

# AN INTERESTING PALEOPATHOLOGICAL FIND FROM BRNO

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In the collections of the Anthropos Institute of the Moravian Museum a skull, marked as an Old Slavonic one (9th—10th century), from Maloměřice, a suburb of Brno, is found. The closer designation of the locality the skull comes from is "Plíže". The skull was salvaged by the archaeologist František Adámek in 1940 during landscaping work when an Old Slavonic burial-ground existing here was disrupted by an excavator. Thus it is possible to explain that the lower jaw and archaeological material from the grave are missing and that we know neither the postcranial skeleton, nor the original finding situation.

The right zygomatic arch is broken. The break appears to be of relatively fresh date. Otherwise the skull is perfectly preserved, which permits a detailed study.

The strong supraorbital arches and glabella, the deep nasion depression, medium-large mastoid processes, a strong supramastoid ridge, strong beak-shaped protuberantia occipitalis externa, the size of the teeth and the overall robusticity determine it clearly as a male skull. Beginning obliteration of the sagittal suture, cut-through both third molars and the degree of abrasion of the denture indicate an age of 30—40 years.

Max. skull	183
Basion-nasion length	102
Max. breadth of skull	134
Min. frontal breadth	87
Max. frontal breadth	112
Biauricular breadth	118
Bimastoideal breadth	108
Basion-bregma height	140
Auricular height	109
Nasion-bregma arc	137
Nasion-bregma chord	117
Bregma-lambda arc	135
Bregma-lambda chord	118
Lambda-opisthion arc	107
Lambda-opisthion chord	91
Skull circumference	512
Transversal arc	312
Occipital breadth	110
Biorbital breadth	98
Interorbital breadth	27
Nasal root breadth	14
Nasal height	50
Nasal breadth	26
Orbital height (right)	30

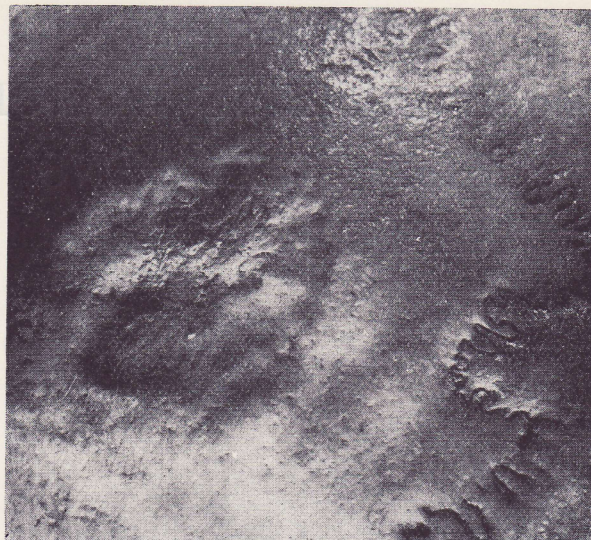
Orbital height (left)	30
Orbital breadth (right)	38
Orbital breadth (left)	38
Upper facial height	72
Maxillar length	57
Maxillar breadth	63
Frontal angle	66
Facial angle	70
Alveolar angle	67

In norma lateralis we can see strong supra-orbital arches, distinctly set off from the frontal squama which is medium-high and well arched. The vertex of the skull is roundly arched without post-coronal depression. The parietal bones are distinctly curved. The occipital squama is somewhat projecting in the upper part. Protuberantia occipitalis externa is beak-shaped (Broca). The squama of the temporal bone is high and well arched. The mastoid processes are strong, the supramastoid ridge, too, is strongly developed. In norma verticalis the skull is dolichomorphous (length-breadth index 73,22). The cranial sutures are medium-complicated, the sagittal suture begins to obliterate in the region of obelion. The parietal bosses are of medium size, the foramina parietalia are not developed. The general shape of the skull in this view is of elongated ovoid. In norma occipitalis the parietal bones have rooflike shape and together with the parallel running of the vertical lateral walls the skull has in this view a typical "Hausform" shape. Lambdoid flattening does not occur and the occipital squama is projecting. In the medium-obliterated complicated lambdoid suture we can notice about 10 smaller wormian bones. Protuberantia occipitalis externa is large and beakershaped. On the skull base we can see medium-large styloid processes and articular grooves for the lower condyles somewhat changed by the arthritic process. In norma facialis there are, in addition to a strong supraorbital arch and glabella, a deep nasion depression, low rectangular orbits, a narrow nose, medium-big, obliquely laterally positioned cheek-bones with a medium-sized marginal process and a relatively flat upper palate with a weak fossa canina and a weak submaxillar incisure. The lower edge of the nasal opening tends to form fossa praeasalis and has a large nasal spine.





The wound with healed edges.



The surface of left parietal bone with pathological changes



Healed fracture of the occipital bone (see arrows)



Buccally situated fistula of the third upper molar



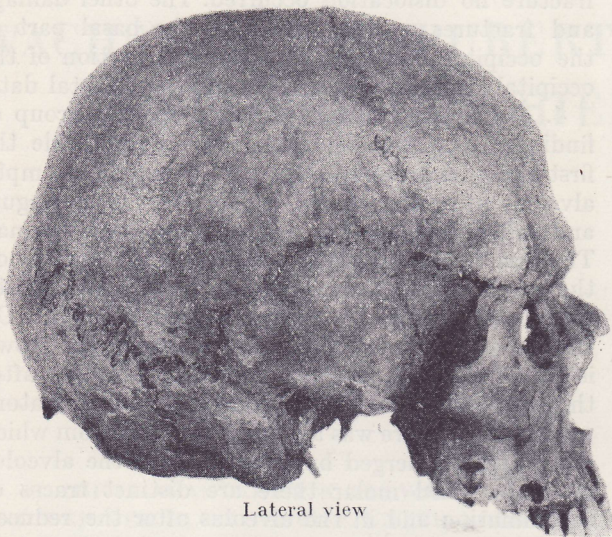
Big fistulae of the second incisor and first and third molars. Changes of the alveolar bone are seen.



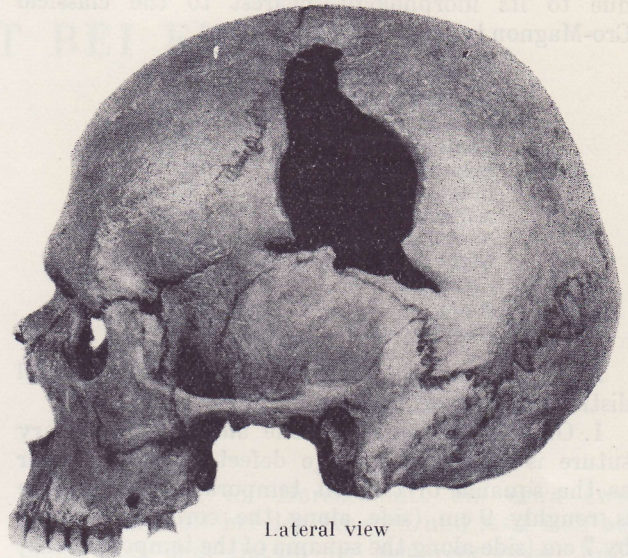
Fistula of the second incisor



PLÍŽE, OLD SLAVONIC SKULL, 8th—9th CENT.



Lateral view



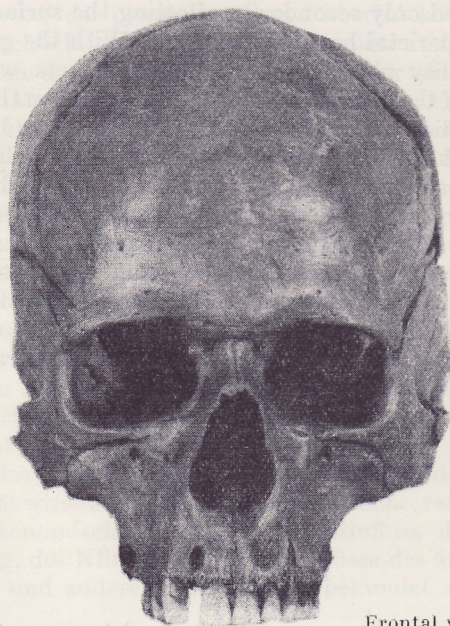
Lateral view



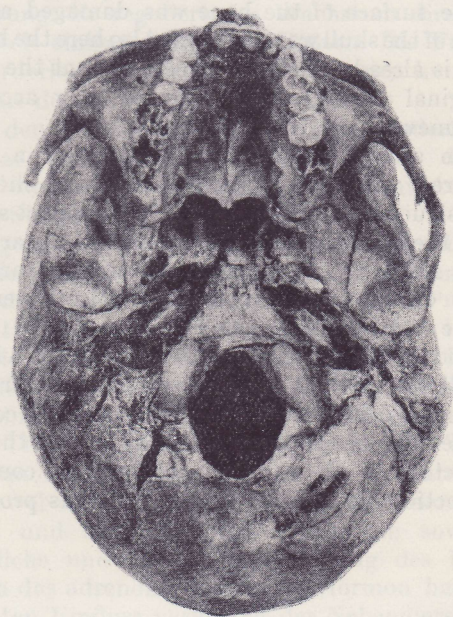
Vertical view



Occipital view



Frontal view



Basal view



In general we can say the skull is high, long, and, due to its morphology, nearest to the classical Cro-Magnon type.

Indices:	
Length-breadth	73.22
Frontal	77.87
Frontoparietal	64.92
Breadth-height	104.47
Length-height	76.50
Auricular length	59.56
Auricular breadth	81.34
Right orbit	78.94
Left orbit	78.94
Nasal	52.00
Maxilloalveolar	110.52

From the paleopathological point of view the skull distinguishes itself by four findings:

1. On the left parietal bone along the coronary suture is displayed a large defect reaching as far as the squama of the left temporal bone. Its size is roughly 9 cm (side along the coronary suture) by 7 cm (side along the squama of the temporal bone) by 12 cm (side forming sort of a hypotenuse of a rectangular triangle). In the vicinity of the parietal bone the major changes of the healing process can be observed on the defect. Two "bays" of the defect are here already quite covered with newly formed bone-tissue. Otherwise, all the edges on the circumference of the entire defect are quite rounded and healed which proves that the patient lived with this hole in the skull for a long time. The circumstance is surprising that nowhere a bone fragment is grown to the secondary position as it usually is the case in wounds, if the patient survives an accident and healing occurs. This circumstance can be explained only by the fact that after the accident the wound was treated and all bone fragments were carefully removed; another version is that the fragments sequestered in the course of the healing process.

Between the left parietal boss and the point of contact of lambdoid and sagittal sutures ( $\lambda$ ) a roughly circular defect of about 3.5 cm in diameter is to be seen. This defect is shallow and apparently only the surface of the bone was damaged and no fracture of the skull was involved. Also here the healing process is already much advanced, so that the site of the original defect can be followed only according to the uneven surface of the bone.

2. The second pathological finding is on fossae articulares, which are much flattened and show the porous structure of the bone, for the compact surface layer of the bone is abraded as a result of the arthritic process. No doubt, there were also distinct arthritic changes on the articular heads of the lower jaw.

3. The third finding (see Fig. 3) is in the neighbourhood of the large occipital hole. When viewing the skull base, we can see a very well healed fracture projecting dorsally from the right occipital condyle from the edge of the large occipital hole in the lateral direction so as, after a roughly 3 cm course in this direction, to turn in an arch towards protuber-

antia occipitalis externa below which it ends. In this fracture no dislocation occurred. The other damage and fractures we can notice on the basal part of the occipital bone and in the right portion of the occipital squama are provably of a postmortal date.

4. The fourth finding, or better spoken, group of findings is on the dentition. On the right side the first incisor is preserved. Next to it there is an empty alveolus after the second incisor with large lingual and labial fistulae. The adjacent canine is normal. The first premolar displays distally a little cavity on the crown, to which corresponds a small crown cavity positioned proximally on the second premolar. On the same tooth a medium-large cavity in the crown is found distally. The neighbouring alveolus after the first molar bears distinct traces of an inflammatory process. In it there was a large granuloma from which a big fistula emerged buccally. Also in the alveolus after the third molar there are distinct traces of inflammation and in the alveolus after the reduced third molar there was a granuloma. A large fistula emerged buccally. On the left side the teeth are sound as far as the second premolar ( $I_1 I_2 C P_1 P_2$ ). On the first molar there is a little cavity distally on the neck. The adjoining empty alveolus after  $M_2$  bears traces of an inflammatory process and is buccally opened by a fistula. The third molar has the entire crown corroded by caries so that in the jaw only a root remained. The alveolar process has a thinner bone, apparently the result of parodontal changes. In connection with these changes the tooth-necks are markedly exposed as well.

Even though the 9th and 10th centuries represent the early Middle Ages where we already currently come across the occurrence of carious teeth, yet this state in the individual studied by us is unusual (five fistulae and nine carious teeth).

All the first three findings are evidently associated with one another and are the result of a heavy accident the patient survived. Findings No. 2, a circular healed change on the occiput of the skull, is the indirect, secondary result of trauma, for traces of a inflammatory process, localized in the soft parts of the head and only secondarily affecting the surface part of the parietal bone, are involved. With the greatest probability also this inflammatory process was the result of the accident. The healed fracture on the skull base indicates that an indeed complicated and heavy accident was involved. With the greatest probability we can also denote the arthritic changes on the articular surfaces for the lower jaw as the result of trauma and/or of the changes caused by trauma.

Summing up we can say that from the paleopathological point of view our Old Slavonic skull from Brno-Maloměřice represents a unique case of a complicated cranial accident with large skull fractures the patient survived for a long time.

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