The Transvaal Fossil Human Skeleton.

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AT the end of January last a road party, working in the Springbok Flats about eighty miles north of Pretoria, in excavating calcareous ground to make a road, came across a human skeleton and bones of the extinct buffalo (*Bubalus Bainii*) and of a large antelope. The spot where the bones were found has been visited by Mr. C. J. Swierstra of the Transvaal Museum and Mr. Herbert Lang, and they have taken careful observations of the occurrence. There is a foot and a half of dark reddish-brown surface soil, with below it about six feet of calcareous tufa (Fig. 1). The skeleton was obtained at a depth of three feet from the surface and thus about one and a half feet from the top of the tufa. The bones are for the most part much impregnated with lime and, except the powerful long bones, badly broken. The skull is mostly broken into pieces about the size of half a crown or smaller, but fortunately the mandible is well preserved. In the opinion of Mr. Lang, the man has probably been killed while hunting and his body crushed in the mud by the trampling of a wounded buffalo—not improbably the one whose bones lay near his own. Mr. Swierstra has kindly asked me to make an examination and report on these bones.

The fitting together of the cranial fragments has been a matter of some difficulty, as at present about a quarter of the fragments are missing, and most are so impregnated with lime that it is difficult getting them sufficiently cleaned to fit nicely. Still, enough has been done to give a satisfactory idea of the shape and general character of the skull.

The Transvaal Museum is at present at work going over all the ground to endeavour to obtain all the missing fragments. As this will take a considerable time and will not alter materially any conclusion that can now be come to with regard to the skull, there seems nothing to be gained by delaying, more especially as the press has been largely interested in the matter and has been issuing reports, some of which are not altogether correct.

At present we have almost the complete right side of the skull and much of the left side, but without the basicranial region; and the whole of the face except the frontals and malars is lost. The mandible is practically complete. Of the post-cranial skeleton there are remains of three vertebræ and fragments of many ribs, a fragment of one scapula, half of one clavicle, both humeri

but with the ends lost, much of both radii and ulnæ, and much of one hand. There is no trace of the pelvis or sacrum, but both femora are well preserved except that the ends are lost, and there is much of both tibiæ and parts of the fibulæ, with a well-preserved astragalus.

The skull is of the modern type with a fairly large brain. The maximum length is about 195 mm. and the breadth is about 144 mm. The antero-posterior measurement can be relied on as

FIG. 1.—The quarry where the human remains were found. Mr. Miller, who discovered the remains, is pointing to the layer in the tufa where the bones were found.

very nearly accurate, but the breadth is less certain, as the fragments of the left side of the skull cannot at present be fitted together, but the greater part of the occiput and frontales are preserved, and the middle line can thus be approximated. The cephalic index is thus about 74. The frontal region slopes, as seen on the photograph (Fig. 2), and is not in the least Neanderthaloid. The frontal bone is narrow, the width at the lower part being about 106 mm. The parietal region is lower than in most modern types of man, and there are no marked parietal eminences. The bones are not unduly thick—the maximum being less than 9 mm.

The mandible is unusually long and very massive, and there is a well-marked chin (Fig. 3). The ascending ramus is very wide, being 48.5 mm. from the front of the coronoid process to the hollow below the condyle. From the condyle to the front of the symphysis is about 141 mm. The symphysis is 17.5 mm. in thickness. The teeth are

relatively small, the three molars measuring only 30 mm. and the molars and premolars together 42 mm. The crowns are badly worn down, and the pattern cannot with certainty be determined. There seems, however, to be no clear evidence of a 5th cusp, except perhaps in *m'*. The under side of the symphysis resembles considerably that of Neanderthal man. The angle of the jaw is extremely thick (7.8.5 mm.) and has prominent muscular ridges.

The limb bones are large and powerful. I estimate the humerus to be about 330 mm. long, but as both ends are lost it is impossible to give the measurements quite accurately. The radius, ulna, and phalanges are all those of a powerfully built man.

The femur can be restored with much probability, only the head and the distal end being unknown. There is considerable resemblance to the thigh bone associated with the Rhodesia skull. The bone is very long and massive; the greatest length is, as near as may be, 500 mm. The shaft measures below the lesser trochanter 36 mm. by 28 mm. The shaft is very considerably curved. The tibia is about 435 mm. in length, and the shaft near the nutrient foramen measures 40 mm. by 30 mm.

A comparison with previously known prehistoric human skulls at once suggests a possible affinity with that of Cro-Magnon man; and with the previously known large-brained South African fossil type, the Boskop man. The present skull, which may be referred to as the "Bushveld skull," resembles both in being large brained and in having a fairly good forehead and quite small supraorbital ridges. The man was also like that of Cro-Magnon,

FIG. 2.—Skull of Bushveld man as restored by R. Broom.

of large stature. But there are some points of striking difference. Cro-Magnon man had a high parietal region: Bushveld man has, like the Hottentots and Bushmen, a relatively low parietal region. This is a point to which most anthropologists pay little attention, but it is in my opinion one of very great importance. Lowness of the parietal region is evidently a primitive character. It is found in *Pithecanthropus*, *Eoanthropus*, Neanderthal man, Rhodesian man, and in

Boskop man and in the Bushman of to-day. In Cro-Magnon man, as in most living races, the parietal region is high. There are many other striking points of difference, though possibly Cro-Magnon man may be descended from a Bushveld-like type.

Boskop man also has some points of likeness. Both have low parietal regions, but there are few

FIG. 3.—Under side of jaw of Bushveld man with jaws of a Kafir and a Hottentot for comparison.

other resemblances. Boskop man has prominent parietal eminences: Bushveld man has not. Boskop man has parietals 15 mm. in thickness. The skull of the Bushveld man is nowhere more than 9 mm. The teeth of Boskop man have apparently been large: those of Bushveld man are small. The bones of the Boskop man are much more completely mineralised and probably older, but until a good skull is obtained it will be impossible with certainty to fix its position.

The Bushveld man was certainly the contemporary of the extinct *Bubalus Bainesi*. At Hagenstad, in the Orange Free State, we have many human implements in association with the bones of not only *B. Bainesi* but also of the extinct *Equus capensis* and of two large extinct antelopes. We are thus probably justified in assuming that the Bushveld man was a member of the race that made the Hagenstad type of implements. These implements, according to the archaeologists, are regarded as representative of the middle old stone age of South Africa, and we may thus regard the Bushveld man as the man of the middle Palæolithic period. Of course, at present we are quite unable to date the remains in years. We can only say that they are certainly very old.

There are many reasons for regarding the Korannas, a few of whom still survive in South Africa, as the direct descendants of the Bushveld type of man. For many years I have regarded the Korannas as one of the most important of the surviving races, though hitherto anthropologists have given them very little consideration. From the enormous numbers of implements found in the diamond gravels there must have been a powerful race, numbering tens if not hundreds of thousands, inhabiting the Vaal River valley in prehistoric times. This Bushveld skeleton is the first evidence we have of a man that probably belonged to this race, and it is interesting to find how closely he agrees in many respects with the surviving Korannas of to-day.