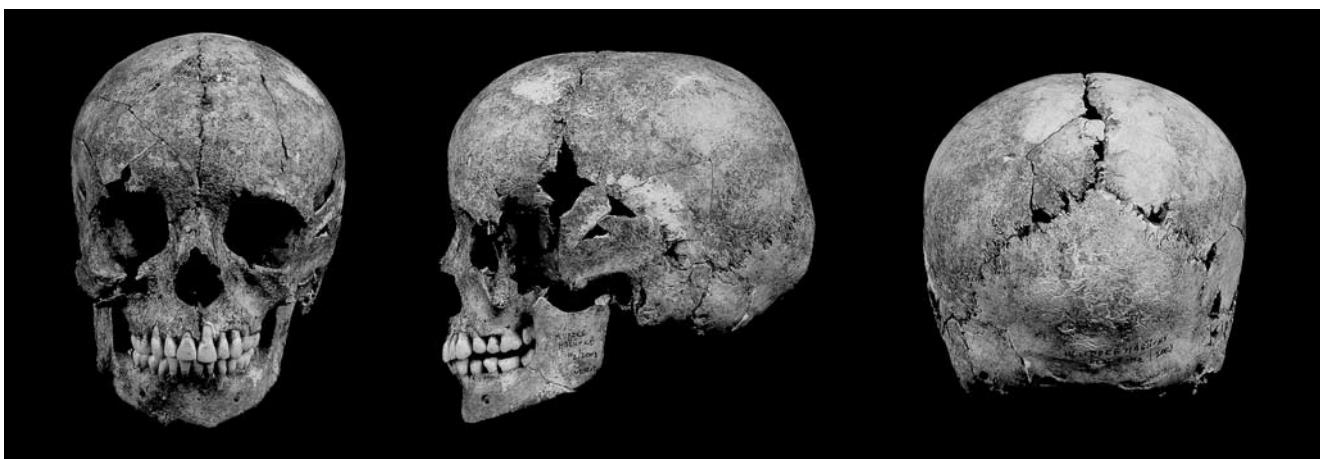
Krumlovský les – Burial 2/Shaft 4/2002: Skeleton of a female aged 35–40 with unborn child (Fazekas, Kósa 1978). The skull with mandible is prognathic, forehead arched, wide, *arcus superciliaris* indistinct, connected by a flat glabella. Medium-sized nose and orbits, wide cheekbones,



FIGURES 25a, b, c. Hluboké Mašůvky. Skull No. 17/1897. Frontal, lateral and occipital views of the skull of a 20–29-year-old individual.



FIGURES 26a, b, c. Hluboké Mašůvky. Skull No. 1/2003. Frontal, lateral and occipital views of the skull of a 25–30-year-old female.



FIGURES 27a, b, c. Hluboké Mašůvky. Skull No. 2/2003. Frontal, lateral and occipital views of the skull of a 18–20-year-old female.

tuberculum marginale is missing, medium-sized mastoids (Figure 29a). Preserved teeth are healthy, with irregular dental abrasion. Mandible – short, wide, low, without distinct tuberosities (Figure 29b). Cranial occiput arched, with weakly-developed *torus occipitalis* (Figure 29c). Anthropometric characteristics: brachycrany, hypsicrany, acrocrary, stenometopy, euryeny, hyperchamaeprosopy, mesoconchy, chamaerrhiny, mesostaphyliny. Postcranial skeleton gracile, on the backbone Schmorl's nodes in the thoracic vertebra Th12 and lumbar vertebrae L2, L3, L5 (Figure 53). On the pelvis deep *sulcus praeauricularis*, the female repeatedly delivered (Figure 52). Humeri with small articular heads, *fossa olecrani sin.* is perforated. Pseudoarthrosis at the left forearm. Femurs medium-sized, strongly pilastric – flat, topography indistinct. Tibiae mesocnemic, with Harris lines (Figure 49); body height 146.1 cm.

Kuřim, Feature 243/1996: Incomplete cranial vault, isolated teeth of an adult individual aged 20–29.

Mašovice–Pšeničné, Pit 613/Burial 1/2003: Skeleton of a female aged 15–17. Left cheekbone and a part of maxilla missing from the skull. Forehead high, arched, superciliary ridges indistinct, glabella indicated (Figure 30a). High nose, medium-sized orbits, *cribra orbitalia* in the right orbit, the left orbit damaged. Mandible – short, high, gonion straight with the absence of tuberosities, healthy teeth without caries, M3 with regard to age not erupted (Figure 30b). Cranial occiput angular, occipital bone shifted towards the cranial base (Figure 30c). Above the occipital bone emerged *os incae completum torus occipitalis* (height 40.8 mm, width 58.5 mm). Anthropometric characteristics: hyperbrachycrany, hypsicrany, tapeinocrany, dolichostenomandibular. Postcranial skeleton is medium-sized, long bones without fused articulations, body height cannot be determined. The vertebral column shows the congenital defect *spina bifida* on the *os sacrum* – S1. Tibiae with Harris lines.

Mašovice–Pšeničné, Pit 705/Burial 2/2003: Skeleton of an adult robust male deceased by violent death at the age of 20–29. On the skull wide arched forehead, distinctive *arcus superciliaris* and *lineae temporales* (Figure 31a), wide orbits, high nose. The left frontal bone roundly perforated (2.2 x 1.8 cm), on the *pars squamosa* numerous comminuted fractures (Figure 31b), a cyst in M1, distinct supramastoid crest, massive mastoids. The occipital bone is high, slightly deformed, with distinct topography, coracoid (drop-shaped) *protuberantia occipitalis externa* (Figure 31c). Anthropometric characteristics: dolichocrany, hypsicrany, acrocrary, eurymetopy, chamaeprosopy, mesoconchy, chamaerrhiny, mesostaphyliny, orthoghyliny, dolichostenomandibular. In the postcranial skeleton numerous perimortal fractures. Fracture of *clavicula dx.*, fracture of *condylus humeri dx.* Fracture of *humerus sin.*, twin forearm fracture of *radius, ulna sin.* (Figure 42). Femurs with very robust gluteal tuberosities near the *trochanter tertius*, strongly pilastric; body height 172 cm.

Mikulov–Jelení louka, Burial 1/1970: Skull fragments of an adult individual. The occipital bone with distinct

supramastoid crest, inside the bone extensive pathological porosity on the bone surface. Sex and age cannot be precisely determined.

Modřice, Feature 551/Burial 800/2004: Damaged skeleton of an adult female aged 50–55. On the skull missing face and cranial base. Flat, arched forehead, *cribra orbitalia* in the left orbit. Mandible with pathological fusion of alveoli M1, M2 and a distinctive *tuberositas masseterica*. Arched cranial occiput, low and wide skull. Anthropometric characteristics: mesocrany, orthocrany, tapeinocrany, metriometopy. Postcranial skeleton gracile, fragmentary, without distinct tuberosities. On the finger phalanges bone rims from the attachment of short flexors (Figure 45) caused by working activity. Only fragments of long bones survived of the postcranial skeleton.

Modřice, Feature 734/Burial 801/2004: Incomplete skeleton of an adult female aged 50–55. The skull has no base, forehead is narrow with a flat glabella, indistinct *arcus superciliaris*, medium-sized orbits (Figure 32a). Teeth without caries, dental crowns strongly abraded because of being used as a tool (Figure 32b). The skull is short – brachycranic, cranial occiput arched, the right mastoid small, the left one not preserved. Mandible – short, wide, low, pathological fusion of alveoli between the right M1 and M3 (Figure 32c). Only vertebral and pelvic fragments remained of the postcranial skeleton. Distinct attachment sites of short flexors on proximal (I) and medial (II) finger phalanges, except for the thumbs.

Moravský Krumlov, Burial 1/1980: Of the skull of an adult female aged 20–25 there remained mandibular bone fragments, two teeth, of the postcranial skeleton – ribs, vertebrae, the right forearm, two robust femurs with distinct topography of tuberosities indicating a male-like character. However, the open shape of *incisura ischiadica major* on the pelvis and preserved postpartum *sulcus praeauricularis* prove that these are remains of a female who had delivered.

Nová Ves u Oslavan, Burial 37/1950: Partial skeleton of an adult robust male aged 20–29. *Clavicula sin.*, *humerus dx.*, both forearms, long bones of lower extremities.

Nová Ves u Oslavan, Burial 1/16/1950: Preserved right half of mandible and maxilla. Teeth without caries, dental abrasion corresponds to adult age of 25–30 yrs. Distinctive *arcus superciliaris* on the frontal bone, *cribra orbitalia* in the left orbit.

Olšany, Burial 1/K 506/2001: Skeleton fragments of an adult individual aged 30–39. Only fragments remain of the skull and both jaws. Postcranial skeleton of no conclusive value.

Opava IV/1612/1959: Remains of a robust female deceased at the age of 20–25. Cranial fragments and occipital bone with massive mastoid, large articular heads. Distinctive *trochanter tertius* and rough topography of gluteal tuberosities is characteristic of males, but the preserved *sulcus praeauricularis* on the pelvis proves that this is the skeleton of a female who had delivered.

Pohořelice–Šumice IV/1811/1959: Cranial fragments are composed of the remains of two individuals. The left



FIGURE 28a, b, c. Krumlovský les. No. 1/2002. Frontal, lateral and occipital views of the skull of a 25–35-year-old female.



FIGURE 29a, b, c. Krumlovský les. No. 2/2002. Frontal, lateral and occipital views of the skull of a 35–40-year-old female.

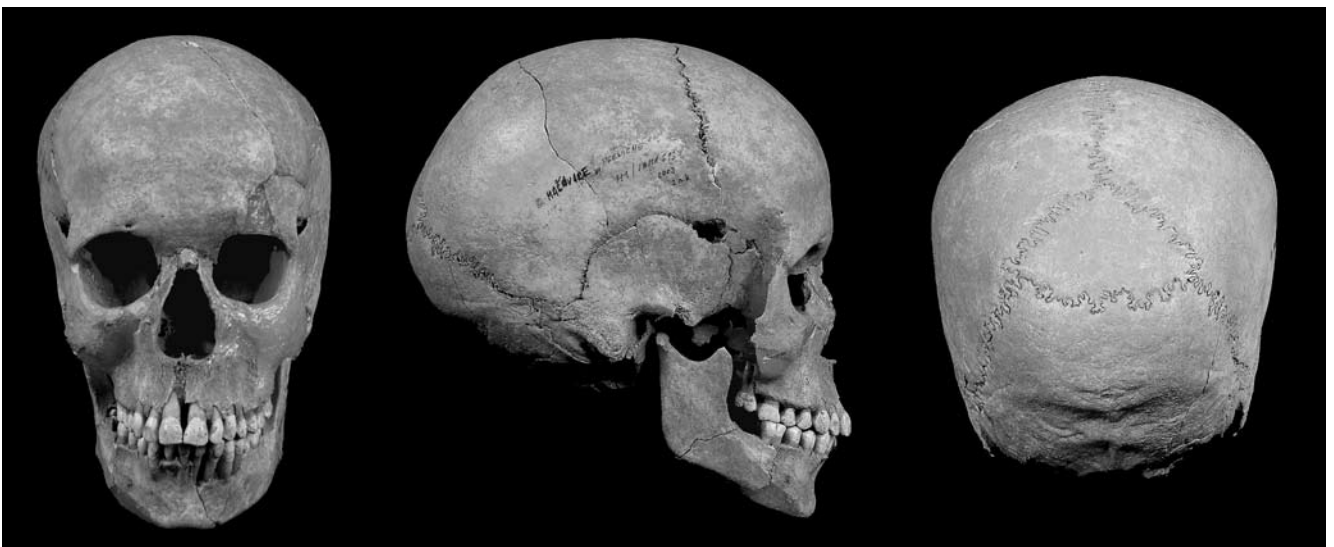


FIGURE 30a, b, c. Mašovice. No. 1/2003. Frontal, lateral and occipital views of the skull of a 15–17-year-old female.



FIGURE 31a, b, c. Mašovice. No. 2/2003. Frontal, lateral and occipital views of the skull of a 20–29-year-old male.



FIGURE 32a, b, c. Modřice. No. 801/2004. Frontal, lateral and occipital views of the skull of a 50–55-year-old female.

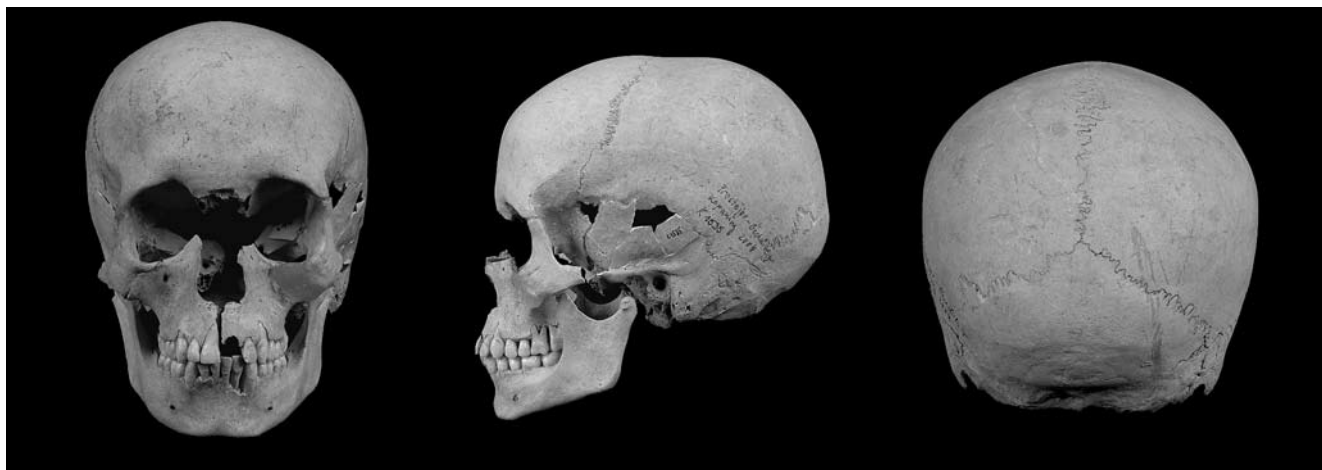


FIGURE 33a, b, c. Prostějov-Čechůvky. No. 1535/2004. Frontal, lateral and occipital views of the skull of a 14–15-year-old female.



FIGURE 34a, b, c. Rybníky. No. 35/1939. Frontal, lateral and occipital views of the skull of a 30–35-year-old female.



FIGURE 35a, b, c. Těšetice-Kyjovice. No. 3/1972. Frontal, lateral and occipital views of the skull of a 24–30-year-old male.



FIGURE 36a, b, c. Těšetice-Kyjovice. No. 8/1976. Frontal, lateral and occipital views of the skull of a 20–25-year-old female.

half of mandible comes from an individual aged 20–25, part of the chin from another individual. Postcranial skeleton is not homogeneous, long bones are robust, whereas particular vertebrae, shoulder blade and ribs rather gracile. Interesting in this find is the detection of various spiral fractures, above all in long bones. Finding conditions are unknown; the material comes from older excavations which cannot be objectively evaluated.

Prostějov–Čechůvky K1535/2004: Skeleton of a juvenile female aged 15–17. The skull is damaged, a part of the nose and medial margin of orbits are missing (Figure 33a). Arched forehead with a flat glabella. Mandible – short, wide, round chin, straight gonion without tuberosities (Figure 33b). In the roof of both orbits there are large and distinct *cribra orbitalia* (Figure 47). Dentition is healthy, without caries, M3 are not erupted, small mastoids. Arched cranial occiput, indistinct topography, *ossiculum suturae lambdoidea* in the lambdoid suture (Figure 33c). Anthropometric characteristics: mesocrany, hypsicrany, acrocrany, stenometopy, dolichostenomandibular. Postcranial skeleton – very gracile, slender femurs, tibiae with Harris lines.

Rybníky – year 1939: Skull with mandible of a female aged 30–35. Arched, wide forehead, medium-sized *arcus superciliaris* with a flat glabella, medium-sized orbits and nose (Figure 34a). Mandible narrow, low, distinctive chin, teeth without caries, only slightly worn, medium-sized mastoids (Figure 34b). Arched cranial occiput, a weakly-developed *torus occipitalis* on the *planum nuchale* (Figure 34c). Anthropometric characteristics: dolichocrany, orthocrany, meriocrany, eurymetopy, chamaeprosopy, mesoconchy, leptostaphyliny, orthognathy.

Střelice, Burial 1/12, year?: Skull and partial skeleton of an elderly 60-year-old female. On the skull missing face and cranial base. Forehead arched, wide, the left orbit is missing. On the *planum nuchale* the cranial occiput shows a distinct *linea nuchale suprema* forming a protuberance. On the right parietal bone there is a round fracture of 30 mm in diameter. The mandible is senile, without teeth, with pathological fusion of alveoli. Of the skeleton only long bones of the upper and lower extremities survived. Femurs without pilaster, hyperplatymetric, tibiae mesoconchic with Harris lines; body height 159.5±4.1 cm.

Střelice, Burial 14/II: Incomplete skull and a part of long bones of an adult female aged 20–40. *Calvarium* is hyperdolichocranic, eurymetopic. *Planum nuchale* with a distinctive topography. Of the postcranial skeleton only incomplete long bones were preserved.

Střelice, Burial 9/15, year?: Incomplete *calotte* and a chin fragment of an adult individual aged 30–40, the sex cannot be determined. In the cranium – very thick parietal bone *sin.* and *dx.* (12.9 mm) and occipital bone (10.3 mm), pathologically porous bone surface.

Střelice, Feature 523/K 800/2005: Incomplete skeleton of a juvenile 16-year-old individual. Partial skull, maxillary fragment, isolated teeth and dental crowns. Of the postcranial skeleton very gracile long bones.

Těšetice–Kyjovice, twin burial 2/1/1968: Skeleton of an adult male aged 40–45. Robust *calvarium*, without face and cranial base. Wide frontal bone with massive *arcus superciliaris*, glabella of stage III, arched forehead, wide nasal root. Supramastoid crest on the temporal bone forms a protuberance with a robust mastoid below. The skull is low, wide, cranial occiput slightly prominent, *linea nuchale suprema* of coracoid shape for the attachment of neck muscles, *planum nuchale* angular, flat. Mandible – short, wide, high, teeth without caries, strongly worn. The skull is dolichocranic and stenometopic. The postcranial skeleton is very robust, rough tuberosities of *m. deltoideus*, perforation of *fossa olecrani*. Femurs strong, *tuberositas glutea* distinct, tibiae with Harris lines.

Těšetice–Kyjovice, twin burial 2/2/1968: Of the skeleton of an adult individual aged 35–45 there remained a mandible, skull fragments, thoracic bones, fragments of long bones. The mandible is short, wide, the chin is rounded, low. Teeth strongly and irregularly worn, dental crowns probably splintered.

Těšetice–Kyjovice, Burial 3/1972: Skeleton of an adult male aged 24–30, on the skull missing part of the parietal bone. Forehead – wide, arched, with glabella of stage I, very small *arcus superciliaris*, medium-sized orbits, high and wide nose, cheekbones with *tuberculum marginale* (Figure 35a). Mandible – short, wide, high chin, everted gonion. On the temporal bone a massive mastoid (Figure 35b). Cranial occiput arched, bone surface without tuberosities, inserted wormian bones *ossicula suturae lambdoidea* (Figure 35c). Anthropometric characteristics: brachycrany, hypsicrany, tapeinocrany, stenometopy, chamaeprosopy, hypsiconchy, mesorrhiny, orthognathy. Postcranial skeleton – medium-sized, slender humeri, rather small articular heads, *fossa olecrani* is not perforated, indistinct tuberosities. Distinct bone rims from the attachment of short flexors on the finger phalanges. The pelvis testifies that this is a male, femurs – slender, long, without pilaster; *tuberositas glutea* is distinctive, tibiae mesoconchic, with Harris lines (Figure 50); body height 154.6 cm.

Těšetice–Kyjovice, Burial 4/1974: Damaged skull part of a male aged 20–24. On the frontal bone distinct *arcus superciliaris*, glabella of stage III. Recessive forehead turns into an arched shape behind the supraorbital ridge, thick cranial bones. On the skull – traces of longitudinal scorch on the temporal and parietal bones. The skull probably lay close to a fire, the skeletal material was supposedly manipulated. Maxilla holds healthy teeth without caries, intentionally splintered (P2, C, I2–II, I2, C).

Těšetice–Kyjovice, Burial 7/1975: Partial skeleton of a juvenile individual, skull fragments (*os frontale*, *os parietale dx.* and *sin.*) and the right humerus.

Těšetice–Kyjovice, Burial 8/1976: Incomplete skeleton of an adult female aged 20–25. The skull shows a robust braincase and wide flat forehead (Figure 36a). Glabella is only indicated, orbits are wide, teeth healthy without caries, mandible – short, wide, massive (Figure 36b). Arched cranial occiput, *squama occipitalis* broken-off at the attachment site



FIGURE 37a, b, c. Těšetice-Kyjovice. No. 10/1/1981. Frontal, lateral and occipital views of the skull of a 30–35-year-old male.



FIGURE 38a, b, c. Těšetice-Kyjovice. No. 10/2/1981. Frontal, lateral and occipital views of the skull of a 45–55-year-old female.



FIGURE 39a, b, c. Těšetice-Kyjovice. No. 20/1992. Frontal, lateral and occipital views of the skull of a 17–19-year-old male.

of neck muscles, missing cranial base and mastoids (*Figure 36c*). The skull is mesocranic and metriometopic. Postcranial skeleton with female features, on the pelvis postpartum *sulcus praeauricularis*, the female had delivered. Long bones of extremities are very slender, femurs platymeric, tibiae mesocnemic, with Harris lines; body height 163.5 cm.

Těšetice–Kyjovice, triple burial 10/1/1981: Skeleton of an adult, very robust male aged 30–35. *Calvarium* deformed, missing face and cranial base. The skull is long, high, robust. Forehead wide, arched, distinct *arcus superciliaris* with glabella of stage II, medium-sized orbits (*Figure 37a*). Mandible – robust, wide, high, angular chin, little-worn teeth, everted gonion, *tuberositas masseterica* on the surface (*Figure 37b*). The temporal bone with supramastoid crest, robust mastoids. Cranial occiput is slightly prominent, inserted *ossiculum suturae lambdoidea*. *Squama occipitalis* is low, wide, with a distinctive ridge from the attachment of neck muscles (*Figure 73c*). Postcranial skeleton medium robust, humeri with perforated *fossa olecrani*, bone impressions on *corpus radii dx*. Femurs – medium-sized, with weakly-developed pilaster, platymeric, eurycnemic tibiae with Harris lines; body height 167 cm.

Těšetice–Kyjovice, triple burial 10/2/1981: Damaged skeleton of an elderly female aged 45–55. In the *calvarium* missing face and cranial base. Arched wide forehead, distinctive *arcus superciliaris*, glabella of stage II. Incomplete small orbits, wide nasal root, mastoids missing (*Figure 38a*). Separated maxilla, gracile, rounded, healthy teeth, strongly abraded to the dentine, mostly M1, less M2 (*Figure 38b*). Cranial occiput is arched, low, distinct *protuberantia occipitalis externa*, in the place of tuberosities there is rough bone surface (*Figure 38c*). Postcranial skeleton is medium-sized, indistinct tuberosities. Bone rims from the attachment of short flexors on the finger phalanges. Long bones medium-sized, small articular heads. Female pelvis without *sulcus praeauricularis*, the female had not delivered. Femurs medium-sized, with weakly-developed pilaster, platymeric; mesocnemic tibiae.

Těšetice–Kyjovice, Burial 11/1986: Incomplete skeleton of an adult female aged 40–50. Of the skull only the right half of the face was preserved, the left half and cranial base are missing. Forehead – recessive, wide, flat, with glabella of stage I. Maxilla with six teeth abraded to the dentine. Left orbit medium-sized, gracile cheekbone, medium-sized mastoid. Mandible – short, wide, gracile, with prominent medium-sized chin, rami short, wide, with smooth surface. Cranial occiput is prominent, surface smooth without topography, inserted *ossicula suturae lambdoidea*. Postcranial skeleton is gracile, medium-sized humeri, indistinct tuberosities, perforated *fossa olecrani* in the left humerus. Both ulnae and radii are gracile. Of the hand bones only thumb and three phalanges with bone rims from the attachment of short flexors were preserved. Pelvic bone with postpartum *sulcus praeauricularis*, the female had delivered. Femurs slender without pilasters, *tuberositas glutea* is formed, articular heads medium-sized, hyperplatymeric; platycnemic tibiae.

Těšetice–Kyjovice, Burial 12/1987: Find of isolated bones of an adult individual. Fragments of cranial and postcranial skeleton. Spiral fractures, traces of incisions and blow hits detected on long bones (humerus, femur, tibia, fibula). The bone surface is covered with calcareous sinter, which indicates that these interventions must have been applied prior to burial.

Těšetice–Kyjovice, Burial 13/1989: Cremation burial of an adult individual aged 20–25. Charred fragments of cranium, mandible *sin.* and postcranial skeleton. The bones bear traces of black scorch, but also strong annealing, because they had probably lain at different distances from the fire.

Těšetice–Kyjovice, Burial 14/1988: Secondarily disturbed burial of an adult female aged 20–25. Of the skeleton only the upper part was preserved, gracile skull, mandible, vertebrae, partial left arm and the right hand. The skull is wide, low, with missing cranial base. Arched forehead, flat glabella, medium-sized orbits, short and wide nose. Mandible is short, wide, medium high, teeth without caries, everted gonion. Prominent cranial occiput, *planum nuchale* broken-off below the line of *torus occipitalis*. Mastoids medium-sized, above them a short and distinctive supramastoid crest. Anthropometric characteristics: mesocrany, metriometopy, hyperleptoprosopy, chamaerhiny. Initial arthritic changes in cervical vertebrae. Humerus with a distinctive tuberosity of *m. deltoideus*, perforated *fossa olecrani*.

Těšetice–Kyjovice, Burial 14/Feature 321/1989: Incomplete postcranial skeleton of an adult individual, pelvic and femoral fragments. The bones are robust, with traces of numerous fractures on their surface; the original interventions on bones are sintered.

Těšetice–Kyjovice, Burial 18/1992: Skeleton of an adult female aged 20–25, left half of the skull coloured with red ochre, the dye permeated into the cranial tissue – diploe. The skull is deformed, high, narrow forehead, flat glabella, *cribra orbitalia* in orbits, medium-sized nose. Mandible is short, narrow, low; healthy teeth, M3 bud, not erupted, small mastoids. Cranial occiput is high, narrow, inserted *ossicula suturae lambdoidea*. Postcranial skeleton is gracile, indistinct muscular topography, humeri with perforated *fossa olecrani*. On the pelvis *sulcus praeauricularis*, the female had delivered. Femurs are gracile, slender, *trochanters* – eminences at the attachment sites of gluteal muscles distinct, flat bony crests. On the left femur enthesopathy – attachment site for the knee extension, mesocnemic tibiae; body height 156 cm.

Těšetice–Kyjovice, Burial 19/1992: Skeleton of a juvenile male aged 16–18. Disproportional skull, small and narrow braincase. Face – flat, high, with a distinct prognathia. Arched, narrow forehead, flat glabella, medium-sized orbits, high nose. Mandible – short, wide, very high, everted gonion, teeth without caries. Cranial occiput arched, topography of *protuberantia occipitalis externa* distinctive. Anthropometric characteristics: mesocrany, hypsicrany, acrocrany, eurymetopy, hyperlepteny, leptoprosopy, mesoconchy dx., leptostaphyliny, prognathia. Postcranial



FIGURE 40a, b, c. Vedrovice No. 10/1974. Frontal, lateral and occipital views of the skull of a 40–49-year-old man.



FIGURE 41a, b, c. Vedrovice No. 11/1974. Frontal, lateral and occipital views of the skull of a 45–55-year-old female.

skeleton is very robust. Long bones are virally bended, deformed probably due to rachitis or dysplasia. Femurs with massive articular heads, the topography of muscle attachment sites is formed by rough eminences *tuberositas glutaeta*, below *trochanter tertius* a deep *fossa trochanterica*; body height 168.7 cm.

Těšetice–Kyjovice, Burial 20/1992: Skeleton of a male aged 17–19. Skull with damaged frontal bone and right orbit, cranial base missing. Forehead – wide, arched, glabella of stage II, wide nose, medium-sized orbits with *cribra orbitalia*, wide cheekbones with *tuberculum marginale* (Figure 39a). Mandible is robust, short, wide, the chin is high, teeth without caries, gonion slightly everted. On the temporal bone there is a distinct supramastoid crest, massive mastoids (Figure 39b). Cranial occiput – wide, angled at the attachment site of neck muscles, *protuberantia occipitalis externa* forms a massive crest (Figure 39c). Anthropometric characteristics: mesocrany, metriometopy, leptoprosopy, hypsiconchy *dx.*, mesoconchy, chamaerhiny, leptostaphyliny. Postcranial skeleton is robust, thoracic

vertebrae show deep impressions in dorsal surface of their body (*Lig. longitudinale posterior*). Long bones are medium robust, distinct tuberosities for *m. deltoideus*. On femurs strong *tuberositas glutaeta* with distinct topography of muscle attachments. Tibiae eurycnemic, with Harris lines; body height 160.5 cm.

Těšetice–Kyjovice, Burial 21/1992: Scattered partial skeleton of an adult male aged 20–21 and a child. Of the adult individual there is the frontal bone with glabella of stage II, parietal and occipital bones, maxilla with I, P1, P2, isolated M2, M3. Of the postcranial skeleton there is the sternum, clavicle, L5. Pelvis is robust, male, *incisura ischiadica major* closed, articular heads massive, acetabula large. Femurs are medium-sized, distinctive *tuberositas glutaeta*, strongly pilastric, platymeric, *trochanter tertius* in form of a distinct protuberance. Tibiae with massive anterior crest, S-curved, distinct *tuberositas tibiae*; body height 165.5 cm.

Trstěnice 36/1957: Partial skeleton of an adult female aged 35–40. Skull, maxilla, mandible, face

and cranial base are damaged. Arched forehead, flat glabella, medium-sized orbits with *cribra orbitalia*. *Squama temporalis* is low, mastoids massive. Mandible is short, wide, a pathological abscess caused by tooth loss in M1; rounded chin, everted gonias, distinctive *tuberositas masseterica*. Flat cranial occiput, occipital bone with distinct topography of *protuberantia occipitalis externa*, bilaterally inserted *ossicula suturae lambdoidea*. Anthropometric characteristics: brachycrany, metriometry, leptostaphyliny, dolichostenomandibular.

Určice–Alojzov, Burial I/K 529/1999: Skull fragments and partial skeleton of an adult individual aged 40–50. Of the skull there is a robust cranial vault, strong occipital bones of male character. Teeth were not preserved. Of the chest there are ribs and thoracic vertebra Th12 with a pathological osteophyte. Long bones are not robust, surface topography indistinct.

Vedrovice, Burial 9/1974: Well-preserved skeleton of an elderly female aged 50–59. On the skull the cranial base is missing, forehead low, recessive, weakly developed *arcus superciliaris*, small glabella. Medium-sized orbits, high and wide nose. Senile jaws, all teeth lost intravital, alveoli vanished by chewing. Temporal bones high, mastoids medium-sized. Cranial occiput is slightly prominent, the transition to *planum nuchale* on the occipital bone is marked by a weakly-developed *torus occipitalis*. Anthropometric characteristics: dolichocrany, orthocrany, acrocary, eurymetopy, metriocrany, hypereuryeny, hyperchamaeprosopy, chamaeconchy, mesoconchy, leptorrhiny, orthognathy, mesomandibular. Postcranial skeleton of this adult female has been entirely preserved, it is medium robust. Deformative spondylosis, spinal affliction caused by the growth of osteophytes in the thoracic and lumbar areas. On the pelvis *sulcus praeauricularis*, the female had delivered. Distinct bone rims from the attachment of short flexors on finger phalanges. Femurs are medium-sized, with weakly-developed pilaster, platymeric, platynemic tibiae; body height 162.4 cm.

Vedrovice, Burial 10/1974: Skeleton of an adult male aged 40–49. On the skull high, flat forehead, its shape does not exclude a slight rachitis, weakly-developed *arcus superciliaris*, flat glabella (Figure 40a). Maxilla strongly prognathic, a cyst in M1, alveoli M2 and M3 vanished, narrow and wide nose, medium-sized orbits (Figure 40b). High mandible, distinct chin, in the right P1 a caries decayed the whole crown so that only the dental root stayed preserved. *Squama temporalis* with short supramastoid crest, large and strong mastoids (Figure 40c). Bone rims from the attachment of short flexors on finger phalanges. The situation when an individual aged about 40 shows altogether nine carious teeth is exceptional in the Neolithic, just as the considerably high dental wear in all teeth. The teeth, mainly the maxillary ones, are covered with tartar. Cranial occiput shows a coracoid shape of *protuberantia occipitalis externa* at the inion, *planum nuchale* is uneven, with distinct attachment sites of neck muscles. Anthropometric characteristics: ultradolichocrany,

hypsycrany, acrocary, eurymetopy, lepteny, hypsiconchy, leptorrhiny, prognathy, dolichostenomandibular. Postcranial skeleton shows osteophytes on the backbone, distinct tuberosities of *m. deltoideus*, radii with a large *tuberositas radii*. On femurs strong *tuberositas glutea* of distinct shape, *trochanter tertius* indicated as a bony protuberance, platymeric index refers to a flattened area in the upper portion. On the right tibia a distinct crestiform *tuberositas tibiae*, anterior crest S-curved.

Vedrovice, Burial 11/1974: Skeleton of a robust male aged 45–55. The skull is robust, both as a whole and in particular features (supramastoid, mastoid), the highest robusticity concentrated into the occipital area (Figures 41a, c). Wide forehead, distinctive *arcus superciliaris*, in the nasion there is a moderate depression, high orbits, high and narrow nose; a dental cyst in the root of the maxillary left M1 (Figure 41b), mandible strong, high, in M2 and M3 bilaterally vanished alveoli, straight gonias, without tuberosities. On the temporal bone the supramastoid crest of about 2–3 cm proceeds to *arcus zygomaticus* and does not run beyond the bone, robust and strong mastoids (Figure 41c). Arched cranial occiput, prominent *planum nuchale* with a massive coracoid feature. Anthropometric characteristics: dolichocrany, eurymetopy, acrocary, lepteny, hypsiconchy, leptorrhiny, orthognathy, dolichostenomandibular. Postcranial skeleton incomplete, body height cannot be assessed, but the remains of bones (femur, fibula, clavicle, humerus) are very strong, with distinct tuberosities and attachment sites of *m. deltoideus*, in femur a bony crest for the attachment of *m. gluteus maximus*.

Vedrovice, Burial 1/1985: Skeleton of an adult female aged 20–25. On the skull an arched female forehead, flat glabella, very small *arcus superciliaris*, distinct frontal eminences, the *processus marginalis* is not formed, maxilla distinctly prognathic. Medium-sized mandible, distinct chin, wagging base, straight gonias. Asymmetric occlusion corresponds to an irregular dental wear of anterior teeth in both the mandible and maxilla, teeth without caries, with regard to age the overall dental wear is low. In the temporal bone the supramastoid crest is medium-sized, small mastoids. Cranial occiput is arched, not angled, indistinct occipital topography. Postcranial skeleton is very gracile, slender humeri, rather small articular heads, *fossa olecrani* not perforated, indistinct tuberosities. Femurs – slender, long, massive articular heads, distinctive *tuberositas glutea*, weakly-developed pilaster. Tibiae mesocnemis; body height 157.9 cm.

Vedrovice, Burial 2/1985: Incomplete skeleton of an adult male aged 25–30. Of the skull there is a long and narrow *calvarium* with arched forehead, *cribra orbitalia* in orbits. Only the left half of the mandible has been preserved, high and distinct chin, straight gonias with smooth topography. Cranial occiput is arched, *protuberantia occipitalis externa* on the squamous portion shows a coracoid shape at the inion, incomplete *planum nuchale*, topography of muscle attachment sites is rough. Postcranial skeleton is robust,

lower extremities are completely missing. In humeri distinct tuberosity of *m. deltoideus*, radii are strong, with large *crista interossea radii*. Very robust pelvic bones prove that this is a male.

Vedrovice, Burial 6/1988: Skeleton of an elderly robust 50-year-old female. *Calvarium* is long – dolichocranic and narrow – eurytopic, the face is missing, recessive forehead, flat glabella, short and wide mandible without the mental protuberance, teeth strongly and unevenly worn. *Squama temporalis* is low, mastoids medium-sized. Flat vertex merges into an arched cranial occiput with distinct tuberosity *linea nuchae suprema*. Postcranial skeleton shows robust tuberosities of *m. deltoideus*, *fossa olecrani* is perforated. Pelvis of typical female shape, without maternal features, the female had not delivered. Femurs are strong, distinctive *tuberositas glutea*, medium-sized pilaster, mesocnemic tibiae; body height 149.1 cm.

Vedrovice, Burial 7/1988: Incomplete skeleton of an adult, very gracile female aged 35–45. On the skull missing facial part and cranial base, low and recessive forehead, indistinct glabella, weakly-developed *arcus superciliaris*. Mandible is short with intravital loss of six teeth, all alveolar eminences vanished by chewing. Cheekbones and mastoids are small. Cranial occiput is arched; a weakly-developed *torus occipitalis* is indicated on *planum nuchale*. Postcranial skeleton is very gracile, slender humeri, small articular heads. Femurs without pilaster, hyperplatymetric, medium-sized articular heads, both tibiae mesocnemic.

Vedrovice, Burial 8/1988: Incomplete skeleton of a juvenile 15-year-old individual, sex cannot be determined. Of the skull there is the occipital and parietal portion, half of the mandible and isolated teeth, of the postcranial skeleton long bones and bone fragments.

Vedrovice, Burial 9/1988: Skeleton of a young 18-year-old female. The skull is medium-sized, narrow, with narrow face, the forehead is low, with a flat glabella, orbits and nose are medium-sized. Maxilla prognathic, teeth without caries, M3 not erupted. Mandible is short, high, gonion straight with smooth topography. *Squama temporalis* is low, mastoids very small. Cranial occiput is arched, not angled, indistinct topography in the occipital area. Anthropometric characteristics: mesocrany, orthocrany, metriocrany, stenometopy, mesoconchy, hipsyconchy, mesorrhiny, mesostaphyliny, orthognathy. Postcranial skeleton is incomplete, with missing thoracic bones – vertebrae and ribs. In humeri missing articular heads, the right gracile humerus with perforated *fossa olecrani*. Pelvic bone shows female features. Femurs are medium-sized, slender, platymetric, indistinct tuberosities, mesocnemic tibiae; body height 157.5 cm.

Vedrovice, Burial 10/1989: Well-preserved skeleton of an adult female aged 20–25. Frontal bone is partly damaged, *cribra orbitalia* in orbits, arched forehead, wide cheekbones, weakly developed *tuberculum marginale*. Mandible is short, low, gonion straight with smooth topography, teeth without caries. Temporal bone shows a distinct supramastoid crest and robust mastoid. Cranial

occiput is flat, arched *squama occipitalis* merges into an angled *planum nuchale* with a distinct topography below the *linea nuchae inferior*. Anthropometric characteristics: acrocrany, eurytopic, leptoprosopy, meseny, chamaeprosopy, chamaerrhiny, leptostaphyliny, dolichostenomandibular. Postcranial skeleton is medium-sized, not gracile, with vertebral spondylosis, bone spurs – osteophytes in the area of lumbar vertebrae. Humeri of medium size with distinct deltoid tuberosities, perforated *fossa olecrani*. On the pelvic *fossa iliaca* coalescing pores, bilaterally in the acetabular area. On the pelvis postpartum feature *sulcus praeauricularis*, the female had delivered. Femurs are medium-sized, weakly developed pilaster, distinctive gluteal tuberosity *trochanter tertius*. Mesocnemic tibiae; body height 147.2 cm.

Vedrovice, Burial 11/1997: Preserved part of cranial vault, mandible, maxillary fragment, isolated teeth, and fragments of cervical vertebrae of an adult female aged ±50. *Calvarium* shows an arched flat forehead with a flat glabella, distinct temporal line and the left medium-sized mastoid. Cranial occiput is arched, surface topography of *planum nuchale* indistinct. Mandible gracile, low, the left ramus missing, teeth without caries, unevenly abraded.

Vedrovice, Feature 5, Burial 14/1997: Of the skeleton of a male deceased at the age of 18–20 the right parietal bone and proximal part of the robust right femur were preserved.

Velatice–Padělky, Burial 278/year?: Of the skeleton of an adult gracile female there are only long bones with an indistinct topography of muscle attachment sites.

Vyškov–cihelna, Burial 37/1960: Damaged skeleton of a juvenile individual aged 15–17. Frontal bone flat with a flat glabella, the left half of maxilla with M1, M2, M3 was not involved in occlusion, isolated teeth, parietal and occipital bone. Of the postcranial skeleton only long slender bones were preserved.

Žadovice – Feature 109/1986: Skeletal remains of an adult individual aged 35–45, sex cannot be determined. Of the skull there are only fragments of parietal bones, of the humerus only a part of epicondyle.

Želešice u Brna, Burial 1/1979: Incomplete skeleton of an adult female aged 25–30. The skull is short, wide, damaged at the nasion, *cribra orbitalia* in the left orbit, wide cheekbone, formed *processus marginalis*. *Squama temporalis* is medium-sized, with supramastoid crest, robust mastoids. Arched cranial occiput, indistinct topography. Postcranial skeleton is damaged, preserved ribs, vertebrae, humeri with perforated *fossa olecrani*, indistinct tuberosities. On the pelvis postpartum *sulcus praeauricularis*, the female had delivered. Of lower extremities there is the right femur, slender, medium pilastic, platymetric.

Židlochovice – No. 1617/year?: Damaged partial skeleton of an adult male. On a fragment of the right frontal bone there is a distinct *arcus superciliaris*, on the squamous portion of the occipital bone *protuberantia occipitalis externa* of coracoid shape. Of the postcranial skeleton



FIGURE 42. Mašovice. Fracture of *humerus sin*, twin forearm fracture of *radius, ulna sin*.



FIGURE 44. Krumlovský les 1. Femur, deep groove below the trochanter – effect of work load.

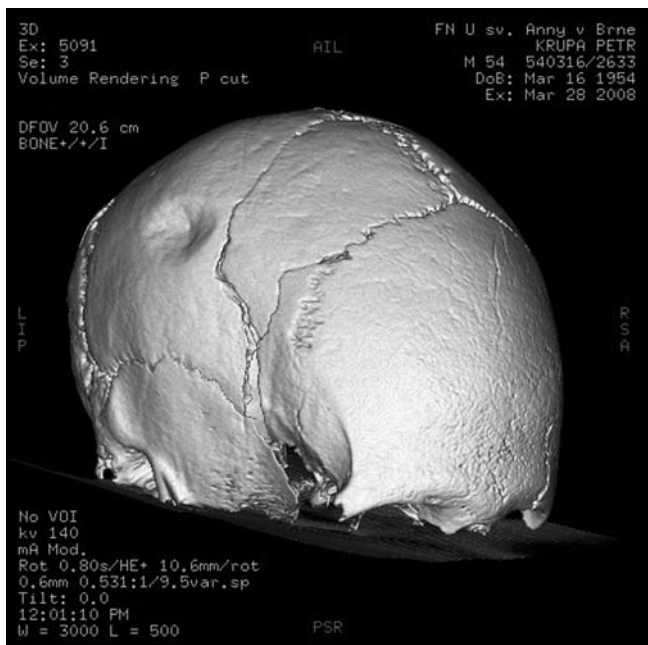


FIGURE 43a, b. Dolní Újezd-Dluhonice. Healed round injury on the right parietal bone.



FIGURE 45. Modřice 800. Constituted bone rims on finger phalanges for the attachment of short flexors.

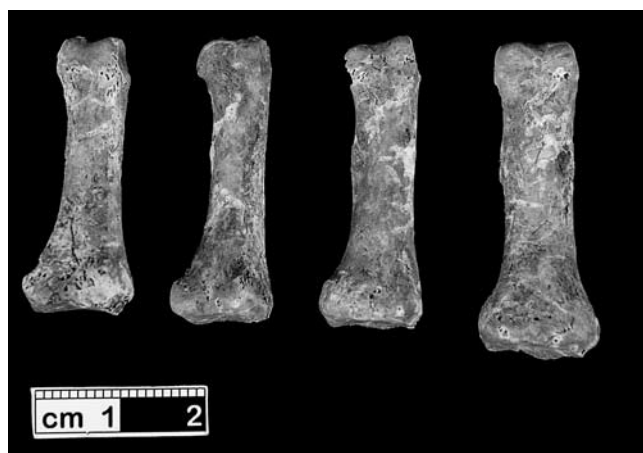


FIGURE 46. Držovice H 2/ 1998. Finger phalanges with osteophytes from a repeated working activity (manufacture of cords).



FIGURE 47. Prostějov-Čechůvky. In the roof of both orbits large and distinct cribra orbitalia



FIGURE 48. Hnanice, tibiae with Harris lines.

there is the left forearm, a part of a robust humerus and a fragment of tibia.

CONCLUSION

Settlement burials

The first evidence of settlement and cemetery burials comes from the beginning of the New Stone Age; it has been associated with the new agrarian way of life, colonisation of landscape and the construction of dwellings in Moravia, as well as all over the prehistoric Europe. The first evidence of using settlement features for burials and at the same time the occurrence of isolated graves within settlements begin to appear at the onset of phase Ib (subphase Ib₁) of the Moravian LBK, and the rapid accrual of all burial forms fades away in the phase IIa (Čižmář 2008a, Dočkalová, Čižmář 2008b). Since later LBK stages at Moravian Neolithic settlements there occur individual graves that may be interpreted as forced



FIGURE 49. Krumlovský les 2, tibiae with Harris lines.

burials (Modřice 800, 801), isolated burials in settlement features (Bohunice 803, 805, 806) and males buried in a peculiar way, with absence of female skeletal remains at a large agglomeration sized 25 ha (Přichystal 2008). In the milieu of settlement agglomerations also groups of isolated burials were discovered (Figure 4), probably the remnants of a larger settlement necropolis at Těšetice–Kyjovice. Registered were also non-standard practices of gradual filling up the grave pit H18 (Kazdová 2008), but also an adjustment of grave pit H20 into the shape of a circumferential step (Kazdová 1992, Dočkalová, Koštuřík 1996), and intentionally modified position of the male buried in grave H19 (Dočkalová, Čižmář 2008a).

Inhumation burials in settlement features or in grave pits within settlement agglomerations conform to steady rules of the burial rite. The deceased individuals are buried in flexed position on the left or right side, in specific cases (Blučina) lying on the back, relatively often with grave goods. These are in most cases represented by fully functional artefacts; but relatively often only with



FIGURE 50. Těšetice-Kyjovice 3, tibiae with Harris lines.



FIGURE 51. Brno-Bohunice. No. 806, tibiae with Harris lines.

symbolical ceramic grave goods occur, where the vessel is replaced by a larger fragment (Těšetice–Kyjovice H18) or by several pottery fragments (Držovice). Isolated burials include either moderate or rich equipment, but partial skeletons can be found as well, and frequently also non-standard manipulation with human skeletons can be detected (Těšetice–Kyjovice H19). The example of violent death in a female (Olšany–Zlatiska, *Figure 14*), probably with a post-mortem modified deposition in a settlement pit (resembling a bow), may be connected also with some legal act in individuals condemned to death. The first case of a killed Neolithic male was found at Mašovice (Dočkalová 2006). On the male's body numerous perimortal fractures could be detected, on the right arm traces of violent dragging, broken left arm and smashed left forearm (*Figure 42*). The right hand of the aggressor caused a lethal perforation on the left side of the skull (*Figure 31b*), the male died immediately, he was thrown into a pit and buried under stones and earth.

Remnants of Neolithic burials can be found at various places – inside settlement pits, in caves, at cemeteries, but also in a non-standard burial environment of extraction shafts e.g. in Krumlovský les (Oliva 2005). In the Neolithic

period also multiple burials of adult individuals and children occur (Dočkalová, Čižmář 2007). When interpreting the phenomenon of settlement burials, the reasons thereof have been sought and it is well possible that it had been nothing exceptional, but a common way of burials.

Anthropological characteristics

For the purpose of anthropological analysis we had skeletal remains of 74 individuals (throughout sites and cultures). Among them were adults – 20 males, 33 females, 9 undetermined individuals, and 12 subadults (*Table 2*). The examined individuals from settlement burials were divided into groups by archaeological cultures (*Table 3*). From all three investigated cultures, the Linear Pottery Culture (LBK) was the most abundant one, represented by 42 individuals in total. The results obtained can be held for relatively representative, showing evidence of given aspect of burial rite in that culture. In adult individuals a higher percentage of females (45.3%) than of males (30.9%) was recorded, 19.1% of subadult individuals, and only 4.7% of the skeletons could not be anthropologically determined (insufficient state of preservation). With regard to age, the series included 8 subadults, 15 adults at the age of adultus



FIGURE 52. Krumlovský les 2. Example of the postpartum sulcus in a female who had delivered.

I, 5 adults aged adultus II, 6 older adults aged maturus II, and 6 undetermined individuals.

Compared to the number of LBK individuals, the skeletal remains of the STK people were relatively scarce – there were only 12 skeletons (or parts thereof). Their distribution by sex and age in adults was regular, the percentage of males (25%) and females (25%) balanced. An indispensable part of evaluated individuals (50%) has been represented by those with undetermined sex, which was caused by a low degree of preservation in skeletal material. The top of the age curve was recorded in 5 individuals of the category adultus I (20–35 yrs). However, the results have undoubtedly been influenced by the low number of examined skeletons.

Of the analysed 20 individuals of the Moravian Painted Ware Culture, 11 were determined as females (50%); their representation among settlement burials of that culture was considerably higher than the percentage of 4 males (20%). One individual was determined as juvenile (5%) and the remaining 25% represented 5 anthropologically undetermined individuals. The most abundant age category was adultus I (20–35 yrs), represented by 11 individuals.

With regard to sex, the Neolithic skeletal material included 27.0% males, 44.5% females, 16.2% subadults and 12.6% undetermined individuals. The most abundant age group was the category adultus I (20–35 yrs), represented by 31 individuals.

Comparing the representation of individuals by sex and by particular age categories in all three Neolithic

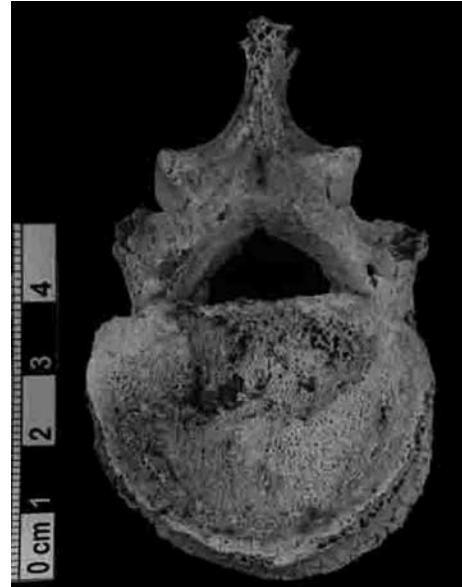


FIGURE 53. Krumlovský les 2. Schmorl's nodes in the lumbar vertebra L 5.



FIGURE 54. Hnanice I/Burial 3/1992. Os sacrum with congenital defect of spinal channel – spina bifida.

cultures analysed, there is at first sight a high ratio of females (44.5%) buried within Neolithic settlements. The percentages of males in particular cultures vary in average around 25.3%. The age representation in particular cultural groups is different, one can record a decrease in number of adult individuals in time, e.g. from LBK to LgK. With regard to the rather poor state of preservation of skeletons and a low number of STK individuals, the

TABLE 2. Distribution of individuals by age, sex and archaeological cultures.

Culture	Sex	Age				?	Total
		15–19 yrs	20–35 yrs	35–50 yrs	50+ yrs		
LBK	?	1	4	2		3	10
	female	2	8	1	5	2	18
	female?	1					1
	male	4	3	2	1	2	12
	male?					1	1
Total of LBK		8	15	5	6	8	42
STK	?	1	2	1		2	6
	female		1	1		1	3
	male		2	1			3
Total of STK		1	5	3		3	12
LgK	?	1	2			2	5
	female	1	5	2	1	1	10
	female?	1					1
	male		4				4
Total of Lgk		3	11	2	1	3	20
Total		12	31	10	7	14	74

overall results may be considerably distorted (high number of undetermined individuals), and the distribution by sex and age in that culture is not very reliable.

As to the metrical evaluation of human skeletal remains from Moravian Neolithic settlements, we were interested in the values of the 15 main cranial indices (*Tables 4–6*), and the determination of body height basing on the dimensions of postcranial skeleton (*Tables 7a, b, c*). As important we consider the dimensions correlating with the body height. Due to an insufficient degree of preservation in incomplete skeletons we could not record all the investigated dimensions in all individuals; several dimensions were not measurable.

The values of examined cranial indices were calculated as the average of all individuals (regardless of belonging to one or another archaeological culture), in whom we disposed of given data. In the entire population of the inhabitants of Neolithic settlements a concord could be documented: males 73.71 (dolichocrany), females 75.96 (dolichocrany), and the resultant average in the adult population was 74.64 (dolichocrany). Identical, only slightly different mean values of calculated indices within particular archaeological cultures were 73.93 in the LBK (*Table 4*) and 73.96 in the STK. Cranial index of STK females (75.95) falls into the category mesocrany (*Table 5*), with the LgK males falling into the same category (mesocrany) according to the calculated cranial index 78.31. The LgK females are dolichocranic (73.93) and the adults in average (76.03) mesocranic (*Table 6*). It follows from the results that both the intersexual differences within particular cultures and the intercultural differences are merely indistinct in adult individuals; however, with regard to the small number of data this statement cannot be generalized. Metrical evaluation of skulls could not

TABLE 3. Distribution of individuals by number, sex and cultural classification.

Culture	Sex	Total
LBK	?	10
	female	18
	female?	1
	male	12
	male?	1
Total of LBK		42
LgK	?	5
	female	10
	female?	1
	male	4
Total of LgK		20
STK	?	6
	female	3
	male	3
Total of STK		12
Total		74

detect any substantial differences between age categories or particular cultures, but it was, too, affected by an insufficient degree of preservation.

The estimation of body height could be performed in only 31 skeletons (*Table 7a*) – 18 of them were LBK individuals (8 males and 10 females), 3 ranged to STK (males) and 10 were LgK individuals (2 males and 8 females). The body height in LBK males reached 165.1 cm, and in females 155 cm. The body height in STK males was 163.3 cm; due to the absence of suitable skeletal material, the body height in STK females could not be estimated. The body height in the LgK males was 162.1 cm and in females 153.3 cm (*Table 7b*). The aggregate of mean values

TABLE 4. Cranial indices in population with linear pottery.

Skull		LBK					
		Males LBK		Females LBK		Adults LBK	
Cranial Index	I1(M8/M1)	71.85	dolichocrany	75.46	mesocrany	74.32	dolichocrany
Length-Height Index	I2(M17/M1)	76.19	hypsocrany	73.11	orthocrany	74.27	orthocrany
Breadth-Height Index	I3(M17/M8)	108.36	acrocrany	97.30	metriocrany	100.98	acrocrany
Transversal Frontal Index	I12(M9/M10)	82.48		83.79		83.30	
Fronto-Parietal Index	I13(M9/M8)	73.11	eurytopic	70.50	eurytopic	71.41	eurytopic
Foramen Magnum Index	I33(M16/M7)	82.21	middle	84.42	middle	83.68	middle
Facial Index	I38(M47/M45)	94.70	leptoprosopy	90.98	leptoprosopy	92.84	leptoprosopy
Upper Facial Index	I39(M48/M45)	59.99	lepteny	48.95	euryeny	55.57	lepteny
Malar Upper Facial Index	I39(1)(M48/M46)	79.43	leptoprosopy	71.80	chamaeprosopy	75.19	leptoprosopy
Orbital Index (dx.)	I42(M52/M51)	89.10	hypsiconchy	73.38	chamaeconchy	82.36	mesoconchy
Orbital Index (sin.)	I42(M52/M51)	83.83	mesoconchy	78.34	mesoconchy	80.54	mesoconchy
Nasal Index	I48(M54/M55)	45.55	leptorrhiny	50.93	mesorrhiny	48.91	mesorrhiny
Palatal Index	I58(M63/M62)	70.40	leptostaphyline	76.12	leptostaphyline	73.26	leptostaphyline
Jaw Index	I60(M40/M5)	104.62	prognathy	94.61	orthognathy	99.61	mesognathy
Length-Breadth Mandibular Index	I62(M68/M65)	66.67	dolichosteno- mandibular	75.09	dolichosteno- mandibular	73.40	dolichosteno- mandibular
Postcranial skeleton							
Pilastric index	I (F6/F7)	121.96		101.74		106.50	
Platymeric index	I (F10/F9)	81.33	platymeric	76.59	platymeric	78.20	platymeric
Platycnemic index	I (Ti9a/Ti8a)	70.18	eurycnemic	65.78	mesocnemic	66.55	mesocnemic

TABLE 5. Cranial indices in population with Moravian painted ware.

Skull		STK					
		Males STK		Females STK		Adults STK	
Cranial Index	I1(M8/M1)	70.97	dolichocrany	75.95	mesocrany	73.96	dolichocrany
Length-Height Index	I2(M17/M1)			71.67	orthocrany	71.67	orthocrany
Breadth-Height Index	I3(M17/M8)			96.27	metriocrany	96.27	metriocrany
Transversal Frontal Index	I12(M9/M10)	87.61		80.05		81.94	
Fronto-Parietal Index	I13(M9/M8)	67.93	metriometopic	68.81	metriometopic	68.46	metriometopic
Foramen Magnum Index	I33(M16/M7)						
Facial Index	I38(M47/M45)						
Upper Facial Index	I39(M48/M45)						
Malar Upper Facial Index	I39(1)(M48/M46)			71.11	chamaeprosopy	71.11	chamaeprosopy
Orbital Index (dx.)	I42(M52/M51)			80.56	mesoconchy	80.56	mesoconchy
Orbital Index (sin.)	I42(M52/M51)			80.56	mesoconchy	80.56	mesoconchy
Nasal Index	I48(M54/M55)						
Palatal Index	I58(M63/M62)			72.12	leptostaphyline	72.12	leptostaphyline
Jaw Index	I60(M40/M5)			94.95	orthognathy	94.95	orthognathy
Length-Breadth Mandibular Index	I62(M68/M65)			62.16	dolichosteno- mandibular	62.16	dolichosteno- mandibular
Postcranial skeleton							
Pilastric index	I (F6/F7)	110.79		108.33		109.97	
Platymeric index	I (F10/F9)	78.66	platymeric	80.00	platymeric	77.87	platymeric
Platycnemic index	I (Ti9a/Ti8a)	62.86	platycnemic	63.79	platycnemic	63.33	platycnemic

TABLE 6. Cranial indices in population with stroked pottery.

Skull		LgK					
		Males		Females		Adults	
		LgK		LgK		LgK	
Cranial Index	I1(M8/M1)	78.31	mesocrany	73.36	dolichocrany	75.95	mesocrany
Length-Height Index	I2(M17/M1)	76.11	hypsicrany	80.27	hypsicrany	77.69	hypsicrany
Breadth-Height Index	I3(M17/M8)	100.23	acrocrany	101.48	acrocrany	99.20	acrocrany
Transversal Frontal Index	I12(M9/M10)	78.84		80.31		79.51	
Fronto-Parietal Index	I13(M9/M8)	67.73	metriometopic	69.00	eurymetopic	68.42	metriometopic
Foramen Magnum Index	I33(M16/M7)	93.92	wide	85.29	middle	88.02	wide
Facial Index	I38(M47/M45)						
Upper Facial Index	I39(M48/M45)			48.74	euryeny	53.16	meseny
Malar Upper Facial Index	I39(1)(M48/M46)	68.56	chamaeprosopy	64.37	hyper-chamaeprosopy	68.84	chamaeprosopy
Orbital Index (dx.)	I42(M52/M51)	85.00	mesoconchy	77.61	mesoconchy	82.99	mesoconchy
Orbital Index (sin.)	I42(M52/M51)	91.43	hypsiconchy	80.86	mesoconchy	85.08	hypsiconchy
Nasal Index	I48(M54/M55)	51.67	chamaerrhiny	57.29	chamaerrhiny	53.58	chamaerrhiny
Palatal Index	I58(M63/M62)	84.91	mesostaphyline	81.48	mesostaphyline	79.31	leptostaphyline
Jaw Index	I60(M40/M5)	92.17	orthognathy	86.87	orthognathy	90.37	orthognathy
Length-Breadth			dolichosteno-		dolichosteno-		dolichosteno-
Mandibular Index	I62(M68/M65)	54.20	mandibular	62.75	mandibular	58.47	mandibular
Postcranial skeleton							
Pilastric index	I (F6/F7)	103.90		87.35		91.57	
Platymeric index	I (F10/F9)	77.98	platymeric	74.17	hyperplatymeric	74.87	hyperplatymeric
Platycnemic index	I (Ti9a/Ti8a)	69.50	mesocnemic	59.65	platycnemic	61.62	platycnemic

in the LBK population amounts to 159.4 cm, in STK it was 163.3 cm and in LgK 155.1 cm (*Table 7c*). In the case of LgK males it is not a mean value, since we disposed of only 2 measurable skeletons. The average body heights quoted indicate in both sexes a decrease in time (from LBK to LgK); however, with regard to a low number of individuals involved in the calculation, this statement should be taken with reserve (*Table 8*).

The anthropological analysis focused on the evaluation of 74 individuals buried in Moravia at 34 Neolithic settlement sites. The outcome of this study of adult and subadult individuals is the detection of a high representation of female skeletal remains (42 individuals of the Linear Pottery Culture, 12 of the Stroked Pottery Culture and 20 of the Moravian Painted Pottery Culture). The previous study, focusing on the burials of children at Neolithic settlements (Dočkalová, Čížmář 2007), detected that the children of LBK period represented the absolute majority of the skeletons treated, and now we know that females represented almost a half of the entire Moravian population. The results in the STK (Middle Neolithic) are affected by a low number and bad preservation of particular skeletons – more than a third of all individuals remained undetermined; the representation of males and females in the skeletal material is balanced. In the LgK (the last Neolithic phase), females predominate over males.

On the whole it can be stated that at Moravian settlements of the New Stone Age there is a high ratio of buried females;

the representation of males varies in time, but it is generally low. Some changes occur in the course of time in the age structure; at the LBK settlements most often females are buried, in the STK and LgK the most skeletons fall into the age category adultus. Metrical evaluation of skulls did not reveal any substantial differences between sexes or particular cultures, but it was affected by an insufficient degree of preservation of skeletons. The body height in males of all three cultures was higher than that in females, and in the course of time (from LBK to LgK) one could detect in both sexes a gradual decrease in average body height (*Table 8*). However, also here the low number of measurable skeletons is to be considered.

Morphological characteristic and health condition

The agrarian way of life and processing of agrarian food were associated with a wide range of activities that could be identified on the examined Neolithic skeletons (*Figures 44–46*). The skeletal material of Neolithic individuals appeared to be very interesting with regard to morphology and health (Schwartz 1995); several identified alterations of shape and surface in bones are clear displays of a long-time working activity.

The female skeletal remains preserved can be divided into adult (28) and subadult (6), but from the morphological view in all females one could detect evidence of working activities. Juvenile and subadult females were characterised by gracility, slender long bones, small articular heads and

TABLE 7a. Body height in individuals by sex and cultural classification.

Site	Stature	Sex	Culture
Brno SL 803/2007	167.7	male	LBK
Brno SL 806/2008	165.1	male	LBK
Těšetice 19/92	168.7	male	LBK
Těšetice 20/92	160.5	male	LBK
Těšetice 21/92	165.5	male	LBK
Vedrovice 10/74	158.5	male	LBK
Vedrovice 11/74	169.3	male	LBK
Vedrovice 2/85	165.9	male	LBK
Mašovice H1/2006	170.3	male	LgK
Těšetice 3/72	154	male	LgK
Nová Ves IČ 37	169.6	male	STK
Těšetice 2/1/68	153.5	male	STK
Těšetice 10/3/81	167.0	male	STK
Držovice	146.7	female	LBK
Hl. Mašůvky 654/H1	167.4	female	LBK
Modřice O734	152.6	female	LBK
Vedrovice 9/74	162.1	female	LBK
Vedrovice 1/85	157.9	female	LBK
Vedrovice 6/88	149.1	female	LBK
Vedrovice 7/88	145.4	female	LBK
Vedrovice 9/88	157.5	female	LBK
Vedrovice 10/89	147.2	female	LBK
Želešice	163.5	female	LBK
Brno – Královo Pole	152.9	female	LgK
Hnanice 3/1992	153.9	female	LgK
Krumlovský les H1	148.7	female	LgK
Krumlovský les H2a	146.1	female	LgK
Mor. Krumlov 1/80	151.9	female	LgK
Předmostí	154.0	female	LgK
Střelice IČ 12	156.2	female	LgK
Těšetice 8/76	163.5	female	LgK

indistinct muscle topography. In a total of acquired distinct characters, the group of adult and mature females showed mostly robusticity, *arcus superciliares* on the skull, massive mastoids, *torus occipitalis* and tuberosities in the occipital area. Well-developed muscles on arms indicate physical activity, the displays on the right and left arms being identical. In femurs a distinct topography of tuberosities (Figure 44) can be observed, but also dilated articulation areas caused by long-lasting physical effort and load. Although this characteristic does not apply to all adult females, it was recorded in females of all three investigated cultures. Not only exhausting physical work, but also the results of repeated working activity were detected in the hands of six females (from the LBK period). The bone rims and distinct attachment sites of short flexors on finger phalanges probably emerged while manufacturing cords or due to some other activity (Figures 45, 46). The same changes on finger phalanges were also detected in two males: in an adult male from Těšetice–Kyjovice, burial H3 from the LgK period, and in a mature male from Vedrovice, burial 10 from the LBK period. Physical activity was also associated with health condition that had been generally good with regard to the entire population; nevertheless, in the more frequently represented individuals from settlement agglomerations the state of health can be evaluated from more aspects. Repeated occurrence of *cribra orbitalia* (Hengen 1971) in nine females is the consequence of long-lasting starvation, nutrition disorder, iron deficiency or intestinal diseases (Figure 47). The destruction of orbits (Carlson *et al.* 1974) is directly connected with the presence of Harris lines (Figures 48–50) in the tibiae of 11 females, which are the effects of suffered febrile diseases, starvation or stress (Lewis, Roberts 1997, Horáčková *et al.* 2004). In three females (Mašovice, Prostějov–Čechůvky, Dolní Újezd) both *cribra orbitalia* and Harris lines occurred simultaneously (Figure 51). With regard to the population's reproduction, in the skeletal series there were twelve females who had delivered (6 LBK, 6 LgK), some of them having delivered repeatedly, mostly at the age of 20–35. One female (Krumlovský les 2, aged 35–40) died while delivering, together with her unborn child (Figure 20).

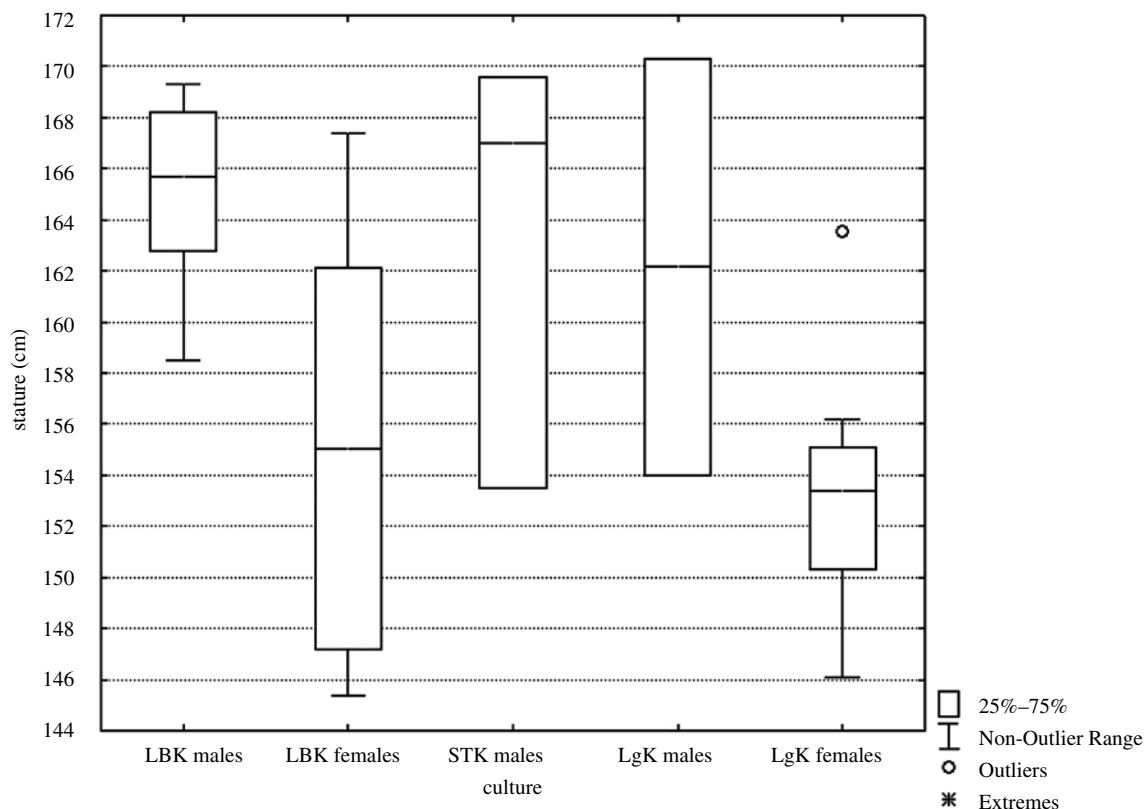
TABLE 7b. Body height in individuals by sex and achieved average values.

	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
LBK males	8	165.15	165.70	158.50	169.30	3.83
LBK females	10	154.94	155.05	145.40	167.40	7.84
STK males	3	163.37	167.00	153.50	169.60	8.64
LgK males	2	162.15	162.15	154.00	170.30	11.53
LgK females	8	153.39	153.38	146.10	163.50	5.19

TABLE 7c. Achieved body height in individuals of three cultural periods.

	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
LBK	18	159.48	161.30	145.40	169.30	8.12
STK	3	163.37	167.00	153.50	169.60	8.64
LgK	10	155.15	153.93	146.10	170.30	7.02

TABLE 8. Graphic representation of body height in LBK, LgK and STK.



The vertebral column damage due to physical overload cannot be interpreted unequivocally; pathological changes have been recorded, as well as physical destruction of the backbone, reduction of vertebral bodies, fade-out of intervertebral discs and the emergence of Schmorl's nodes (Figure 53). In thoracic and lumbar vertebrae there occurred distinct bone rims – osteophytes, and the malformation in form of unclosed spinal channel – *spina bifida* (Figure 54). Physical load in females left behind permanent traces on bones caused by working activity (grinding grain with grindstones – repeated motion to and forth), which burdened both arms and the vertebral column (Vedrovice 9/74, Vedrovice 10/74).

It can be supposed that agriculture and more exhausting physical work in general had been the matter of males, e.g. extraction of clayish loess, house construction, building of pottery kilns and other activities causing permanent changes on bones. On the skulls we detected a gradual transformation of functional features leading to a permanent bone alteration towards robusticity and distinct sexual divergence. In the evaluated series of 20 males there were 16 adults and 4 subadults, whereby the most males (13) came from the LBK period, 4 from the LgK and 4 from the STK period. The number of males was lower than that of females, but also in this small sample one could record some features typical of males from Neolithic settlements. The skulls of young males were mostly of medium size, but in no case gracile, particular medium and robust features

were rather combined. Characteristics typical for sexual dimorphism could be observed in adult and mature males. Constituted typical male features were detected, such as a massive supraorbital ridge, wide cheekbones, strong mastoids corresponding to an enormous development of muscle attachment sites in the occipital area and to numerous rough tuberosities. Mandibles were of robust shapes with rough topography of masseteric tuberosities and with everted gonion. In the roof of orbits *cribra orbitalia* were detected in four males, and a lethal injury on the skull of a male from Mašovice. In robust skeletons one could identify strong thoracic construction and well-developed breast muscles, distinctly developed deltoid muscles, but also deep grooves from stress load (Mosley 1966).

Any more extensive damage of the vertebral column was not recorded; in only two males vertebral pathology has been detected (Těšetice, H20) and reduced height of vertebral bodies (Bohunice 803), very unusual in such a young male. In pelvic bones there was a distinct topography at the attachment sites of gluteal muscles, deep grooves on femurs, slight deflection, alterations of shape caused by pressure and by unidirectional load exerted on long bones (Hummert, Van Greven 1985). One case of congenital defect – rachitis (Těšetice H19) has also been recorded, as well as displays of strong load exerted on knee joints (Těšetice H20), destruction of bones caused by avitaminosis (Těšetice H21), and four cases where Harris lines occurred due to suffered starvation, disease or stress (Piontek *et al.* 2001).

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