

J. JELINEK

NEW ANTHROPOLOGICAL MATERIALS FROM THE HALLSTATT PERIOD UNEARTHED IN WESTERN SLOVAKIA

The studied skeletal remains come from a hallstattian settlement near Smolenice in Western Slovakia, east slope of the Small Carpathian Mountains, excavated by the archeologist M. Dušek. The settlement was situated on a steep, grass-covered slope. The layer of soil is comparatively thin, the limestone bedrock begins not very deep beneath it. The slope forms one side of a rocky ridge, with a steep cliff on the other side. The settlement was fortified and its inhabitants have cut several gradual platforms to the rock for their small hallstattian houses. Since these platforms are situated mostly parallelly with the ridge, the location of the houses looks like streets of a primitive town.

The finds, accordingly, do not come from a burying-ground, but from fortified settlement, and were scattered all-over the site, e.g.: in front of the main gate of the fortification (*skeleton F 1 40 Sek. III*), outside the wall near the turret of the fortification system, behind a wheat-drying construction, inside the huts (skull of a child, 1970), or on a special platform, regarded as a ceremonial site (M. Dušek 1966, 1967, 1968, 1971 a, 1972 b, 1975).

The human remains can be divided into the following groups:

1. Remains of killed individuals (a male's skeleton found in front of the gate of the fortified settlement — F 1 40 Sek III).
2. Remains of sacrificed individuals (children's skeletons on the cultic platform).
3. Rests of food (human bones found together with animal bones, often in the vicinity of a fireplace).
4. Ritual finds (an isolated skull of a child, found inside a house — 1970).



On the bones we can see often traces of blows and other violation. E.g. on a skull of a child, situated among stones inside a house, we can see the results of three blows, fracturing the cranial bones, causing large impressions and splitting the lamina interna of the cranial bone. Any of these three blows would have been mortal, they all were inflicted at the same time (within a short space of time), and show no traces of healing.

Various bones of postcranial skeletons found in different places of the settlement show often traces of splitting, especially if found together with animal bones. They are evidently rests of food. On some of bones we can see even traces of burning and scorching, similarly as on the animal bones. They are evidently proof of anthropophagy, similarly as the Early Hallstatt Culture finds in Cezavy near Blučina (J. Jelínek 1956, 1957, K. Tihelka 1957, 1951), or the Late Bronze Age finds in Hradisko near Kroměříž (J. Jelínek, 1959, V. Spurný, 1957), and the finds of the Bronze Age Knovíz Culture in Bohemia (J. Matiegka, 1896).

The skull, reconstructed from small fragments, is incomplete. A large part of the facial skeleton is missing, together with the right-half of the upper jaw. From the brain-case, besides several small fragments, part of the right-half of the frontal bone and the adjacent temporal fossa, are also missing. The supraorbital region has not been preserved. The frontal bone — as it is preserved — is medium high, and is well arched in the norma lateralis. The light post-coronal depression is formed, and the cranial vault has a horizontal course. The parietal bones are slightly and evenly curved. The prelamdoid flattening of the skull is so slight that it can not be seen from this view. The upper part of the squama occipitalis is slightly protruding, and is separated from the planum nuchale by a very strong torus occipitalis. This character is in Central Europe seen not only in Neanderthal Man. It exists, even when sporadically, also in later prehistoric populations (Jelinek, 1972). On the planum nuchale there are medium-size rough lines for the attachment of the muscles. The squama temporalis is medium-high and is medium arched. The mastoids are small, and the supramastoid ridge forms a small, rounded crest. The external auricular opening is oval in shape. In the norma verticalis the skull appears to be ellipsoid. No foramina parietalia had been formed on the parietal bones, and the parietal bosses are only slightly marked. Between the obelion and lambda in the sagittal suture there is a small suture-bone.

The frontal suture was present — it can be slightly seen in the metopion. Near the bregma it can be easily followed. The coronal suture is in advanced state of obliteration.

In occipital view the skull looks low, with evenly rounded vertex. The parietal bones, in this view, look evenly arched, and thus the outline of the skull is almost circular, as is the skull of the classical Neanderthal Man. On the squama occipitalis there is a strong torus occipitalis. The upper part of the squama occipitalis above the torus is small. The lambdoid suture is simple, without wormian bones in it:

In the norma frontalis the arch and the morphology of the forehead show that the skull, very probably, belonged to a female. In basal view the fossae mandibulares look very shallow, compared with the other skulls from the same site. The cheek bones are of medium-size and there is a small, but well formed, processus marginalis on them. On the preserved left-half of the upper jaw we can see only a shallow incisura submaxillaris. The fossa canina is wide and well formed. The nasal spine was small. The upper palate is medium-deep, and of dish-like shape. The lower jaw is of medium-size. Its basis is slightly rocking, and in the chin region it is a bit lifted. The ascending branch is medium-wide and medium-high. Its gonion angles are slightly everted. The mental foramina are unusually large and simple, the chin is of medium-size and oval in shape. There is a well formed pit on the

spot of the mental spine. The fossa digastrica faces obliquely rearward, not basally. The mylohyoid ridge is of medium-size, similarly as the rough lines for the attachment of the lateral pterygoid muscle. The sockets of the two third molars had begun to close. The same applies to the second premolar and to the first molar sockets in the upper jaw.

In the premolar socket there are well visible traces of a granulom. The remaining teeth are heavily worn, in some cases the pulpar cavity is open.

— M ₂	—	P ₁	C	I ₂	X						
—	—	M ₁	P ₁	C	I ₂	X	X	X	X	X	—

A Child's Skull 1970

A gracile skull of a child was found in a hall-station house, near the fireplace. The lower jaw is missing. The skull was laying on its side, with its base almost upwards, among stones — it was not a ritual situation. The base, the region of the left temporal fossa, the left cheek bone and the left side of the upper jaw are missing. Near the skull was found a scorched fragment of the arch of a cervical vertebra, and a slightly scorched mandibular head. The remains belonged — judging according to the second permanent molar, already grown, but not worn — to an approximately 15 years old girl. The skull is extraordinarily gracile for this age. On the cranial vertex on the frontal bone in front of the bregma there is a large fracture and impression of bones (5×3 cm). On the internal side the compact layer of the bone is broken-off. The skull was evidently hit by a heavy blow breaking the vault of the skull. There is a similar defect on the right parietal bone near the asterion— here the cranial bone was also broken with a heavy blow, inflicted with a dull object. Both blows could have caused the death.

Lateral view: On the comparatively low and oblique forehead there are weak superciliary arches, forming with the glabella a single, not very expressive formation. The post-coronal depression is marked only very slightly. The two parietal bones are comparatively short. They are regularly curved and have a slight prelamdoid flattening. The upper part of the squama occipitalis is slightly protruding, it is rounded, well arched, and has a smooth transition to the nuchal plane. The external occipital protuberance had not been formed. The temporal squama is medium-high and well arched. The mastoids are small, the supramastoid ridge had not been formed. The external auricular opening is oval.

In the vertical view the skull has ovoid shape, and there is a striking difference between the breadth of the forehead and between the maximum breadth of the skull. The parietal bosses are small and rounded. The two foramina parietalia are so small that they are almost invisible. The skull sutures are mostly well developed.

In the occipital view the skull has a rounded, pentagonoid shape. The lambdoid suture is well developed, but there are suture bones in it.

In the norma facialis the skull has a receding, but narrow front, the forehead is delicately moulded, and it has a small glabella and weak superciliary arches. The nasion depression is shallow. The orbit is medium-high and medium-wide. The nose was broad. There is no fossa canina on the upper jaw, and the incisura submaxillaris is marked only slightly. The anterior nasal spine was of medium-size.

The upper palate is shallow. All the preserved teeth are in good shape, without caries. The two incisors were knocked-out, and their roots remained in the sockets — this has evidently some connection with fact the left-half of the jaw is missing.

F 1 No. 40 — III.

This broken male skull belonged to an individual of some 30–40 years — according to the medium-size superciliary arches, medium-size mastoids and styloids, medium-size supramastoid ridge, comparatively strong teeth, open skull sutures, strongly worn teeth, with grown and worn third molars. It has been possible to reconstruct the skull from the available fragments. Only a small part of the right parietal bone with the adjacent parts of the frontal bone, part of the left parietal bone, part of the squama temporalis, a part of the frontal bone and a small fragment of the squama occipitalis are missing. The base of the skull is open. Parts adjacent to the large occipital foramen are missing, as well as almost the entire lower part of the squama occipitalis. The basal part of the occipital bone, however, has been preserved. From the facial skeleton the right cheek bone, a part of the upper jaw with complete alveolar process and five teeth have been preserved.

In the lateral view the skull is medium-high, with medium-high forehead of average arching, with medium-size superciliary arches, with almost horizontal vertex, medium-long and well-curved parietal bones. The post-coronal depression is slightly marked. The occipital squama has an almost perfectly rounded arch, both in its upper and lower part. There is no protuberantia occipitalis externa. The temporal squama is medium-high and is well vaulted.

The mastoids are of medium-size. The supramastoid ridge is of average size — for a male skull.

In the vertical view the skull has the shape of a narrow ovoid. There is only small difference between the width of the forehead and between the maximum width of the skull. The skull sutures are still open, or at the very beginning of obliteration, they are fairly developed. Of interest is the porous surface of the skull (probably of pathological origin), in two symmetrical zones along the sagittal suture and in the region of the obelion, where only on the right side is a medium-size, simple foramen parietale. Here is also a visible prelambdoid flattening on both parietal bones. The parietal bosses are of medium-size.

In the occipital view the skull has a so called "house form", with roof-like parietal bones, and

with the lateral bones slightly converging towards the base. The prelambdoid plane looks, in this view, like a shallow, pan-like depression. In the well-developed lambdoid suture there was a wormian bone on the right side, but it has been lost post-mortem. The squama occipitalis is almost perfectly arched, with slight traces of rough lines for the attachment of muscles on the nuchal plane. The protuberantia occipitalis externa and the torus occipitalis are missing. On the basal part of the occipital bone there is a wide, oval occipital opening. The fossae articulares are deep. On the left side there is a root of a medium-size styloid process that has been broken-off. The mastoids are asymmetrical, the left mastoid is stronger than the right one.

In the frontal view the forehead is wide, medium-high, with an average vaulting, with medium-size frontal bosses. The superciliary arches are narrow but prominent, with a slightly low glabella (Broca IV) between them. The postorbital constriction is slight. The nasion depression is not deep. On the incomplete right zygomatic bone there is a well visible processus marginalis. On the preserved part of the upper jaw we can follow the lower edge of a pear-shaped opening with a weak fossa praenasalis. The anterior nasal spine is broken-off. The incisura submaxillaris was very weak. From the preserved fragments we can say that the fossa canina was deep. There is a well visible alveolar prognathism. The upper palate is medium-deep, it has no torus maxillaris or torus palatinus. The dental arch is comparatively large, and is horse-shoe shaped. On the right side there is a tooth socket behind the second incisor with traces of a deep granulom, which later healed. All the sockets are empty, with the exception of the five preserved molars. They are of medium-size and heavily worn (especially the first molars). There is no doubt that the skull belonged to a male, and that it was broken on purpose. The skull is mesocranial (75, 78 cranial index). The occipital part of the skull has the morphology of the so called Alpine type. It seems that this is a fine example of beginning brachycranization. The facial remains show that the orbits were medium-high to low, and the facial skeleton was robust, medium-high to low.

III P 1970

Incomplete skull — some small fragments are missing (the skull was smashed into pieces, it was necessary to put it together from small fragments, some of them are missing). In the region of the right temporal fossa there is a large defect. A large part of the brain-case is missing, together with the two temporal bones. The left side of the facial skeleton has been preserved, so that it was possible to measure the dimensions of the orbit, of the right zygomatic bone, the right-half of the upper jaw, and the whole lower jaw. The skull is comparatively small.

In the lateral view we can see a relatively high and well arched forehead. Behind the bregma there is a slight postcoronal depression. The parietal bo-

nes are short and well curved. In the obelion region there is a small, but well formed plane. The squama occipitalis is slightly protruding (its upper part). In the inion we can see a small protuberantia occipitalis externa with a well visible horizontal depression above it. On the nuchal plane there are two well developed tuberosities and rough lines for the attachment of the muscles. The temporal squama is high and its margin is well arched. No supramastoid ridge was formed, but the mastoids are big. The zygomatic arch is relatively strong and the auricular opening is oval in shape.

In the vertical view the skull has an ovoid shape, and is rounded. There is a striking difference between the width of the forehead and between the maximum width of the skull. The skull sutures are mostly well formed and are still open. The parietal bosses are marked very slightly. The two foramina parietalia are simple and small.

In the occipital view the parietal bones look like a roof and the two lateral walls of the brain-case are slightly converging towards the base. The parietal bones, in this view, are transversally curved and the parietal bosses can be seen better than in the vertical view. The lambdoid suture is well developed and open. The morphology of the occipital bone has been described in the lateral view.

In the basal view there are worth mentioning two deep fossae articulares for the mandibular heads. The thin styloids and strong mastoids are also visible.

In the frontal view we can see on the rounded, vaulted frontal bone only weak superciliary arches, connected with a small glabella. The nasion is very shallow. The orbits are high, the cheek bones are gracile, without processus marginalis. The incisura submaxillaris is of medium-size. We can see on the preserved alveolar part of the upper jaw that the nasal spine was very weak. The upper jaw was orthognathic, and the upper palate was medium-deep, without any uneven or rough surface. The lower jaw is of medium-size, with a medium-size chin of almost triangular shape. The ascending branch is short and relatively wide, with its gonion turned inside. The two mental foramina are simple, of medium-size and are situated below the middle of the height of the mandibular body beneath the second premolar.

On the internal side of the jaw there is a dull mylohyoid ridge. The alveolar plane, and spina mentalis are well represented and fossa digastrica face obliquely rearwards. The teeth, as far as they are preserved, are comparatively small in size and without caries. The occlusal surfaces' wear is of medium-degree.

I₁ I₂ C P₁ P₂ M₁ M₂ M₃

M₃ M₂ M₁ P₂ P₁ C I₂ I₁ I₁ I₂ C P₁ P₂ M₁ M₂ M₃

Although the skull is quite robust, there is no doubt that it belonged to a female of 20—30 years. It is a brachymorphous skull on the lower limit of the brachycrany.

For a comparative study of the Smolenice finds we have, unfortunately, very few materials. The chronologically and geographically nearest finds are the Early Hallstatt finds from Cézavy near Blučina in South Moravia, the Hallstattian finds in the Býčů Skála Cave in the Moravian Karst, and the Austrian finds in Hallstatt. The Smolenice 1970 skull belonged to a child, and therefore it is impossible to compare its dimensions with other skulls unearthed in Smolenice. We can only say that its mesocranial skull index in adult age would be very close to brachycrany. The varying values of this main skull index in the case of the remaining three skulls, i.e. a dolichocranial, a mesocranial and a brachycranial show great variability of this character. This situation is keeping with the finds in Býčů Skála, and in Cézavy near Blučina. In Cézavy, however, similarly as in Hallstatt, the average value of this index is low, very close to the limits of dolichocrany.

In the auricular height, skull length and skull breadth indexes of the Smolenice skulls are chamaecranial and tapeinocranial. The facial skeleton has been preserved only in the child's skull.

This material is thus insufficient for the explanation of morphological and metric characters.

Anthropological finds in Smolenice include, besides the above described four skulls, also a rich collection of fragments of human bones scattered all over the site. The finds are of great importance from two viewpoints: Firstly, they prove that in the Hallstatt Period there was a common, similar ritual, and human remains were dealt with in a similar way in Western Slovakia as in the neighbouring Moravia, and also in Bohemia and Thuringia (J. Jelínek 1957, J. Matiegka 1896, G. Behm Bláncke 1958). These finds prove also the existence of human sacrifices and of the anthropophagy (scorched human bones and their parts found together with animal bones as rests of food).

The second importance lies in the fact that the Hallstatt skeletal finds are very rare, and so these few bones, unearthed in Smolenice, have contributed a great deal to our knowledge about the Hallstattian inhabitants of Central Europe.

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	Smole- nice C1	Smole- nice 1970	Smole- nice 40	Smole- nice IIIP	N Cezavy		N Hallst.	
max. length	194	177	190	176	53	191,9	24	187,8
max. breadth	143	136	144	141	47	136,0	24	135,7
min. front. diameter	—	84	100	—	43	97,1	3	95,7
max. front. diameter	—	—	122?	—	—	—	—	—
biauric. breadth	131	116	124	121	—	—	—	—
bimast. breadth	114	—	107	104	—	—	—	—
occipital breadth	108?	100	—	110	—	—	—	—
bizygomatic breadth	—	—	—	—	1	136,0	5	127,2
basion bregma height	—	—	—	—	14	132,2	11	137,4
auricular height	98	92	104	100	—	—	—	—
nasion bregma arc	—	123	130	127	—	—	—	—
nasion bregma chord	—	107	112	100	—	—	—	—
bregma lambda arc	125	120	138	128	—	—	—	—
bregma lambda chord	112	107	127	110	—	—	—	—
lambda opisthion arc	125	113	—	115	—	—	—	—
lambda opisthion chord	96	96	—	101	—	—	—	—
skull circumference	—	493	541	513	—	—	—	—
transversal a-c	316	286	306	305	—	—	—	—
frontal angle	—	56	66	—	—	—	—	—
facial angle	—	—	—	—	—	—	—	—
alveolar angle	—	—	—	—	—	—	—	—
total facial height	—	—	—	—	—	—	7	117,7
upper facial height	—	63	—	—	1	76,0	7	68,1
nasal breadth	—	24	—	—	1	27	11	23,4
nasal height	—	45	—	—	1	49	12	49,9
height of the right orbit	—	30	34	—	1	30	8	31,2
breadth of the right orbit	—	36	—	—	1	41	8	39,5
height of the left orbit	—	30	—	33	—	—	—	—
breadth of the left orbit	—	—	—	35	—	—	—	—
upper breadth of the nasalia	—	09	11	—	—	—	—	—
maxillo-alveolar breadth	—	—	63	—	—	—	—	—
maxillo-alveolar length	—	—	—	—	—	—	—	—
biorbital breadth	—	89	104	—	—	—	—	—
interorbital breadth	—	23	—	24	—	—	—	—
bicondylar mandibular breadth	127	—	—	114	—	—	—	—
bigonial breadth	108	—	—	97	41	100,0	—	—
mandibular length	115	—	—	101	—	—	—	—
angle of the gonion	126	—	—	121	—	—	—	—
height of the ascending branch	58	—	—	52	—	—	—	—
minimal breadth of the ascending branch	36	—	—	37	—	—	—	—

Indexes	Smol. C1	Smol. 1970	Smol. 40	Smol. IIIP	N Cezavy Czecho- slovakia		N Hallstart Austria		N Byčí Ská- la, Czecho- slovakia	
length x breadth cranial index	73,71	76,83	75,78	80,11	45	71,01	22	72,4	20	77,0
frontal transversal index	—	—	81,96	—	—	—	—	—	—	—
fronto-parietal transversal index	—	61,76	69,44	—	33	71,35	—	—	1	71,42
auricular height x length of the skull	50,51	51,98	54,73	56,81	26	53,90	—	—	—	—
auricular height x breadth of the skull	63,53	67,64	72,22	70,92	—	—	—	—	—	—
right orbital index	—	83,33	—	—	1	67,41	—	—	1	78,94
left orbital index	—	—	—	94,28	1	65,21	12	81,8	1	76,31
nasal index	—	53,33	—	—	1	54,08	12	46,4	1	43,80
length x breadth mandibular index	90,55	—	—	88,59	—	—	—	—	1	83,78
ascending branch index	62,02	—	—	71,15	—	—	—	—	—	—

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Dr. Jan Jelínek
Moravian Museum — Anthropos Institute
nám. 25 února 7,
659 37 Brno (CSSR)