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Royal Institution of Great Britain.

WEEKLY EVENING MEETING,

Friday, February 7, 1862.

SIR HENRY HOLLAND, Bart. M.D. D.C.L. F.R.S. Vice-President,
in the Chair.

PROFESSOR T. H. HUXLEY, F.R.S.

On Fossil Remains of Man.

THE purpose of the discourse was to give an explanation of the interest attaching to two casts upon the table—the one that of a skull, discovered and described by Professor Schmerling, from the Cave of Engis, in Belgium; the other, discovered by Dr. Fuhlrott and described by Professor Schaaffhausen, from a cave in the Neanderthal, near Düsseldorf—the former being the oldest skull whose age is geologically definable, the latter the most aberrant and degraded of human skulls.

The nature and extent of the cranial modifications exhibited by the man-like apes and by man were discussed; and their modifications were shown to depend upon variations in the capacity and in the form of the cranium, in the greater or less development of its ridges, and in the size and form of the face. In respect of such differences, skulls have been called dolichocephalic and brachycephalic, orthognathous and prognathous, &c.

Neither orthognathism or prognathism are necessarily correlated with brachycephaly or dolichocephaly. But the most extreme prognathism is accompanied by a dolichocephalic cranium, while perfect orthognathism may occur with extreme brachycephalism.

The known varieties of the skull have a certain geographical distribution, which may be broadly expressed by drawing a line upon a map of the world from Russian Tartary to the Gulf of Guinea, and by regarding the two ends of that line as ethnological poles, while another line, drawn at right angles to it, from Western Europe to Hindostan, may be called the ethnological equator.

At the north-eastern pole are situated the people with the most eminently brachycephalic and orthognathous skulls; at the south-western pole, those people who have the most eminently dolichocephalic and prognathous skulls; while along the ethnological equator the

racés of men are for the most part, oval-headed, or, if dolichocephalic, they are orthognathous. Passing from the ethnological poles, in either direction, there is a tendency to the softening down of the extreme types of skull. Turning from this general view of cranial modification, which was expressly stated to be open to many exceptions in detail, the question was next raised whether the distribution of cranial forms had been the same in all periods of the world's history, or whether the older races, in any locality, possessed a different cranial character from their successors.

No evidence of the existence of such older and different races has yet been obtained from Northern Asia, from Africa beyond the shores of the Mediterranean, or from Australia; it may be that the Alfourons and the mound-builders of the Mississippi valley are to be regarded as ancient stocks which preceded modern immigration; but definite evidence is wanting with regard to these and similar cases. In Northern and Western Europe, however, there is little doubt that several races, different in cranial conformation and in civilization, have succeeded one another. Below and beyond the traces of Roman civilization, archaeologists find evidence, first, of people who used iron, then of those who employed bronze, and then of those who were acquainted only with stone and flint (or bone) weapons and implements. How far these various weapons may have been used at different epochs by the same people, is a question yet to be decided; but that in some parts of Europe, at any rate, they characterize people of different cranial structure, appears to be tolerably well made out.

The remarkable crania from tumuli of the stone period at Borreby, in Denmark, figured by Mr. Busk, were cited as authentic examples of the skulls of people of the epoch in which stone axes ground to an edge were the chief weapons.

The evidence of the antiquity of these people afforded by the peat bogs of Denmark, and the probability of their contemporaneity with the makers of the "refuse-heaps" of Denmark, and of the pile-works of Switzerland, were next considered. Ancient as the Borreby race may be, they peopled Denmark subsequently to its assumption of its present physical geography, and since its only great quadrupeds were the urus, the bison, and deer.

The Engis skull, on the other hand, is of a date antecedent to the last great physical changes of Europe, and its owner was a contemporary of the mammoth, the tichorine rhinoceros, the cave bear, and the cave hyæna, so that a vast gulf of time separates him from the Borreby men. The skull was shown, however, by all its measurements, to be nearly as well developed as that of an average European.

The Neanderthal skull, whose age is not exactly known, on the contrary, is the lowest and most ape-like in its characters of any human skull yet discovered, though it presents certain points of resemblance to the Borreby skulls.

Great as are the differences between the Engis, the Borreby, and the Neanderthal skulls, the speaker stated that it would not be justi-

fiable to assign them even to distinct races of men; for by a careful examination of the crania of one of the purest of living races of men,—the Australian,—it is possible to discover skulls which differ from one another in similar characters, though not quite to the same extent, as the ancient ones.

Thus it appears that the oldest known races of men differed comparatively but little in cranial conformation from those savage races now living, whom they seem to have resembled most in habits; and it may be concluded that these most ancient races at present known were at least as remote from the original stock of the human species as they are from us.

[T. H. H.]

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