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THE ANTIQUITY OF MAN

IN SOUTH AFRICA.

A. P. HILLIER, M.D., B.A.



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THE ANTIQUITY OF MAN

IN SOUTH AFRICA,

AND

EVOLUTION,

BY

A. P. HILLIER, M.D., B.A.

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PREFACE.

This paper was first written some few years ago and read to the Eastern Province Literary and Scientific Society at Grahamstown. It appeared in the Grahamstown "Journal" at the time; but is now out of print. Several friends have been good enough to express regret at not being able to obtain a copy, and as the paper contains a record of some researches, however imperfect, made by myself and others in South Africa, I have decided to publish it. I venture to think it will have some interest for the general reader, and I also hope that some few readers may be found to pursue the study of this subject, for which South Africa presents such a wide and practically unexplored field. The portion of the paper dealing with the bearing of the stone age on evolution I have slightly altered, the rest remains as it originally appeared in the "Journal."

Kimberley,

July, 1890.

THE ANTIQUITY OF MAN IN SOUTH AFRICA AND EVOLUTION.

“ While we have been straining our eyes to the East, and eagerly watching excavations in Egypt and Assyria, suddenly a new light has arisen in the midst of us : and the oldest relics of man yet discovered have occurred, not among the ruins of Nineveh or Heliopolis, not on the sandy plains of the Nile, or the Euphrates, but in the pleasant valleys of England and France, along the banks of the Seine and the Somme, the Thames and the Waveney.” Thus wrote Sir John Lubbock in his “ Prehistoric Times ” twenty years ago. The “ New Light,” a very dim and flickering flame at first, was kept burning for several years almost entirely by the zeal and determination of one man, M. Boucher de Perthes. In 1841, this discoverer, at Menchecourt near Abbeville, first found a rudely-fashioned flint buried in some sand. The flint, so he surmised, had been intended for a cutting instrument. For some years in the same neighbourhood he continued searching, and found at intervals several other similar weapons and several “ so called ” stone hatchets. At length in 1846 he published his first work on the subject. In this he announced that he had found human implements in beds unmistakably belonging to the age of the drift. On the strength of the discovery he contended that man had existed on the earth contemporaneously with many now extinct mammals whose remains are found in the drift, and that the period of man’s existence upon the earth must be pushed back far beyond the limits hitherto assigned to it by Antiquarians. His astonished readers, with that hostile incredulity which in all times has assailed new truths, regarded him as a

rash enthusiast if not indeed a madman. For many years he made few converts. At length some of the less sceptical men in the scientific world began to investigate the matter for themselves. In their wake followed many others, until at length the verdict, an almost unanimous one, was given. The implements, rude though they seemed, were recognised as of human origin: no process in nature could account for them. Rough and ill shapen they were, but nevertheless unmistakable were the indications of the skill of man.

The co-existence of the makers of these implements with extinct mammals, and the antiquity of the beds in which the implements were found, still remained however to some extent open questions. To these questions—questions of the very deepest interest to the theological, scientific and thinking world generally—geological experts, notably, Sir Charles Lyell, now turned their attention. In his work on the “Antiquity of Man,” Sir Charles Lyell in a clear, comprehensive and impartial style lays before his readers the mass of evidence he has to adduce on this subject. His conclusions, supported as they are by the researches of experts of all nationalities, are to any unbiassed mind convincing. Man’s co-existence in Europe with species of large pachydermatous mammals long since extinct, and at a time when the climate in what are now temperate latitudes was as severe as in Northern Russia to-day, has gradually come to be regarded as a scientific fact. Man’s appearance upon the earth would seem to have occurred, not as was generally supposed a few odd thousand years ago, but at a far more remote period amongst those æons of time, the vastness of which the science of geology has revealed. Prior to the discoveries of M. Boucher de Perthes it is only fair to say that one or two other discoverers had called attention to similar stone implements, but without avail. M. de Perthes was the first to secure public attention and scientific

conviction. After him followed others; and stone implements were discovered in several parts of the world.

The age in which stone implements were used by man is that known as the stone age, and is divided roughly into two periods, though in some parts of the world, the distinction between the two is very uncertain, the one merging imperceptibly into the other. The two periods are: (1) Palæolithic or age of the Drift, "when man shared the possession of Europe with the Mammoth, the cave-bear and other extinct mammals." (2.) The later or polished stone age: a period characterised by beautiful weapons and instruments made of flint and other kinds of stone: in which, however, we find no trace of the knowledge of any metal, excepting gold, which seems to have been sometimes used for ornaments. This is called the neolithic period. It is with the former of these two periods, and with what we believe corresponds with this period in South Africa, that I purpose chiefly to deal in this paper. To this period it is that M. de Perthes's implements from the valley of the Somme belong. As the river drift or alluvium of the Somme valley is peculiarly rich in implements of an antique type, and as in its general appearance and structure it closely resembles numbers of other river valleys in England and France, a brief description of it and its implements culled from the pages of Lyell and Lubbock will perhaps enable us the better to appreciate the sort of evidence adduced on this subject. The prevailing forms of these implements are: Firstly, those of spearheaded form, from six to eight inches in length. Secondly, those of oval-form, not unlike some stone implements used to this day as hatchets and tomahawks by the Australian natives, but with this difference, that the edge in the Australian weapons, as in the case of those so called "celts" in Europe, has been produced by friction, whereas the cutting edge in the old tools of the valley

of the Somme was always gained by the simple fracture of the flint, and by the repetition of many dexterous blows. Some of these tools were probably used as weapons, both of war and of the chase, others to grub up roots, cut down trees, and scoop out canoes. Between the spear-head and oval shapes there are various intermediate gradations, and there are also a vast variety of very rude implements, many of which may have been rejected as failures, and others struck off as chips in the course of manufacturing the more perfect ones. To describe without the aid of diagrams the structure of the alluvial deposits in the valley of the Somme, in which these implements are found, is not so simple a task as to describe the implements themselves. I will however briefly endeavour to make clear the main features. The chalk hills which bound the valley are two or three hundred feet in height. The masses of drift or alluvium lie in the bottom of the valley, and on the sides of the hills. For the sake of proceeding from the known to the less known, Lyell makes his survey of these deposits retrospective, and beginning with the most recent, proceeds backwards to the more ancient. Of all these geological monuments, the most recent is the peat. This substance occupies the bottom of the valley from some miles inland to the sea. It is in places thirty feet thick. All the embedded mammalia and shells are recent and belong to species now inhabiting Europe. Gallo-Roman works of art are found in the peat near the surface, and at a greater depth, Celtic weapons. But the depth at which Roman works of art occur, varies in different places, and is no sure test of age: because in some parts the peat being fluid, heavy substances sink in it from their own gravity. In one case M. de Perthes found several large flat dishes of Roman pottery, which, lying in a horizontal position, were prevented from sinking through the underlying peat. Allowing about fourteen centuries for the growth of the superincumbent matter, he calculated that the thickness gained in a hundred years would be no more than

three French centimetres. This rate of increase, if one could fairly adopt such a chronometric scale, would demand many thousands of years for the formation of thirty feet. "Small as is the progress hitherto made in interpreting the pages of the peaty record, their importance in the valley of the Somme is enhanced by the reflection that whatever be the number of centuries to which they relate, they belong to times posterior to the ancient implement bearing beds which we are next to consider, and are even separated from them as we shall see, by an interval far greater than that which divides the earliest strata of the peat from the latest." Immediately underlying the peat in the bottom of the valley and recumbent on the chalk, is a gravel bed, believed to be the most recent of the gravel deposits, formed from the wreck of older gravels to be described presently, and formed during the last hollowing-out and deepening of the valley immediately before the commencement of the growth of peat.

We come now to the implement-bearing deposits, the older gravels formed on the sides of the hills bounding the valley at different heights. The first series of these is found at levels slightly elevated above the present river. The lowest bed of this series in which the implements are found, consists of gravel mixed with marl and sand, and contains fresh water, land, and in some of the lower sands, marine shells, showing that the river at this part was sometimes gained upon by the sea. This bed is about twelve feet in thickness. Overlying this is about fifteen feet of loam, containing fresh-water and land shells, and the bones of elephants. Of the shells found in this series a small proportion are of extinct species. The species of gravels next described, and the oldest in which flint implements are found, is a series similar in structure to the above, and found at a height *one hundred* feet above the present level of the river. In the fluvial deposits overlying both these gravel

beds, remains of the mammoth, rhinoceros, and reindeer are found. The age of these implements found in the second or oldest series of gravel, is represented by the time which it has taken the river to cut out its channel to the depth of one hundred feet added to the time necessary for the formation of the peat, the age of which has already been alluded to. One striking feature in comparing the relative ages of the peat and the older gravels, is that whereas in the very deepest layers of the former not one single specimen of any extinct species has been found, in the latter a number of extinct species both of shells and of mammals have been discovered. The above is a condensed and brief sketch of this branch of Archæology as given by Sir Charles Lyell and Sir John Lubbock.

In South Africa, as we press northwards among the primitive Bushmen tribes, we find the stone age in some measure still existing, though even amongst the wildest tribes it is dying a sure but a lingering death. Throughout the whole of the Cape Colony wherever the observant traveller has set foot, stone implements have been found. Some of them, notably those from the Cape flats, the more perfect in form and finish, lie in recent deposits round existing vleys, or lightly buried in sand, probably the products of an age in the immediate past. Others again of more antique and ruder mould are found in deposits, at least in one instance with which we shall shortly deal, as ancient as those which they so much resemble, found on the banks of European rivers. Compared with the carefully accumulated mass of evidence collected in Europe, our stock of evidence is necessarily slight—nevertheless, such as it is, so nearly does it coincide with that more carefully collected evidence in Europe, that we may fairly offer at least a probable interpretation. That interpretation which we have already somewhat anticipated may be thus broadly stated. What

evidence we have on the subject distinctly goes to show that a stone age has existed in South Africa from a period in all human probability as remote or approximately so, as that from which it existed in Europe; that for ages men in Europe and in South Africa co-existed using almost identically the same weapons, following closely the same mode of life; finally, that centuries after the genius of those hardy northern tribes, developing slowly at first, but afterwards more rapidly, had swept away the stony relics of a barbarous age, and placed those tribes on the paths of civilisation and progress, the stone age in this southern land continued to exist, and to this day still lingers, dying a hard death in the deserts of the interior.

Having thus ventured in the hope of more surely enlisting your interest, to offer at the outset the interpretation of what phenomena, what evidence we have to hand, let us turn to the evidence itself. On the Cape flats, at Kimberley, on Modder River, in the Peddie and East London Districts, and doubtless in many other parts of the country, stone implements have been found, resembling generally the two leading types from the valley of the Somme, viz., that of the spear-head and oval shape. For directing attention to and collecting these stone implements so abundant in South Africa, we have, as far as I have been able to gather, been principally indebted to Colonel Bowker, Mr. E. J. Dunn, Mr. Mackay of East London, and Dr. Dale of Capetown. These implements have been found not merely by twos and threes and as rarities, but in many sites they have been found in abundance. Here, as in Europe, it is usual to find in addition to more or less well formed implements of the shapes above described, numerous fragments and abortions—failures we might call them. Stone was cheap and always ready to hand: a bad instrument could always be thrown aside without much loss. The mode of forming these implements is pretty obvious. The surface of some hard stone or

rock, specially selected for the purpose, had flakes chipped off it by blows probably given by some rounded pebble. In many cases "cores" of hard stones from which flakes have been chipped off are found lying near a collection of implements and fragments. The best formed and probably one of the most modern implements which I have seen, and which is at present in my possession, is one of the spear-headed type found on the Cape flats by Dr. Dale. It bears the marks on its surface of numerous successive chippings, and has been shaped with considerably more skill than the ruder weapons of greater antiquity found in old deposits. A very good collection of implements of different shapes and sizes, and from different parts of the colony, may be seen in the Albany Museum at Grahamstown. The interest of stone implements from an archaeological point of view, depends, however, more upon the geological evidence in reference to the deposits in which they are found, than upon anything else, as it is by this we are principally enabled to form a probable estimate of their antiquity. With this object, I will now deal with those implements, which thanks principally to the guidance of one of our silent workers, Mr. Mackay of East London, I have been enabled to collect myself. Never was there a site better adapted to the wants of primitive man than the mouth of the Buffalo River and its neighbourhood. It is therefore not strange that in this locality abundant evidence of its having been the abode of man from a remote period of time is to be found. A very interesting and carefully constructed map of the locality round the mouth of the river has been prepared by Mr. Mackay, showing the sites of numerous "kitchen-middens," or shell mounds, exactly resembling those "Kjokkenmodding" or ancient kitchen refuse heaps, described by Sir Charles Lyell as relics of the prehistoric age on the shores of Denmark: and further, showing the probable sites of still more ancient habitations in the stone age, those spots in fact where stone implements have been found in

such abundance as to justify the presumption of the existence of habitations. With reference to the shell mounds so freely scattered round the mouth of the river, I will here merely say that they bear evidence of considerable age; they are buried in many instances under sand and vegetable mould, and are in some cases overgrown with thick bush, only having been discovered by cuttings for railway and other purposes. Nevertheless, whatever the antiquity of these shell mounds, and in some cases it is considerable, we shall presently see that they came into existence ages after stone-implements were first used in this locality.

Turning now to the stone-implements themselves, we find that those the antiquity of which, from their position, we are best able to estimate, are found in a well-marked gravel deposit on the western bank of the Buffalo. It lies about half way between Fort Glamorgan and the Port Office, and runs in a well-marked line about seventy feet above the present level of the river and parallel to the present course. It has been exposed in several places by cuttings for roads and by quarryings for building-stone road-mending and other purposes. It lies buried under a well-defined layer of black river mud, this being again covered with sand of wind-drifted origin, which in its turn is in places covered by a layer of vegetable mould on which grass and bush were at one time growing. The implements found in this gravel are the types found in the valley of the Somme. They are not however made of flint, which substance is nowhere to be found in this district, but of a hard sub-crystalline rock found in the immediate vicinity of the greenstone dykes so numerous in South Africa. One of these dykes, half a mile in width, which crosses the river obliquely, is traversed by the Buffalo from the "ebb and flow" to the second creek, a distance of about two miles. From the second creek the edge of this dyke passes Fort Glamorgan to Point Hood, so

that abundance of this stone is obtainable in the immediate neighbourhood. Several of the implements taken from this gravel, have been sent to the Jermyn Street and British Museums: and their genuineness has been recognised by Sir Roderick Murchison and Sir J. Lubbock. The rock from which these implements have been flaked off is not only extremely hard, a property which gives to the implements their sharp cutting edges, but is tough and durable: and for these qualities it was selected by the troops as material for building Fort Glamorgan and the Commissariat Stores. These buildings have now been in existence forty years. The weather-exposed surface on the stones in these buildings is as fresh in colour, the merest scratch with the chisel as clear, and every edge as sharp, as if the buildings had been completed yesterday. The implements made of this same stone have lost all semblance of their original colour, their edges are blunted, they have an outer decomposed crust one sixth of an inch in thickness. These implements are found scattered throughout the whole line of gravel whenever it is exposed. At the time when this line was the river's edge, as we shall presently see we have good reason to believe it once was, these implements were probably dropped on or near the bank, and were subsequently washed and rolled into their present position along with the surrounding gravel. In some instances they have evidently been manufactured and left on the very spot where they are now found. "Cores" of blocks from which weapons have been flaked off have in several cases both by Mr. Mackay and myself been found surrounded, not indeed by well-formed implements which would naturally be carried off by the maker, but by numerous fragments and ill-formed weapons which were probably thrown aside as useless. It is not irrational to suppose, that the water's edge with its open stony margin, would afford a convenient site to which the savage hunter might bring his block, and hammer off with the aid of stones and pebbles his uncouth

weapons. But, however that may be, whether dropped by accident or left by design, there in their gravel bed they lay, until in due course, a black muddy deposit, of from one to three feet in thickness, covered them in.

That this gravel line, now so far above the river, was once the river's edge, is from its nature, position, and appearance, as well as from the history of similar old gravel deposits on the banks of carefully explored European rivers, almost a matter of certainty. But for further evidence bearing on this subject, let us turn to the configuration of the sea coast near the river's mouth. Assuming that then as now the river was tidal at this point, and that this gravel line now so far above the tidal level, was then the river's edge, we are left to the conclusion, either that the coast has been raised or that the sea has receded. The evidence afforded by a study of the coast itself affirms this conclusion. To the south-western side of the mouth of the river the land runs out into a rocky low-lying promontory, the termination of the large iron-stone dyke, already alluded to, and known as Point Hood. High water level all round this point is at present marked by a line of huge rounded boulders, and rising above this line are no less than three other well-marked lines of similar boulders, each line undoubtedly showing the level at which the sea once stood. The highest of these tiers of boulders lies about thirty feet above the present sea level. Following round the coast in this direction, immediately beyond Point Hood, stretches a wide open vale some twenty feet above sea level. All over the surface of this vale marine shells are found, and there can be little doubt that it is the site of an ancient bay. Assuming that the sea once stood at the level of the highest tier of boulders on the Point, this vale now divided from the beach by a series of low wind-drifted sandhills would have been submerged. The marine shells found on its surface, taken together with the fact that the low sand-hills which now

divide it from the beach are of more recent date than those larger masses which line the coast beyond, justify the conclusion that it was so. Clear and distinct evidence that the sea has at one time stood some thirty feet above its present level is thus to be found by the most superficial observer. But as the gravel line representing the river's ancient edge near its present mouth is seventy feet above that level, a somewhat interesting geological question arises. Was this portion of the river at the time when it stood at this high level tidal, or was it not possibly a land-locked reach of the river, with the river's mouth lying some distance further out than it now does? Either of these conditions would account for the gravel bed, and its superincumbent layer of mud; but as I have above stated, such indications as we have been enabled to find incline me to take the former view, viz., that then as now the river was tidal at this point. It is true that above the thirty feet level of boulders at Point Hood, there is no such clear evidence of the sea's former presence, but some is nevertheless to be found. The topmost tier of boulders is already partially buried in sand and soil, and from this point the land rises more gradually. In an artificial cutting made some few hundred yards from the beach, and standing some seventy feet above the present sea level, distinct traces of a buried layer of rounded boulders are to be found, boulders in all respects resembling those on the beach.

Still, whichever view be the correct one, a point which further investigation may yet decide, the broad fact remains that from the time when the river stood at the height of this gravel line, it has gradually worn away the present channel. To accomplish this, has been no slight, no short-lived task. For we have already seen that for two miles the tidal portion of the river runs through a large greenstone dyke. This igneous greenstone rock is one of the hardest in existence, nevertheless, since the time when the river stood at the old gravel line, it has worn

away its channel through this rock, to the depth of seventy feet. To sum up a tolerably clear case. The age of the stone implements found in this gravel bed, may fairly be computed to be that period of time which has elapsed since this bed was the river's edge, a period which has consisted of the time necessary to allow the river through seventy feet of solid greenstone rock, slowly to wear away for itself its present channel. To estimate the period of time necessary for such a change as this, is as difficult as to estimate the time which has elapsed since man shared a half-frozen Europe, with the woolly-haired rhinoceros and the mammoth. Taken in connection with the geological evidence, however, there is one other point which is of great interest in assisting us to form some rough idea of the great antiquity of these implements.

The shell mounds found round the mouth of the Buffalo, are in many instances situated close to the river banks. Sections of some of these mounds have been made in cuttings for roads and for the railway, thus exposing their structure, and affording every facility for their investigation. They consist of sand, shells, and bones of animals, while scattered through them are found rude pieces of pottery. Large hearth-stones surrounded by ashes, have been found in one or two instances. The largest of these mounds, situated on the eastern bank of the river, is of considerable magnitude. It has been cut completely through, and amidst the debris a human skull was found, and subsequently given to me by Mr. Mackay. It is a small round skull with a low contracted brow, and is of great thickness. It is like the skull of a Bushman or Hottentot, and in all probability is the skull of an individual of one of these races, or of some race very nearly allied to them. These shell mounds very closely resemble the shell mounds "Kjokkenmoddings," or kitchen-refuse heaps found on the shores of Denmark, but they differ in one important particular.

The shell mounds in Denmark contain a considerable number of polished stone cutting implements. The mounds round the mouth of the Buffalo have, although carefully explored, yielded nothing but bone implements, no cutting stone weapons of any sort having been discovered. The mounds differ considerably in size, and although similar in structure some are evidently more recent than others. The largest, and in all probability the oldest, is the large mound on the Eastern bank, from which the skull was taken. As this mound shows a vertical section throughout its entire depth, and as it possesses several features of interest we will briefly consider it. It originally formed a mound some three hundred feet long and 25 feet high, standing on the slope which runs down from the signal hill to the river. Quarrying in connection with [the harbour works was the original cause of its being cut through. The portion nearest the river was entirely removed. The inner portion is still remaining, and shows the vertical section above alluded to. The topmost layer consists of shells, bones, ashes, etc. A layer some two or three feet in thickness is covered by three feet of sand and vegetable earth, on which thick bush is now growing. In fact the whole of the mound was completely covered with thick bush, there being no sign of its existence until the cutting was made. Besides shells, hearth-stones, ashes and bits of pottery, bones of the elephant and hippopotamus, as well as those of smaller animals and fish have been found. Most of the larger bones have been split open, probably for the sake of their marrow. Below the topmost layer of shells, another layer of sand some two feet in thickness exists, separating the top layer from the shells immediately below. After the second layer although in places there seems to be an interstratification of sand, the separation of the layer of shells is not so distinctly marked and towards the centre they all seem to form one block. In this mound a very well formed bone implement some four inches in length was found. It is spindle shaped with a point

at one end and a blunt square termination at the other. It might have been used as the head of a small spear. Besides the hearth-stones and some large shapeless stones with fire marks in their immediate neighbourhood, there is one other kind of stone found, and one which has evidently been artificially shaped. It is like the half of a rounded pebble. The flat or rather slightly concave surface is perfectly smooth, and has obviously been brought into this condition by friction. Mr. Mackay is of opinion that these stones were used for dressing skins of animals with. In accordance with this interpretation we may call the one stone implement hitherto found in these mounds the "rubbing stone." The evidence as to the age of this mound all points to its being considerable. No one can stand opposite the vertical section, and note the accumulation of sand and vegetable earth, with thick bush ten feet high growing on its surface, without this idea forcing itself upon him. Yet before it could have begun to grow, sand and earth drifted by the wind had covered in the abandoned mound to the depth of several feet. Grass and bush have crept over its surface and the whole mound has thus been completely buried and hidden for how many years no one can say. Moreover the accumulation of this mass of debris three hundred feet long and twenty five feet high was in itself the work of no brief space of time. The outer margin of the mound at its base was within a few feet of the river's edge before this portion of it was removed: so that when the original founders first made their homes upon this spot the river cannot have stood at any appreciably higher level than it does now; hence, whatever the age of this mound, and no unprejudiced observer will deny that it is considerable, it is but a thing of yesterday compared to the antiquity of those implements left on the water's edge when the river stood seventy feet higher than it now does, or than it did when the foundation shell of this huge mound was laid.

It is not on an isolated case of this sort, but on a collection of such cases more or less similar from different parts of the world, that the claim to the high antiquity of man upon the earth is made by scientific men. To state the actual age of the old implement-bearing bed on the bank of the Buffalo is beyond our power. But while on this point I cannot refrain from quoting Sir Charles Lyell on the probable age of the oldest implement-bearing gravel of the Somme. In doing so I do not wish to claim for the opinion, any more than the author would himself, anything but a certain speculative value. Yet from the most brilliant geologist the world has yet known, even a speculative opinion of this sort must have some weight. Sir Charles Lyell, on data which we have not here space to discuss, estimated the age of the Mississippi Delta as being about 100,000 years : and he considered that “the alluvium of the Somme containing flint implements and the remains of the mammoth and hyæna” was no less ancient. Whatever the antiquity of the oldest Somme implements may be, there can be little doubt that those forming the oldest implement bearing beds of the Buffalo are fully as old if indeed, as there are good reasons for believing, they are not considerably older. For while the Somme a large constantly flowing river has had a chalk formation through which to cut its bed, the Buffalo with a stream not one twentieth part its volume has had to wear its way through two miles of solid greenstone rock. To cut a channel to the depth of seventy feet under the latter set of circumstances is on the face of it a far greater task than to cut one to the depth of one hundred feet under the former.

Such then is the history of these implements as far as I have been able to interpret it. For such opinions as I have offered I have endeavoured as clearly as possible to furnish full data, while my motive throughout has been a desire to arrive at a true understanding of the question rather than to support

any particular theory. But, looking to the laborious researches of scientific men in Europe on this question; to the lucid exposition of the subject by Sir Charles Lyell and Sir John Lubbock, and lastly to the startling parallel between the position of the South African implements and those found in the ancient gravels of the Somme, two broad conclusions with reference to them are forced upon us. Firstly that they are undoubtedly the handiwork of man. Secondly that they belong to an age of high and remote antiquity. Admitting then the high antiquity of man upon the earth, in what way does it affect that vast problem of evolution as applied to the origin of man. To this question Darwin himself makes answer. He says in his introduction to "The Descent of Man."—"The high antiquity of man has recently been demonstrated by the labours of a lot of eminent men, beginning with M. Boucher de Perthes, and this is the indispensable basis for understanding his origin." The crudeness of design and rudeness of execution of the older stone implements often excites the ridicule of the gaping curiosity critic. But what degree of skill would he be inclined to attribute to the forefathers of the Bushmen or Australian aborigines twenty thousand years ago? Prof. Huxley one of the greatest living authorities on Biology, has expressed it as his opinion that the remains of the immediate progenitors of man will eventually be found in the Pliocene or even in the Miocene Strata. In several parts of the world by different geologists the postpliocene formations have been estimated to be considerably over two hundred thousand years old. Taking these opinions, then, with as far as it goes the confirmatory evidence of the stone age, we may fairly assume that in all probability man's immediate progenitors existed upon the earth considerably over two hundred thousand years ago. Amongst Englishmen, the third generation of descendants from any son of the soil is considered capable of producing under favourable circumstances the most polished courtier. I there-

fore trust that two hundred thousand years will be sufficient to remove the prejudices of the most fastidious as to their ancestors at that period.

Some time ago an interesting paper on the "Races of South Africa and the question of Evolution" was read to the Eastern Province Literary and Scientific Society by the Bishop of Grahamstown and was subsequently published in the Grahamstown "Journal." The question of how far the facts, adduced in reference to these races, bear upon the question of Evolution, is treated by the Bishop in a spirit of fairness and moderation. In fact, on this great problem he expresses himself as in accord with the Duke of Argyle when he says "that the difficulties involved by evolution are more scientific than theological." With this liberal avowal the Bishop proceeds to deal with the question in a critical manner. In reference to these races he says: "Two answers may clearly be given when we are asked how we account for the South African races as they meet us here. First we may say that they have been developed from beneath, having been during all their period of humanity from the beginning utter savages, with a suspicion that in some types we may light upon specimens not far removed from the "missing link;" or secondly we may reply that we have good ground for the conclusion that they have been evolved by degradation and degeneration from a higher estate in the scale of humanity." The Bishop then states that his observation has led him to favour the latter hypothesis. To my mind neither of these answers fully meets the case: while the rejection of the one surely does not, as the Bishop would apparently imply, involve the acceptance of the other. There is probably a measure of truth in both. The answer I should make would be that the evidence hitherto collected on the subject seems to point to the conclusion that the Bushmen, and probably also the Hottentots, are the true aboriginal inhabitants

of Central and Southern Africa, while the numerous Kafir races have migrated from more northern latitudes, destroying and driving before them the feebler aboriginal tribes. A considerable portion of the paper is devoted to showing that numerous Kafir races have probably come in successive tides of migration from some more northern part of the continent, probably from the North East. That tides of migration have swept southwards across the continent, at any rate, during the last hundred years is almost a matter of history; and there is doubtless evidence of this movement having gone on for some time previous to that. The Arab strain in some of the Kafirs seems strongly marked. That these races may also to some extent have degenerated looking to numerous similar instances in history is possible, though the evidence in favour of this view adduced by the Bishop, even if it had all the significance which he attaches to it, would only point to a position but slightly inferior to their present one. The evidence on this point which he considers of the greatest value is that afforded by their language. He says: "Instead of the languages of these uncivilized races being in a state of development towards fulness and complexity, we find the tendency of the language is to *degenerate*, to get worn down, simplifying conjugations and losing inflexions." Surely the inflexional decay of a language, a stage through which all languages pass to a greater or less extent, is no sign of the *degeneration* of that language. It is as I understand the science of language, a stage in development rather than in degeneration. On Darwin's speculations as to the probable origin of language the Bishop is somewhat severe. After quoting a few extracts from Darwin's speculation on this subject, he says "It is curious to quote the very hypothetical tone of this enunciation of his theory, 'probably,' 'might have,' 'does not appear altogether incredible.' *We search in vain for data in support of it. Dr. Darwin gives us none.*" As the most distinguishing quality of Darwin's vast luminous mind is his careful impartiality and

studious avoidance of overstating anything, his hypothetical tone on this question is not to be wondered at. The data in support of Darwin's views as to the probable origin of language are given in his third chapter of the "Descent of Man."

But returning to the wider question of evolution, let us admit for the sake of argument, not only that the great mass of Kafir races have come from some centre in the northern portion of Africa, but, that they have in some measure degenerated. How does this fact bear upon evolution? As far as I can see it has little or nothing to do with it. The whole history of the human race has been one of migrations: and instances of retrogression have not been wanting, still looking to the great mass of mankind as far as we know its history from the earliest times, the broad tendency has been to travel forward like a rising tide, on the wide paths of development and progress. The case of the Bushmen still remains to be considered. That they are the descendants of any really higher race is a hypothesis with absolutely nothing to support it. According to Theall their condition when the Dutch first came to the country two hundred years ago was very much what it is to-day, certainly no better. Without stock of any kind, without agriculture, dependent on their knowledge of roots and herbs, which like that of monkeys is considerable, and on what carrion they can find or what animals they can kill, they eke out a miserable existence. The words of Æschylus in writing of primitive man seem most applicable:—

"But first, though seeing, they did not perceive
And hearing heard not rightly. But like forms
Of phantom dreams throughout their life's whole length,
They muddled all at random; did not know
Houses of brick that catch the sunlight's warmth,
Nor yet the worth of carpentry. They dwelt
In hollowed holes like swarms of tiny ants
In sunless depths of caverns."

Their knowledge of painting is certainly a curious and in respects a redeeming trait in their character; but that it is evidence of any previous higher condition, I cannot see. Without cattle, crops, or even houses, it would be curious indeed if possessed of any human intelligence at all, it should not find expression in something. Regarding the Bushmen, and probably also the Hottentots, as the aborigines of the country, it is not unreasonable, taken with the discovery of the skull in the East London shell mound, to regard them as the lineal descendants of the men of the shell mound age in this country; very probably also of the older stone age. The pigmy races of Africa, of which the Bushmen are a branch, are at the present moment attracting a good deal of attention. Stanley's description of the numbers which inhabit the great forest show them to be very widespread in the interior. There can be little doubt, moreover, that these same pigmy races were known both to the ancient Greeks and Romans. Still, whatever the origin and history of the pigmy races may be no rational student of evolution would contend that the difference between the highest ape and lowest Bushman is, scientifically speaking, a slight one.

The evidences of the existence of the progenitors of man on the earth, as I have endeavoured to point out, are not to be looked for a few hundred years back, but hundreds of thousands of years ago. Evidence of the remote antiquity of man in this country we have fully discussed. We have seen that it points to his existence here many thousand years ago, when his implements were ruder than the lowest Bushman uses now; for the only stone implement of the Bushman of to-day of which I can find any authoritative record, is the rounded digging stone with a hole in the centre, used for weighting sticks with in digging up roots. Livingstone in his "Last Journals," after making special enquiry as to the use of stone implements, only mentions the "digging-stone" among the Bushmen, and stones used as

sledge hammers and anvils in the forging of iron amongst other tribes. I have also consulted such works on African travel as I have been able to obtain by Stanley, Cameron, Pinto, Grant, Schweinfurth, and Du Chaillu on this point, but can find no record of stone hatchets being in use now. The lowest Bushman is thus in all probability in a stage of development considerably beyond that of the men of the old stone age. For how long even before the old stone age period man in some type may have existed no one can say. But to put the most moderate construction on this evidence as to man's high antiquity upon the earth : it is just what we should expect to find were the Evolution theory as to his origin the true one, and as far as it goes it is confirmatory of that theory.

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