

ARTIFICIALLY DEFORMED SKULLS FROM THE MIGRATION PERIOD FROM PRAHA-PODBABA

(Morphological Revision of the so-called Pod-
baba Skull)

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INTRODUCTION

Professor Malý studied in detail artificially deformed skulls in two of his papers. The first one is called "Artificially Deformed Skulls from Tiahuanaco in Bolivia", *Anthropologie*, Vol. 4 (1926): 251–348, Praha, where he described 40 deformed skulls mostly of Aymarian type (80 per cent) and of the fronto-occipital type (5 percent). The rest went to undeformed skulls, or their fragments.

For the second time Prof. J. Malý described two artificially deformed skulls from the migration time from Bohemia, in his "Artificially Deformed Skulls from Čelákovice by Praha", *Anthropologie*, Vol. 13 (1935): 37–53, Praha. In the part of his final paper the author mentions he was preparing for description Moravian finds of artificially deformed skulls from that period. His death, however, prevented the realization of this intention.

In memory of Prof. Jiří Malý we, therefore, want to focus our attention upon the communication in which we would like to correct the erroneous examination of the so-called "Podbaba skull".

In the revision of the so-called "Podbaba skull" (Vlček, 1956) in which I tried to clear certain stratigraphic and archaeological objections to the age of the find on the basis of modern stratigraphic-archaeological knowledge, I have quite automatically accepted the view on the morphology of this find expressed by A. Frič (1884, 1885), H. Schaaffhausen (1885), and primarily by J. Matiegka (1924). These investigators considered the find as bearing certain primitive characters for which it was ranked among the so-called transitional forms from the Neanderthal race to the later European races. Under the influence of these authorities I overlooked several important morphological characters which put this skull into an altogether new light.

In this paper I, therefore, take the liberty of revising and correcting the morphological characteristics of the so-called "Podbaba skull" and draw new conclusions from it. For the new revision of the "Podbaba skull" I used one of the direct casts of the original made by Prof. A. Stocký and a stereography made by J. H. McGregor and published by J. Matiegka (1924).

1. Finding Place and Find- Circumstances

The finding place of the "Podbaba skull" is situated in Praha-Podbaba in the brick-yard behind the malt-house (Reisser). The ground of this and other brick-yards in the surroundings is formed of Pleistocene terraces of the river Vltava IIIc and IVa, which, according to Záruba, correspond to the Stadials R₂ and W₁ what is also confirmed by the sections in Letky and Sedlec. As a result of this, the entire loess profile in the Podbaba brick-yard appears to be very young. Involved is loess primarily of the Würm age. In the digging of yellow brick loam the workers of this brick factory found in the winter of 1883 various bones of Pleistocene fauna at a depth of about 2 metres below the top soil. More exact data on the find of bones of Pleistocene animals are from the November 1883. These finds included the tusk of a mammoth which was given to A. Frič to the National Museum (Fritsch, 1885). Another mention, also coming from Frič (1884) says "that from the same place (as the skull — mentioned by the author), the newest skull of a rhinoceros was brought" and in another paper of Frič on bones of Pleistocene animals in the following year there is still a general mention (Fritsch, 1885): "Im Winter des Jahres 1883 brachten mir die Arbeiter zahlreiche Knochen von Renntier, Nashorn und Mammoth aus dem Ziegellehm hinter dem Malzhaus von Podbaba und am 30. November auch Reste eines Menschenschädels." Thus, on November 30th, 1883 the so-called "Podbaba skull" was discovered.

The first news on the find of the skull can be found in *Vesmír* 1884: 131 (by K) in a report on Prof. Dr. A. Frič's lecture. Frič himself gives this report on the find (Frič, 1884): "The skull was found in diluvial loam at a depth of 2 metres under a 1-metre thick layer of topsoil by the worker Hlavatý in a place from where several days before (22nd November 1883 — author's note) a mammoth tusk had been brought to the Museum". The author continues: "When visiting again the Podbaba site, Prof. Dr. Frič found that all remains of diluvial mammals, brought from there to the Museum come altogether from the indicated depth of 2 metres

(i.e. 3 metres including also the 1 meter thick top soil layer). The following remains were found: a 75 cm long mammoth tusk, 2 *Rhinoceros tichorhinus* skulls, and various bones of a reindeer and horse.

Since the Podbaba skull is from the same locality, there can be no doubt that the mammoth, the rhinoceros, and man lived at the same time in Bohemia."

A. Frič, therefore, considered the "Podbaba skull" as diluvial, J. Matiegka (1924) in his revision raised objections against the age of the find. These objections can be summarized into 3 points as follows:

1. When the find was made there was no expert present and the data furnished by the worker-finder cannot be taken as sufficient. The geological section was inspected by A. Frič subsequently.

2. The accompanying fauna was not found at the same time.

3. In the surroundings no Paleolithic tool were found.

E. Vlček (1956), because of new stratigraphic study and the discovery of Late Paleolithic tools from the same locality, tried to belittle the objections raised. On the whole, he succeeded without difficulty to date the Late Paleolithic horizon and the positions of the Pleistocene fauna. But on the same locality, inhumation graves had been dug above the Late Paleolithic horizon belonging to the migration period. These graves reached in their depth apparently into the Paleolithic level. Therefore, in our revision the depth of the grave pits corresponds to the depth of the Late Paleolithic horizon in the loess profile. Apparently when the graves were dug in the migration period, the loess on this locality was not covered with black earth, so that the filling of the graves remained undifferentiated in colour. Subsidence of the grave filling was apparently very great, so that the brick-yard workers could not distinguish any difference between the native loess and the secondary grave fill when cutting the loess. Nobody could distinguish at that time a change in the structure of the loess layers. Thus it happened that overlapping of two separate primeval horizons in the loess, namely the Late Paleolithic and the grave filling from the migration period, could not be distinguished.

But today, when we have clear morphological evidence of artificial deformation of the "Podbaba skull", there can be no doubt that in this way it is possible to present an interpretation of the erroneous determination of the "alleged Pleistocene age" of the "Podbaba skull".

II. The Morphology of the "Podbaba skull"

In the new study of the "Podbaba skull" cast we found several very characteristic signs throwing an altogether new light upon the find.

There are first of all, even contours of the postbregmatic region, zonal flattening of *facies temporalis ossis frontalis* and of the lower half of the left

parietal bone to a point above *angulus temporooccipitalis* of the parietal bone. The vertex is shifted to the middle of the parietal arc (between b-l), this arc being very high at the same time. Further we can find very long distances g-l and n-l, compared with the assumed distance g-op. These characters are emphasized by a pronouncedly receding frontal squama without distinct frontal protuberances. Similarly, not even the parietal protuberances are marked out.

For all these reasons it is necessary to regard the "Podbaba skull" as an artificially deformed skull. From the same locality L. Niederle (1892) described an artificially deformed skull of a woman found in a grave stemming from the migration period.

This diagnosis of ours is borne out primarily by the comparison of the "Podbaba skull" with undeformed skulls, on which the proportions of the braincase characteristically differ, which can be seen also in the documentation material in my first revision (Vlček, 1956), but no conclusions have been drawn from this. Secondly, our diagnosis is also corroborated by the comparison with the other artificially deformed skull of Podbaba. Similarity in the deformation of the cranium is evident and the established differences must be attributed to the different sex of both Podbaba skulls. The so-called "Podbaba skull" belongs to a man and the deformed skull from Podbaba (Niederle, 1892) belongs to a woman. Finally, this diagnosis of artificial deformation is confirmed by measurements and drawings.

For the sake of completeness let us still present a brief description of the "Podbaba skull", its measurements and drawings.

1. The "Podbaba skull" belongs to a man of mature age. In favour of the male sex speak well-developed secondary sexual characters (receding forehead, strongly developed supraorbital ridges, powerful muscle insertions, etc.). For the middle to greater age of the individual speaks the completely united suture coronaris and for the most part also suture sagittalis. Sutura lambdoidea and suture mastoidea are still open.

2. State of preservation:

The "Podbaba skull" has been reconstructed from several large calvarium fragments. Missing are a large right part of the brain-case, a part of the occiput, the entire base of the skull, and the whole face.

The "Podbaba skull" is thus composed of the frontal bone, the parietal bones and parts of the left temporal bone. Os frontale is preserved entirely with the exception of defects in the nasal region and the eyebrow vault. Os parietale sin., except for a small defect in the middle of the sagittal suture, is complete. From os parietale dx. about one quarter at the bregma is preserved. Missing from os temporale are about one third of the squama, furthermore the part round porus acusticus ext. and the entire pyramid.

3. Description of the Skull.

On the whole the skull is of medium size, but very massive.

Vertical view: Sphenoid-bridoid contour, with prominent supraorbital ridges. All frontal protuberances are practically not discernible, neither is the left parietal one.

Cranial sutures: Sutura coronaris is not yet quite closed in the central parts, on the external side it is still slightly evident. Sutura sagittalis, except for a small part at the bregma, is obliterated on the endocranial side. On the exocranial side it is discernible. Sutura lambdoidea is open, with simple and short serration. Sutura mastoidea is complicated, not yet closed.

Lateral view: The root of the nose is distinctly receding under strong supraorbital arches. The supraorbital arches are strongly developed with maximum thickness laterally from the mediosagittal line. The frontal squama is receding with indiscernible frontal protuberances. The contour continues in a smooth arc to the bregma via the post bregmatic flattening to the parietal arc, where the vertex of the skull is situated over Francfort Horizontal on the boundary of its first and second halves. The parietal arc breaks at the vertex to the lambda point.

The coronal suture is closed on the outer side but still discernible. On the inner side there is not discernible on the cast. The temporal lines are well developed on the frontal squama. They continue to the parietal protuberances, where they are only slightly discernible. Proc. mastoideus is of average size. Over it crista supramastoidea is markedly developed.

Frontal view: The forehead is medium broad, in the mid-line is the frontal suture edge beginning over the nasion and reaching as far as the metopion. In the upper half of the squama the metopic suture is not to be seen due to the damage of the external bone layer. The frontal protuberances are not to be seen in this view either. The supraorbital arcs are well developed in the mid-line with a maximum somewhat laterally from the medio-sagittal line. The latter are rather distinctly separated from the frontal squama by a transversal fossa. The upper edge of the orbits is smooth in its entire course. Trigonum supraorbitale is very flat. Foramina supraorbitalia are missing and in their place there are dull incisures.

The nasion region is damaged, so that the frontal sinuses are open. On the surface of the left half of the frontal squama ahead of the bregma point there is a defect measuring 7 mm in diameter.

Occipital view: The transversal parietal arc is slightly broken at the point of the sagittal suture and falls in a smooth arc leading to a vertically receding arc to crista supramastoidea. The contour of proc. mastoideus is slightly bulging inwards. Incisura mastoidea is deep.

III. Endocast

The endocast was unfortunately made after A. Frič's cast, deposited today at the National Museum in Prague.

The cast also included the cast of the frontal sinuses, for the anterior and lower walls of the sinus are broken off, so that the former are lying open. Similarly, the cast also includes a cast of the part of the temporal bone at the point of fracture after the pyramid is broken off. The actual cast of the preserved part of the cranium was mounted on a stand. Since the brain-cast is incomplete, the usual measurements cannot be performed on it and, therefore, we confine ourselves to its brief description.

Description of endocast

Vertical view: When viewed from the top, the cast displays (inasmuch as it is preserved) an elliptical contour. The frontal parts appear flattened, juga cerebri over gyrus frontalis sup. are not prominent. The frontal poles, unfortunately, cannot be evaluated due to the bad state of preservation and we thus lose an important character. Somewhat more to the left gyrus frontalis medius is developed. This region is rather clearly separated by a sulcus, corresponding probably to sulcus frontalis inf., which passes over into the region over the edge of gyri orbitales which, unfortunately are not preserved either.

Otherwise in the region of the bregma we can find on either side of the sagittal gyrus markedly large defects, which can hardly be judged without inspection of the original (Pacchionian granulation, usuration of bone). Coronal suture is represented by a distinct imprint along its course. In the parietal region there are no particular details.

Lateral view: As flattening of the forehead and, in turn, bulging out of the parietal parts are to be seen distinctly on the skull they are to be seen better on the cast.

The frontal poles and the orbital parts are missing. The frontal lobe is much receding, mainly in the lower third in the region of the metopion.

In this normal flattening of the region over gyrus frontalis, superior and medius are very distinct. The entire head end of the sylvian fossa is missing, similarly the entire temporal lobe.

The rest of the endocast is only slightly differentiated, merely in the region of gyrus supramarginalis and parietalis inf. we can find slight juga cerebri.

The occipital and cerebral parts are missing.

Frontal view: In this normal flattening of the entire frontal region is particularly well visible. On the transversal contour we actually get only the contour of the region behind the bregma. On both frontal lobes gyrification is well developed. Obliquely across both lobes stretches a longitudinal defect. At the frontal poles rest the casts of the frontal sinuses. Other characters cannot be ascertained in this view.

Generally we can say that the endocast of the Podbaba skull indicates still better than the cranium itself flattening of the frontal parts and vault-

TAB. 1

Artificially deformed skulls from Podbaba

Martin-Saller 1957	Measurements	Podbaba ♂ Frič 1883	Podbaba ♀ Niederle 1892
1	Max. cranial length (g-op)	—	170
1c	Metopic length (m-op)	—	162
1d	Length n-op	—	167
2	Length g-i	—	162
2a	Length n-i	—	158
3	Length g-l	185	170
3a	Length n-l	179?	169
5	Length of skull base (n-ba)	—	99
5(1)	Length n-opisthion	—	131
7	Length of for. occip. magnum	—	35
8	Max. breadth	—	128
8(1)	Parietal breadth of skull	—	126
9	Min. frontal breadth (ft-ft)	98	92
10	Max. frontal breadth	111	106
10a	Max. breadth in temporal fossae	115	105
11	Biauricular breadth	—	111
12	Biasteric breadth	—	114
13	Bimastoidal breadth	—	103
14	Min. breadth of skull	—	75
15	Breadth of pars basalis o. occip.	—	21
16	Breadth of for. occip. magnum	—	28
17	Height ba-b	—	141
18	Total height of skull (Virchow)	—	146
19	Height of opisthion over FH	—	22
20	Height (po-b)	135	107
21	Total auricular height	139?	125
22	Height of calotte	—	114
22a	Height of calotte (Schwalbe)	—	110
22b	Height of calotte (over g-l)	60	71
22c	Height of calotte (over n-ba)	—	144
23	Horizontal perimeter	—	475
23c	Perimeter (m-op)	—	464
24	Transversal arch	—	316
24b	Vertical transversal arc	—	333
24(1)	Trans. perimeter	—	442
24(2)	Basal trans. arc	—	126
24(3)	Parietal trans. arc	—	150
24(4)	Frontal trans. arc	—	235
25	Mediansagittal arc	—	367
26	Frontal arc	129?	122
27	Parietal arc	126?	134
28	Occipital arc	—	111
29	Frontal chord	117?	114
30	Parietal chord	109?	115
31	Occipital tangent	—	99
32	Frontal angle	approx. 75°	78°
32(1)	n-b < : n-i	—	64°
32(1a)	n-b < : FH	approx. 57°	58°
32(2)	g-b < : g-i	—	63°

Tab. 1 continued

Martin-Saller 1957	Measurements	Podbaba ♂ Frič 1883	Podbaba ♀ Niederle 1892
32(5)	Angle of frontal arc	144°	140°
33	Angle l-o : FH	—	65°
33c	n-ba < : l-o	—	88°
33(1)	Angle l : i over FH	—	84°
33(2)	Angle o : l over FH	—	140°
34	Angle of for. occip. magnum over FH	—	4°
35	Angle of clivus o. occip. over FH	—	26°
37	Angle of base	—	6°
	Length n-o	—	113
	Height of calotte over n-o	—	135
	Height of calotte over n-l	67	77
	Height of frontal arc	19	18
	Angle of frontal arch	144°	140°
	Height of parietal arc	28?	29
	Angle of curvature of parietal arc	125°	126°
	Height of occipital arc	—	21
	Angle of curvature of occipital parts	—	134°
	Angle l-ba over FH	—	50°
	Length l-ba	—	118

ing of the parietal parts, as it is known with artificially deformed skulls.

IV. Measurements of the "Podbaba Skull"

For comparing the measurements of the "Podbaba skull" (man) we also present the new measurements of the second artificially deformed skull of a woman from the same site described by Niederle (1892), still prior to unification of the measurement methods.

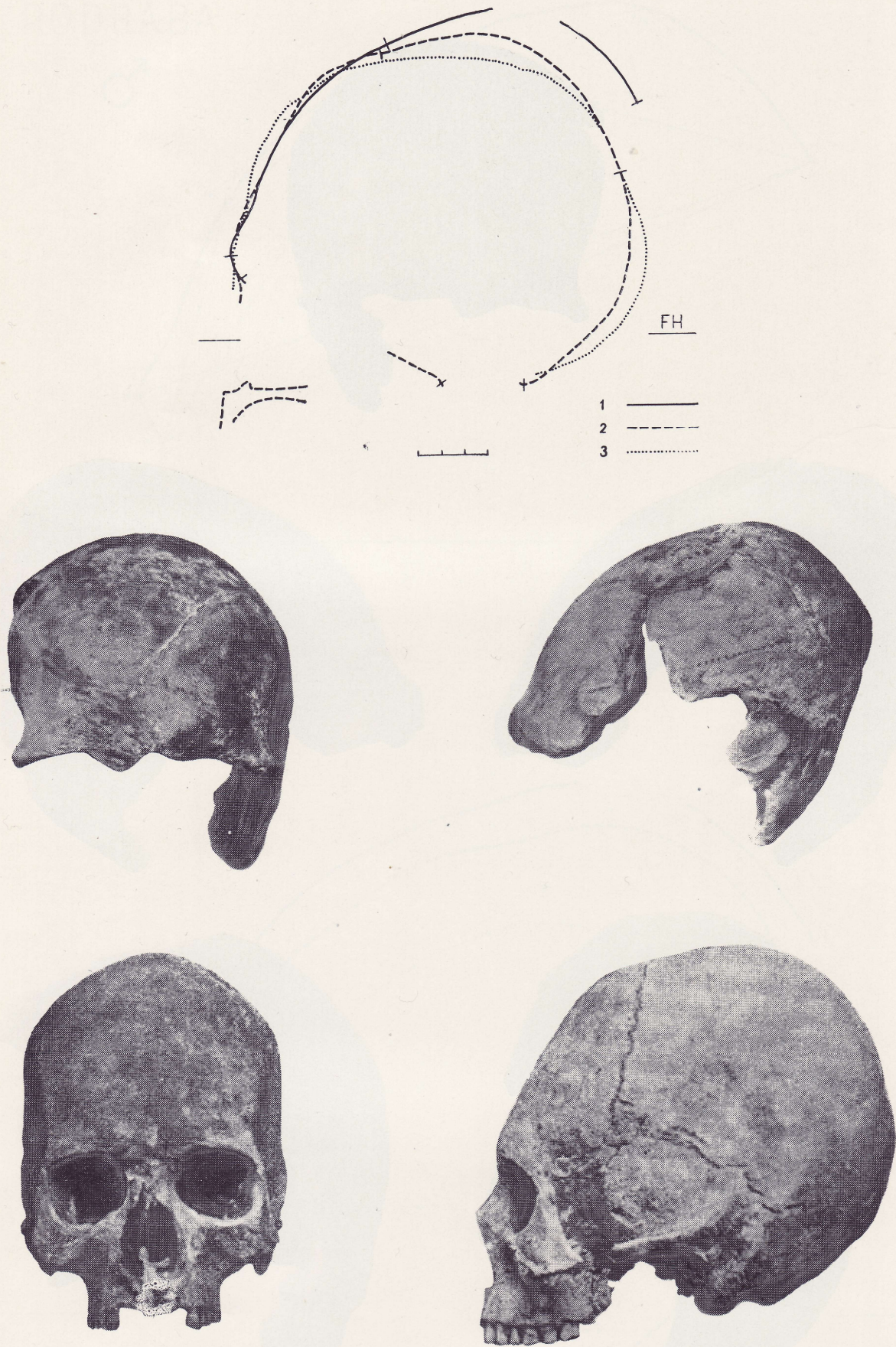
SUMMARY

The new morphological revision of the "Podbaba skull" from Praha-Podbaba, figuring in a number of foreign publications among finds of fossil man, showed that an artificially deformed skull was involved, stemming apparently from a Merovingian grave from the time of the Migrations which was buried in the loess layer situated over the Late Paleolithic horizon in the same locality.

Insufficiently accurate observations in the field during the discovery of this ancient find led to erroneous classification which has also been accepted in world literature (e.g. Werth 1928. Boule-Vallouis 1952, etc.).

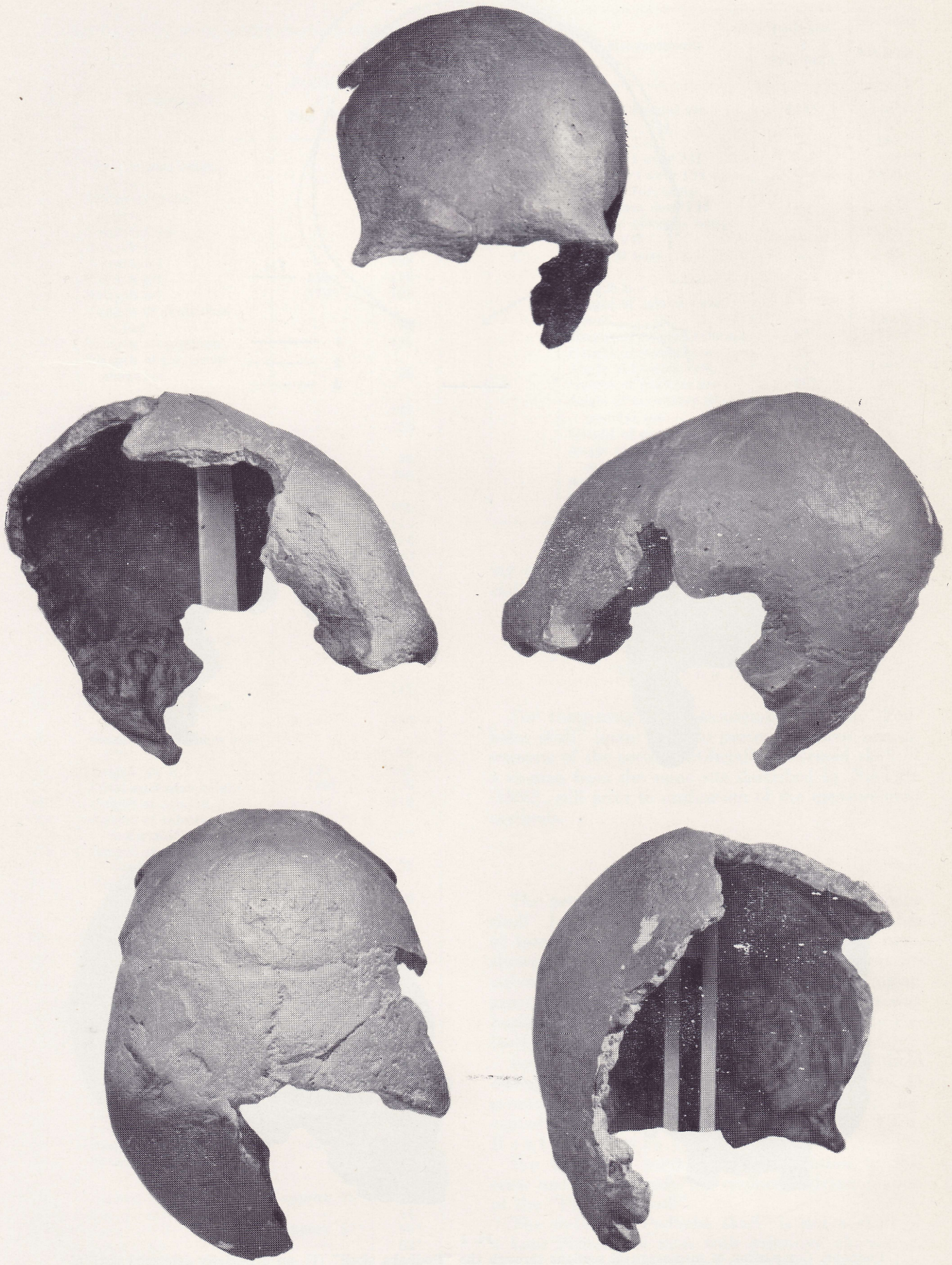
We therefore want to draw attention to this error and thus remedy the erroneous determination of the "Podbaba skull".

The so-called "Podbaba skull" is not a skull of a Late Pleistocene man with primitive characters, but an artificially deformed skull from a grave dat-



Pl. 1

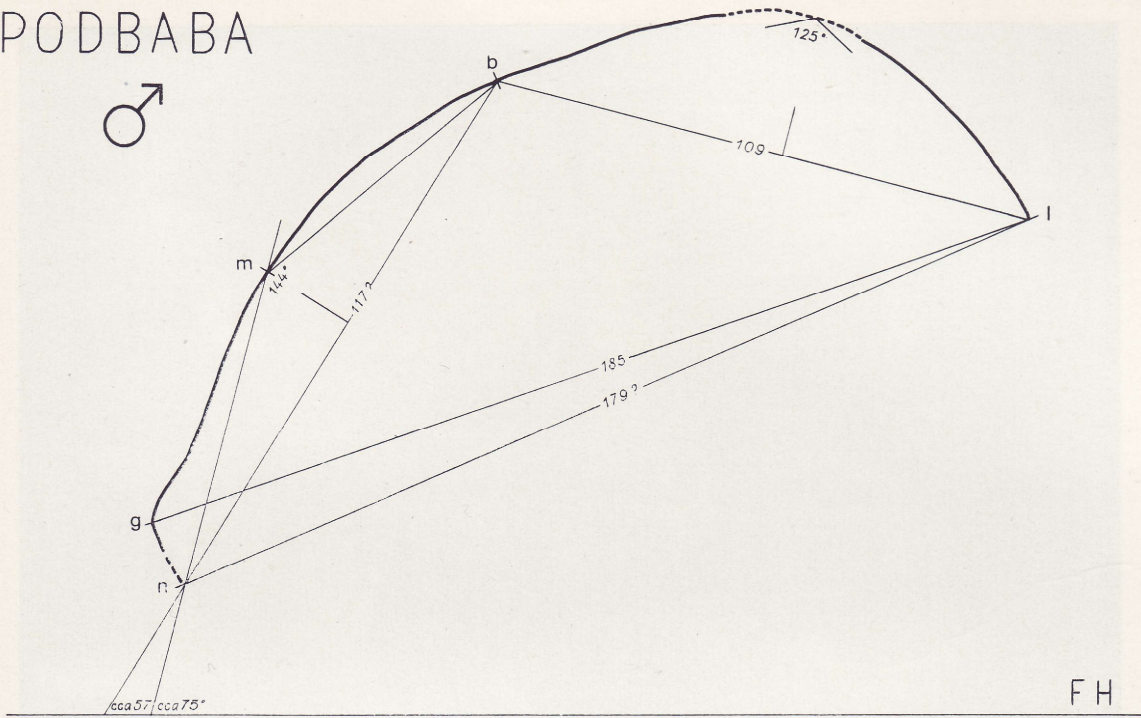
Podbaba. Comparison of mediosagittal sections through the "Podbaba skull" (1), an artificially deformed skull of a woman (3) and an deformed skull of a man (2) from the same locality in Prague-Podbaba (top). The "Podbaba skull". Photo by J. H. McGregor, according to J. Matiegka, 1924. The dotted line indicates Frič's erroneous orientation plane (in the middle). The artificially deformed skull of a woman from Podbaba (according to L. Niederle 1892) (bottom).



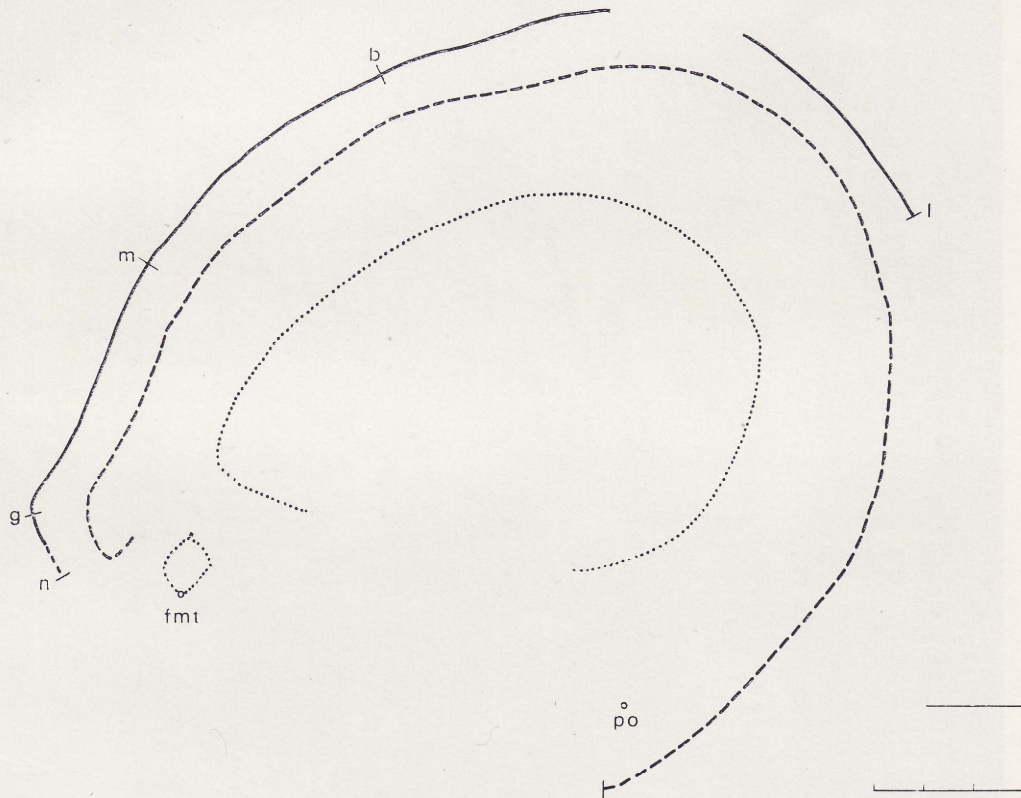
Pl. 2

Podbaba I (Frič 1883). The so-called "Podbaba skull" in the different views. Photo of a cast.

PODBABA

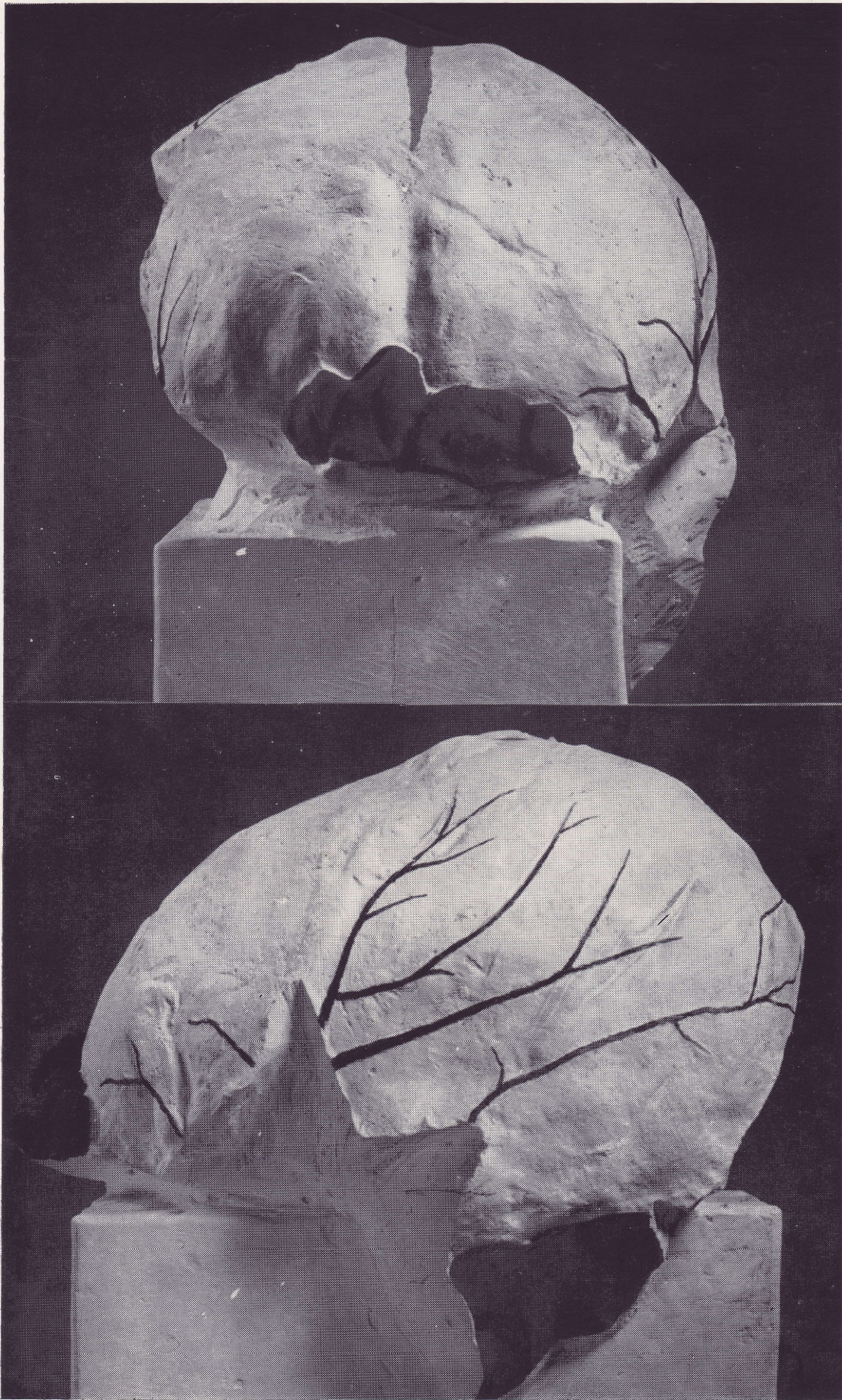


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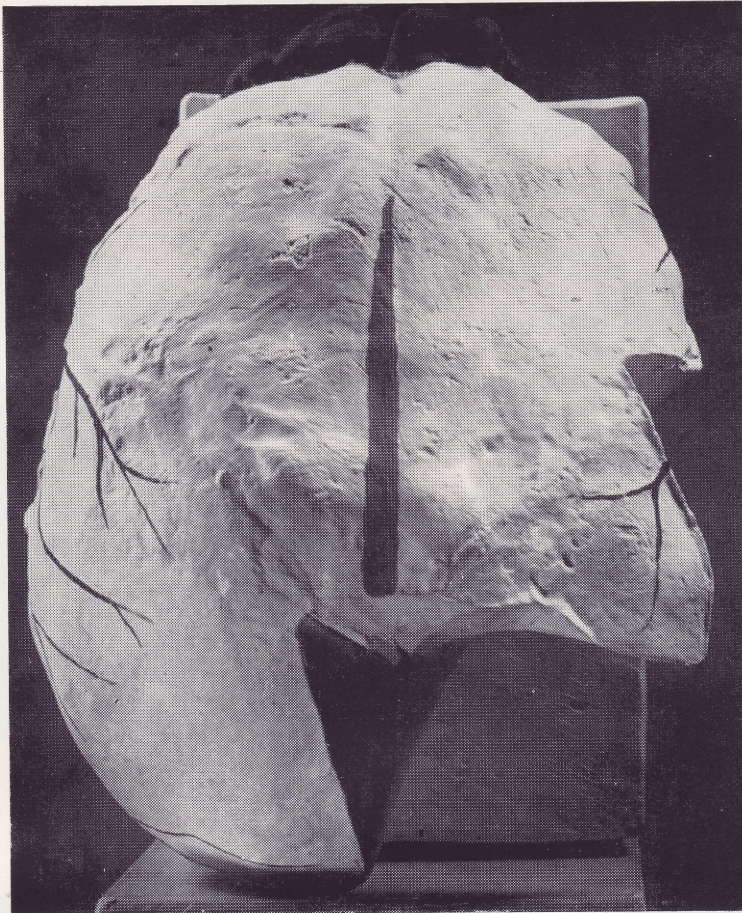
Pl. 3

Podbaba I (Frič 1883). Mediosagittal section with main dimensions and angles (top) and sagittal sections through the skull (bottom). Explanatory notes: 1 — mediosagittal, 2 — medioorbital, 3 — lateroorbital section.



Pl. 4

Podbaba I (Frič 1883). Endocast of the skull. Frontal view (top) and side view (bottom). Sagittal gyrus, arterial ramification, and casts of frontal sinuses marked in colour.



Pl. 5

Podbaba I (Frič 1883). Endocranial cast (vertical view).

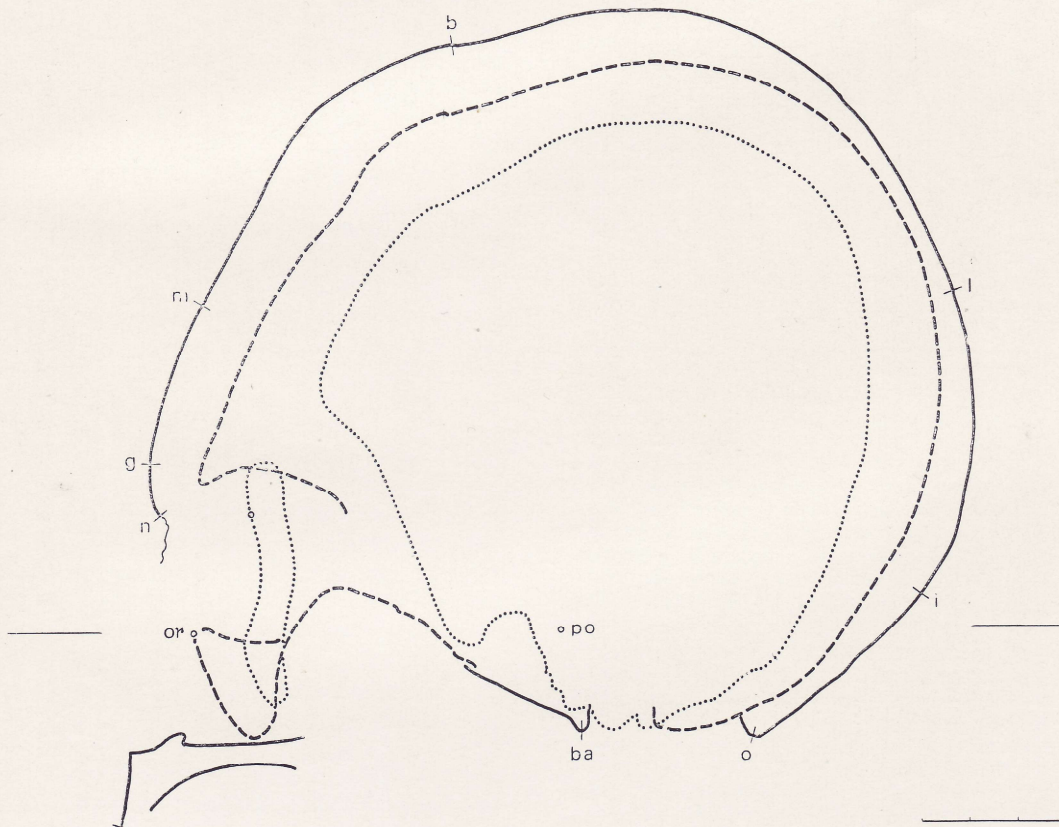
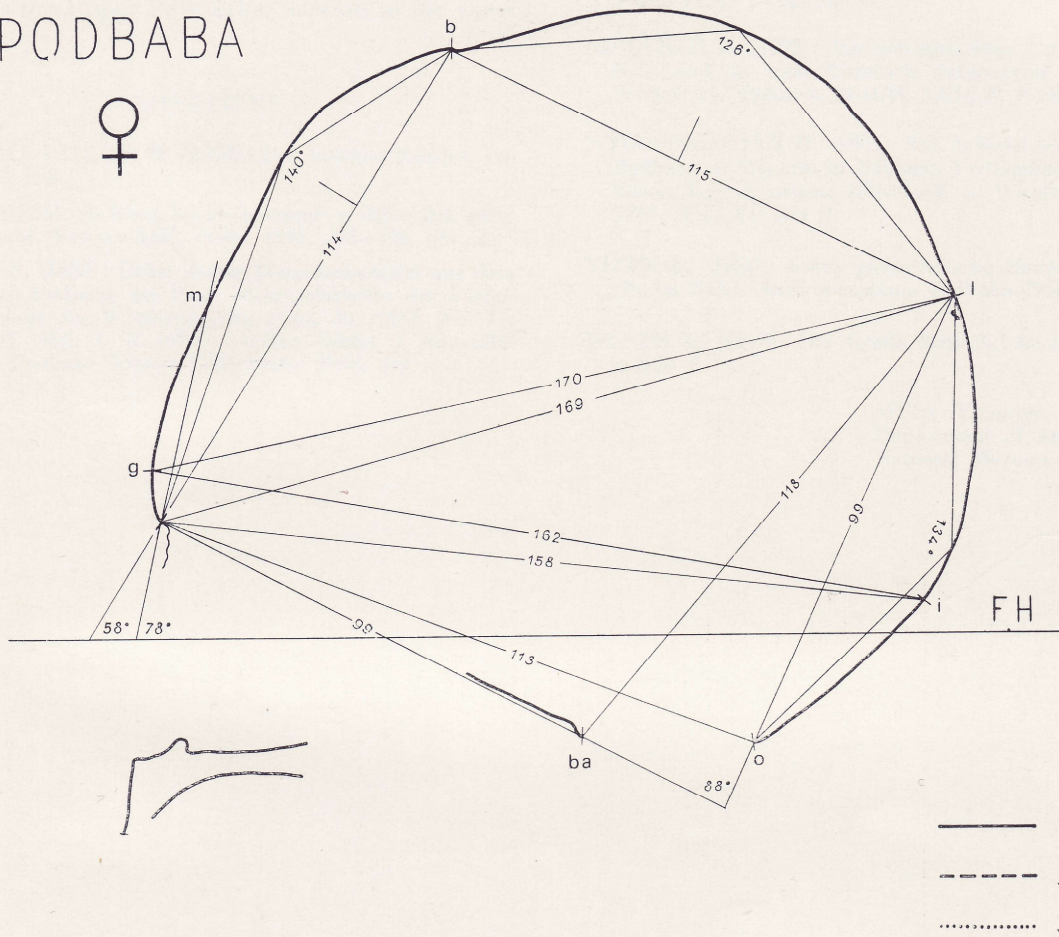


Pl. 6

Podbaba II (Niederle 1892). Skull of a woman in 5 views.

PODBABA

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Pl. 7

Podbaba II (Niederle 1892). Medicsagittal section and main dimensions and angles (top) and sagittal sections (bottom). Explanatory notes as in Tab. 3.

ing the Migration Period discovered in superposition over the Upper Paleolithic horizon in the same locality.

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