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THE HOMO SAPIENS NEANDERTHALENSIS AND HOMO SAPIENS SAPIENS RELATIONSHIP IN CENTRAL EUROPE

The problem of the relation of the development of Homo sapiens neanderthalensis to that of Homo sapiens sapiens is, in spite of a series of recent paleoanthropological finds, still open. The new discoveries brought many new morphological and chronological contributions, helping us to clarify these problems and periods in the development of man.

Among the Central-European finds two groups of Upper Paleolithic finds deserve special attention. The finds of the oldest Aurignacian Culture from the First Würm Interstadial (dating of the upper level of the corresponding layer is 32 000 years), and the finds of the so-called Pavlovian Culture (the East Gravettian Culture), beginning with the main cold oscilation of the Würm (Würm II), and ending with the last cold wave of the Würm (Würm III, i. e. from the period between 27 000—25 000 years ago).

In both, culturally very differing populations we can see a series of features, generally regarded as neanderthaloid features, reminding the classical West-European Neanderthal Man (Homo sapiens neanderthalensis). In 1960—61 I was excavating in the Mladeč caves, and I was able to determine the stratigraphic age of the Mladeč I find (a female's skull unearthed by Szombathy in 1881). The skull is in the Vienna "Hofmuseum". It was found in the sediments of the first Würmian Interstadial (30 000—35 000 years).

To the same layer belong also further finds of brain-case Mladeč II, part of an upper jaw, and of a femur, from Szomathy's excavation and now deposited in the Vienna Hofmuseum. All Szombathy's finds from 1881/82 (Mladeč 1—3), as well as Knies' find (Mladeč 4) come from the sediments forming the widest clayey fan of a large rubble-cone. The cone of rubble is filling up a wide cave chimney, originally leading to the surface above the caves. The clayey sediments of this fan-shaped cone contained numerous bones of the aurochs (bos primigenius). These sediments are of brownreddish colour, and together with the remains of human skeletons they contained also other archeological finds (besides other things also flat spear points made of bone), definitely documenting that they belong to the First Würmian Interstadial. It is the same horizon, whose upper, final phase in the cave Pod Hradem in the Moravian Karst has been dated to 32 000 years — through the C_{14} method.

The wide chimney is filled up with boulders, mixed with further Paleolithic finds. The removal of these boulders, however, is very risky and would require considerable financial means.

The entire underground of the Mladeč caves is heavily karsted, and there is no doubt that there are also further cavities filled, partly or completely, with rubble and perhaps also with finds. When realizing a check-up research in the main Mladeč Cave following Szombathy's comparatively small probe, I have come to the conclusion that the find taken by Szombathy for a fireplace (Szombathy 1925) is in fact a circular agglomeration of manganese right under the Interstadial layer with human finds. This second layer, containing manganese and microfauna (snake skeletons) is relatively thick in the main cave (up to 3 m), and is dated paleontologically. It contains finds of the Ursus deningeri, together with Interglacial malacofauna. As to its colour, it is similar to that of the overlaying layer, but its brown-reddish hue is more intense,

and it is sometimes sandy. Some places show that there were periods of quiet water-sedimentation. This layer belongs to the main Mindel-Riss Interglacial Period (Holstein), while the last Interglacial Period (Eem) is not represented in this place at all. It follows that the human remains were thrown to the cave through the hole in the ceiling, together with certain tools; these people never lived in the cave, and they did not make fire there. Szombathy was wrong in considering the rests of manganese of the main Interglacial to be a fireplace, connected with the human finds.

A further group of finds (Mladeč IV discovered in the main cave by Knies in 1903 (Szombathy 1925) come from the same Interstadial layer as Szombathy's above-mentioned 1881/82 finds.

The third group of finds (Mladeč V, VI and the remains of a child) come from a cave discovered in 1905 some 50 meters aside of the main cave during quarrying — this cave does not exist any more. According to the description of the find circumstances by Knies and others (Szombathy 1925) the situation here was similar to that of the main cave. The cave was filled with clayey sediments and in the upper layer there were huge boulders and rubble. Knies explained it by the collapse of the ceiling of the cave. It is, however, an open question, whether it was really a collapsed ceiling, or a cave chimney filled with boulders and rocks. The important thing is that besides human remains there were found also bone-points, proving that the finds belong to the same archeological culture as the finds from the main cave mentioned above. To make the list of these finds complete, let us mention also the fourth group of finds discovered in 1922, when the main Mladeč cave was opened for tourists. According to a short report written by a laymen and containing no picture documentation, the remains of five individuals were found during the removal of the rubble. Dr. Smyčka and Dr. Fürst, the authors of the reports on the find, say that these are the oldest Mladeč cave-finds and that they belong to Homo primigenius. There is no mention — why they think so. According to Dr. Smyčka's description I was able to find the exact location of the so-called "Fürst's find" (called after J. Fürst, an archeologist of the local museum, participating in the excavations). Unfortunately the original sediments have been removed to the depth of 150 cm. Rests of these sediments can still be found in the cavities and crevices of the cave-walls, showing similar condition like the Szombathy's section. Obviously originally there were sediments of the main Würm interstadial separated from the Holstein Interglacial Period here by the travertine layer. Since these finds, together with many others, were burnt by the retreating German Army in the last days of World War II., there remain only unanswerable questions for ever.

We have seen that the Mladeč finds (I—VI) belong to the oldest European finds — or perhaps they are the very oldest European finds of Homo sapiens sapiens. In order to understand duely the whole situation, let me add that the find of a child's Neanderthal jaw (K. Valoch, R. Musil, J. Jelínek, 1965), discovered in the Šipka Cave 80 km from Mladeč in straight line, is stratigraphically contemporary with the Mladeč finds. It belongs to the same Würmian Interstadial Period. With the jaw there were associated coarse mousterian flake tools (K. Valoch, 1965). The morphology of the jaw and of the teeth shows a mixture of primitive and progressive features. Its considerable size and height point to a comparatively high face, while in the region of symphysis there are traces of a negative chin.

The most interesting Mladeč finds of human remains are the upper jaw discovered by Szombathy 1881 (Szombathy 1925 P. 22) in the main cave and brain cases V and VI, unearthed by Knies 1905 in the side cave. All these finds were described by Szombathy in 1925, however, in view of our present knowledge, we must underline the well perceptible variability inside the population — on comparing the above finds with other finds of the same cave (Mladeč I, II, IV).

The isolated upper jaw is extraordinarily robust, and of large dimensions — its teeth are also robust. Its palate is very shallow, with a well-visible torus palatinus. The alveolar arch is square, with an almost straight front line of incisors and canine teeth. The canine teeth are very strong, having strong and long roots. The nasal aperture was wide, as indicated by its preserved lower edge.

This expressive group of features is usually regarded as primitive. In brain cases V and VI the thickness of the bones is very large (in calva VI the thicknes of the frontal bone is 0,9 cm). Calva V has a strikingly low, wide and flat brain-case, which, compared with other fossil finds of Homo sapiens sapiens, has the lowest known brain-case, recalling in these features the classical Neanderthal Man.

This similarity is especially striking in the occipital view. The brain-case is widest at its base.

The morphology of the supraorbital region even when robust is evidently of the same type in both individuals (V and VI) as in that of Homo sapiens sapiens. In contrast to it the robust occipital squama is protruding, and its morphology in the lateral view is very primitive, reminding the classical finds of Homo sapiens neanderthalensis.

Now, let us have a look at the younger finds of the Gravettian (Pavlovian) Culture from Dolní Věstonice and from Brno II. The Věstonice finds (J. Malý 1930, J. Jelínek 1954) and the Pavlov find (E. Vlček 1962) come from sites situated on the same slope of the Pavlovské vrchy (Pavlov Hills), i.e. from the same Gravettian layers. The Pavlov skull is, according to the absolute dating, some 800—1000 years younger than the rest of the Věstonice anthropological finds. This skull is, however, in principle more primitive, even if we realize that it is a male's skull. On the frontal bone there are very strong supraorbital arches — they are morphologically typical of Homo sapiens type — but extremely strong.

Very characteristic is the protruding occipital

squama, with a beak-like Protuberantia occipitalis externa, whence pass laterally the strong, arched lineae nuchae superiores.

Here, in the lateral view, we can see a well marked sharp break of the occipital squama, whose lower part is very flat, and has strong rough lines and tuberosities. The two temporal bones have strong mastoids, and a strong supramastoid ridge. In the occipital view the width of the skull is almost identical between the parietal bosses and at the base of the skull. Compared with other Věstonice finds the Pavlov skull shows considerable morphological differences. In order to understand properly the whole anthropological situation it is necessary to draw your attention to the existence of the Brno II male skull, which is somewhat older (the oldest part of the second Würmian [main] Stadial). Its primitive features have been described elsewhere (J. Jelínek 1959), therefore we shall limit ourselves only to this short mention. Finally I would like to draw your attention to the well-known Předmostí finds — here also, some of the male skulls have a series of primitive features — of various degree of intensity and of varying frequency. Most primitive of them is the well-known Předmostí III skull, differing a great deal from some of the other male skulls. The new dating, by means of C_{14}, shows that the Předmostí finds come from the same period as the finds of Dolní Věstonice.

The discovery of the remains of four individuals from the Middle Neolithic Age belong to the so-called Painted Moravian Culture, characterizing the post-palaeolithic anthropological situation in an interesting way. The site is near Střelice in South-Western Moravia. It contained two gracile, ovoid to ellipsoid, finely formed female skulls, which according to the classical nomenclature should be listed to the Mediterranean type (J. Jelínek 1973). A further skull, that belonged to a male, is of pentagonoid shape, with a tendency towards brachycrany. It is, however, not very robust or primitive. The last of these individuals of whom only the occipital squama has been preserved, arrests our attention through its morphology, reminding us strongly of the occipital bones of the Homo sapiens neanderthalensis. This occipital bone is extraordinarily robust, low and wide, with a characteristic and prominent torus occipitalis. The complex of these striking features on the occipital squama, in our experience (J. Jelínek 1972), does not mean that there must had been similar primitive features also in the rest of the skull, which has not been preserved.

On summarizing our conclusions concerning these two groups of finds, i.e. the Mladeč and Věstonice finds on the one side, and the Neolithic finds from Střelice, on the other, we can see a well-defined sexual dimorphism when comparing some of the male skulls with the female skulls inside the same population. The frequency and the intensity of certain morphological features, typical of the Neanderthal Man, also varies. These conclusions support our view that the finds of Homo sapiens sapiens in Central Europe are genetically connected with the previous population of Homo sapiens neanderthalensis.

The fact that these Neanderthalian populations (e.g. in Šipka cave) were contemporary with the early populations of Homo sapiens sapiens (e.g. Mladeč), shows that the development of the individual populations was not continuing at a steady rate, and that in the same time-horizon existed, side-by-side, populations on various levels of development, according to the degree of their isolation and their size. On the other hand, in the developed, progressive populations we can find also primitive features of varying frequency and intensity. The specialists looking for an exact dividing line, both morphological and chronological, between populations of Homo sapiens neanderthalensis and Homo sapiens sapiens were led by simplifying and schematic views on the evolutionary process, which was, in fact, taking place at various rate in various populations, and also in the morphological features of the same individual.

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