

## Fossil Man in Minnesota\*

IT is probable that there is no skeleton of ancient man of which the circumstances and conditions of discovery have been more carefully documented than that of the skeleton found in the ancient glacial lake deposits, now known as "Lake Pelican", beneath Minnesota Highway No. 30, near Pelican Rapids, on June 18, 1931 (see NATURE, Feb. 27, p. 365). Prof. A. E. Jenks, in his detailed account of the skeleton, has been careful to secure statements from all who were concerned in the discovery of this skeleton; and the facts were further checked by a re-excavation on the site, in which the circumstances received further confirmation by the occurrence of more fragments of the skeleton.

The skeleton was unearthed at a depth of some twelve feet in the course of repairs to a recently made road, when a mechanical excavator was noticed by the workmen to have crushed a clam shell. A closer examination revealed the existence of a skeleton, which on removal proved to be virtually complete. One tooth, lost after discovery, is missing, as are the nasal and some of the smaller bones, such as those of one hand and the feet.

Minnesota is the centre of an area of some thousand miles in extent which, as a zone of terminal moraines and a 'driftless area,' would have been peculiarly favourable for the existence of glacial man. The ancient glacial lake system to which belong the deposits in which the skeletal remains were found is of late Pleistocene date. This area would have been readily accessible to early man entering America by either the Arctic coast or the Yukon valley, and thence coming south-eastward along the Mackenzie River and on the east of the Rocky Mountains, and thereafter in a generally eastward direction along the Missouri River. Hence access could readily be gained to the various centres in America in which forms of aboriginal culture developed later.

The skeleton as a whole, as already mentioned, is very complete. It is that of a sub-adult female of about fifteen years. The bones are mineralized, and little affected by the silt in which they lay. There can be no question of a modern burial, and the supposition is that the young woman was drowned in glacial Lake Pelican about half a mile from the foot of the glacier, possibly having fallen through the ice.

The characteristics of the cranium are not distinctively primitive in type, except in the backward extension of the skull and the 'houseboat' shape, which is also characteristic of the Australian and Eskimo. The cephalic index, 77.09, distinctly mesocephalic, and therefore higher than in the Mousterian and Aurignacian types, and the head-height indices are not very distinctive of race, falling in the median categories, which may be found in all the great groupings of mankind. The cranial vault shows a number of primitive characters, of which the more noteworthy are the prominent glabella, the absolutely and relatively long temporal margin of the parietal bone, the low index of the squamous portion of the temporal bone, the high position of the inion above

the Frankfort plane, and the flatness of the nuchal area. A number of unique or unusual features are shown, such as the U-shaped grooves of the occiput and the columnar form of the bases of the pterygoid processes.

The face as a whole shows an important primitive characteristic in the marked alveolar prognathism combined with mid-facial orthognathism. In this it most closely resembles neanthropic palæolithic Europeans. In other measurements and indices the resemblance is nearest to the Mongoloid and White groups. As contrasting with certain Amerindian groups, it is both higher and narrower; yet it is within the group means of Algonkins, and in breadth within the range of the Siouan group. In orbital index the specimen falls with the Mongoloids; while the interorbital breadth and index are Mongoloid. The nasal index is closest to the White, yet certain of the Mongoloid groups have similar indices. The forward thrust of the malars is Mongoloid; while the mandibular index is closer to that of the Australians than of any other living race.

The teeth exhibit important primitive characters. They are absolutely large in every respect. In the relative length of the lower molars the third is the greatest, which gives them a unique formula. The cusps of none of the molars show any reduction in number, and they retain the primitive crown patterns. The shovel-shaped upper incisors, though characteristic of the modern Mongoloids, seem to be a primitive character.

The stature as computed from the long bones is 1,582 mm. (Manouvrier) or 1,540 mm. (Pearson). This, on Manouvrier's method, is slightly above the average for females generally, which is 1,530-1,539 (Martin). The figure is above the Mongoloid average, which is generally lower than European and Negro.

Artefacts were found with the remains. The clam shell crushed by the grader has been identified as *Lampsilis siliquoides*. As this lay above the frontal bone it may have been part of the headdress. An antler dagger, broken at the time of discovery, lay to the right of the right humerus, and has been identified as part of the tine on the main beam of an elk antler. It is 196 mm. in length and had been fashioned by a coarse cutting implement. Its butt end is perforated. A conch shell pendant was found among the ribs and vertebræ in the abdominal area. At the second re-digging of the site sixty fragments of turtle carapace were recovered, also fragments of antler, metatarsal of a loon, toe bones of a bird's foot, a wolf's tooth, and the calcaneum of a rodent. The whole possibly was a 'medicine' outfit.

The general deductions are that the skeleton named 'Minnesota man' has been found geologically documented in undisturbed sediment of late Pleistocene origin in the area immediately east of the Big Stone Moraine of the Wisconsin glacier; and that the measured and observed morphological characters of this skeleton proclaim it to be a primitive *Homo sapiens* of an early type of evolving Mongoloid, already prophetically suggesting American aborigines, especially the Eskimo, more than the present Asian Mongoloids, and living in west central Minnesota about twenty thousand years ago in late Pleistocene times.

\* Pleistocene Man in Minnesota: a Fossil *Homo Sapiens*. By Dr. Albert Ernest Jenks. With a Chapter on the Pleistocene Geology of the Prairie Lake Region, by Dr. George A. Thiel. Pp. xiv+197. (Minneapolis, Minn.: University of Minnesota Press; London: Oxford University Press, 1936.) 34s. net.