

## PART II.—PAPERS, ETC.

---

### The Antiquity of Man.

---

BY PROFESSOR W. J. SOLLAS, SC.D., LL.D., F.R.S.,

*being his Presidential Address at the Annual Meeting, Bristol, July 1st, 1924.*

---

I CANNOT help thinking that it speaks eloquently of the catholic spirit which animates this Society that they have chosen as their President one whose studies end where theirs for the most part begin. At the same time I recall that Somersetshire, rich as it is in remains which appeal to the archæologist, does also contain one cave—the Wookey Hole of the Mendips—which has yielded to the investigations of Prof. Sir W. Boyd Dawkins important contributions to our knowledge of early man, and I do not forget that Bristol is the home of a Spelæological Society which is exploring with zeal and knowledge several other caves in the same region and has already obtained many important results. It is not necessary therefore to apologise for the subject of my address which is entitled the Antiquity of Man.

It is the same title as Lyell gave to his famous book on prehistoric man published more than sixty years ago: the label is old but the wine is new.

Lyell had no occasion to define what he meant by “man,” nor to set bounds to his antiquity; all that he proposed to do was to show that man’s existence extended an indefinite distance into the past and immeasurably farther back than was generally supposed. His contention, as I well remember, gave great pain to many good people, but now that it has

been fully established no one, not even the most susceptible or the most contentious, seems to find any harm in it.

If we ask ourselves what we mean by the "man" I think we shall find that we intend by it the human race, as it now exists, with all its manifold varieties; red, white and black, giants and pygmies, lank-haired or frizzly, short-headed or long-headed, and if we wish to avoid all ambiguity we shall adopt a scientific nomenclature and agree to call our species *Homo sapiens*. Haeckel indeed thought that *Homo stupidus* would be a more appropriate name, but this is to view the subject from the worse side, and when we consider the heights of genius to which man may attain I think we shall not be inclined to mock at the more flattering designation which was proposed by the famous Linnæus.

Our next step must be to provide ourselves with a scale of time such as is provided by the succession of geological events. The latest chapter in geological history is known as the Quaternary or Pleistocene. It records a time when Europe as well as other parts of the Northern Hemisphere enjoyed on the whole a genial climate, sometimes even warmer than at present, but subject to rather prolonged interruptions when glacial conditions extended downwards from the North and prevailed over what are now our temperate regions. Of these glacial episodes there were no less than four, two nearer the end and two nearer the beginning of the epoch.

With these preliminaries we may now proceed to follow the traces of *Homo sapiens* as they extend backwards into the past. We go back a little more than six or seven thousand years and we find him no longer acquainted with metals but still shepherding his flocks and tilling the soil: another thousand or so, altogether about 8,500 years, and we arrive at the closing days of the last of the four glacial episodes: the climate has changed and the fauna of Europe has changed with it; the mammoth, the woolly rhinoceros and the reindeer roam the plains but man remains much the same; he is still *Homo sapiens*, no longer however a farmer or shepherd but a hunter, ably maintaining himself by his skill in the chase. During the last fifty years our knowledge of man at this stage, known as the Magdalenian, has been marvellously increased,



and we have learnt to admire him not only for the perfection of his weapons and his courage and resource as a hunter but also for his extraordinary powers as an artist. In sculpture, in line drawing and in painting he had attained a degree of excellence which is the wonder and admiration of all those who are familiar with his work. Connected with this art was no doubt a belief in supernatural powers and the practice of magic rites to secure their goodwill.

More than one variety of *Homo sapiens* co-existed in Europe at this time. One of the best known is the Crô-Magnon race which is far from being extinct: among its surviving descendants are the Guanches of the Canary islands and others are to be met with nearer home in the population of Dordogne. Another variety is represented by the fossil man of Chancelade (Perigueux) who in every detail of his skeleton recalls the existing Eskimos.

Leaving the Magdalenian stage we now proceed still further backwards in time, till we reach the middle of the last glacial episode, when the rigours of the climate had for an interval been relaxed, and here again we meet with men of our own species, belonging to at least two different races, one the Crô-Magnon, already mentioned; the other the so-called Grimaldi race, whose nearest existing representatives are to be found among the Bushmen of South Africa. The Bushmen, now nearly extinct, were distinguished above all other hunting races by their love of art and their skill in depicting the wild animals of their environment. Their ancient paintings are similar in character to those of the Magdalenian age and some of them are worthy of comparison with the great masterpieces of that age.

In Europe the art of this earlier interval, which preceded the Magdalenian and is known as the Aurignacian, was art in its infancy, crude and unfinished, but bold and spirited, full of the promise which fulfilled itself in later times.

Now a step further backwards into the past and leaving the interval of moderated cold we plunge once more into the glacial episode, but now into its earlier stage. We look for *Homo sapiens* and we look in vain. He is no more to be seen: he has vanished utterly and his place is taken by another and

very different species, known as *Homo Neandertalensis*. In this we find no signs of evolution : Neandertal man is almost certainly not the immediate ancestor of *Homo sapiens*. But he was the immediate predecessor, the inhabitant of Europe before *Homo sapiens* made his abrupt appearance on the scene, an immigrant and perhaps invader. It would thus seem probable that *Homo sapiens* was in course of evolution in some adjacent region—perhaps in Asia—while *Homo Neandertalensis* was in occupation of the hunting grounds of Europe.

Hence in fixing upon the end of the first half of the last glacial episode as the date of the first appearance of man in time, *i.e.* man in the strict sense of the term—*Homo sapiens*—we must bear in mind that this statement is at present an ascertained truth for Europe only ; in this as in so many other cases,—the first appearance of bronze for instance—distribution in time must always be considered in connexion with distribution in space.

*Homo Neandertalensis* is a good species, distinguished by some characters which are peculiar to itself as well as by others which are primitive and Simian : but it is distinctly human.

Neandertal man has a good right to his name ; his brain was quite as large as that of an average Englishman, perhaps even larger ; its organization however would appear to have been inferior. He was a mighty hunter, but no artist,—yet—and it is an impressive fact—he had already arrived at a belief in life beyond the grave, as is shown by the burial with one of his race (the man of La Chapelle-aux-Saints) of a leg of beef to provide for his journey in the next world.

We know a good deal of the bodily characters of this species, for the remains of over fifty individuals belonging to it have been discovered scattered over Europe, mostly in caves, from Neandertal on the North to Gibraltar on the South, and from Sipka on the East to Jersey on the West. In time they range from the first half of the last glacial episode to the middle of the genial period which preceded it.

As we continue our backward journey in time human remains become increasingly scarce, but in the genial period which



preceded the last glacial episode but one some bones have been found representing two individuals which were evidently even less like ourselves than *Homo Neandertalensis*. One of these fossils is the Heidelberg jaw, the other the Piltdown skull.

The Heidelberg jaw resembles in many respects that of an ape but it bears a distinctly human dentition. The Piltdown fossil combines a human brain-case with a jaw which while singularly ape-like is very different from the Heidelberg jaw.

Each of these fossils is regarded as the representative of a different genus and neither of them *Homo*; *Palæanthropus* is the name proposed for the Heidelberg, *Eoanthropus* for the Piltdown genus, but both are sufficiently human to be included in the family *Hominidæ*. They may represent divergent branches of that family, one leading towards *Homo sapiens* and the other towards *Homo Neandertalensis*.

Unfortunately no characteristic implements have been found in association with these remains, but they have been assigned on stratigraphical evidence to that stage of industry which is known as the Chellean.

Between existing man and these genera there extends a vast vista in time, 50,000, 100,000 or it may be even 200,000 years and yet to reach the oldest known member of the *Hominidæ* we must make still another journey backwards to a point of time as far removed from the horizon of *Palæanthropus* as that is from our own time. We then encounter the remains of that strange ambiguous member of the human family—the *Pithecanthropus erectus* of Java—a being so close to the limit which divides men from apes that great anatomists have contended among themselves as to whether he should be regarded merely as a gigantic Gibbon or a primitive *Hominid*. It is to the latter ascription that general opinion has been led, guided chiefly by the characters of the brain.

Here again we have to lament the absence of associated implements which might have thrown a welcome light on the intellectual endowment of this intermediate form.

We have now passed in review the evidence bearing on the antiquity of man which is furnished by his bodily remains; we have seen how man, in the strict sense of the term, is a creature as it were of yesterday, cradled amid the rigours of

the last glacial episode, perhaps some 30,000 years ago : we have seen too how he was preceded first by Neandertal man ; then by Palæanthropus and Eoanthropus, who may have followed the hunt as long ago perhaps as 100,000 years ; and finally by Pithecanthropus who inhabited Java at a date twice, thrice or even five times more remote.

There still remains for consideration however another important source of information which may guide us in our enquiry into this question.

Man is a maker and user of tools and these when made of stone are a more enduring monument than his bodily remains. Such tools can be traced through several stages of evolution,—successive industries—as far back as that particular one which is known as the Chellean. Examples of this are common in many of our river gravels.

On this point there is no difference of opinion, but from the very beginning of the study of worked flints attempts have been made to discover evidence of human workmanship in strata more remote in time than the Chellean. None of these attempts however have, until lately, been accepted as successful by the consensus of expert opinion.

One of the latest announcements of a discovery of very ancient implements, eoliths as they are generally designated, was made by Mr. Reid Moir who asserted in 1910 that flints of evident human workmanship were to be found at the base of the Red Crag deposits in the neighbourhood of Ipswich, and in his opinion he was supported by Sir Ray Lankester who selected as affording the most impressive testimony certain forms which he named rostro-carinates.

This supposed discovery evoked great and general interest. Many serious workers in this branch of archæology made a pilgrimage to Ipswich, and with the friendly assistance of Mr. Reid Moir devoted themselves to a study of the facts.

The opinion of those most competent to judge was at first distinctly adverse. Professors Boule and Breuil, who were commissioned by the Prince of Monaco to make a searching investigation, concluded that all the supposed implements were the product of natural forces.

Mr. Reid Moir however persevered with his researches and



was rewarded at length by finding in a quarry near Foxhall Hall some apparently worked flints which were not open to the same objections as had been urged against his earlier finds. They occurred sparsely scattered on two definite horizons in sands of the Red Crag, lying out of contact with each other and unabraded. Thus their characters could scarcely be explained as due to movement of the rock under pressure. Further, some of these eoliths bore the characteristic crackling which results from the action of fire on flint.

Mr. Burkitt who has great experience in these matters was so favourably impressed by these facts that he communicated his views to Prof. Breuil, who at once hastened from Paris on a second visit to Ipswich.

No one, I believe, is so fully endowed by natural gifts and the experience gained by the constant study of all kinds of flint implements as this observer; his judgement therefore was anxiously awaited, all the more so on account of his well known scepticism in these matters. And this time the verdict was in favour of Mr. Reid Moir. With the rostro-carinates however Prof. Breuil would have nothing to do. The effect upon general opinion has been very great, but there are still some distinguished investigators who maintain a critical attitude.

The implements are rough, such as might naturally be expected from the hands of a being who was probably more nearly related to *Pithecanthropus* than to ourselves.

If these eoliths should maintain their position as genuine implements they will carry back the *Hominidæ* to a time more remote than *Pithecanthropus*, a time when *Hipparion*, the three-toed ancestor of the horse, was still in existence.

But the question is not yet closed.

As long ago as 1877 eoliths were asserted to occur in the Upper Miocene gravels of Cantal (France) and ever since this region has been made the battle-ground of contending opinions. One of the most successful investigators was the late Mr. Ernest Westlake of Fordingbridge, who spent several months in extracting from the gravels of the Puy de Boudieu all the flints which he considered to bear some resemblance to human artefacts. He amassed a wonderful collection of some four or five thousand specimens and after his death this was en-



trusted to my care. Its importance is for several reasons very great : in particular because of its resemblance to the industry of the Red Crag. " It is the same industry " Mr. Reid Moir exclaimed when we examined the collection together.

Some of the specimens which I have selected from it as bearing the most obvious marks of design are remarkable for their resemblance to implements known to have been made by man, whether by extinct Palæolithic races or by the Tasmanians only recently extinct. There are end scrapers, side scrapers, keeled scrapers, points and other forms bearing all the characters which the expert regards as marks of design.

If Mr. Westlake had collected none but the " best " specimens he encountered we should have no difficulty in coming to a conclusion and might possibly have been misled : but he was an impartial collector and rejected nothing that bore any suggestion of workmanship. This gives a special value to his great collection. Since it provides us with evidence of essential importance which would otherwise have been lost.

Provided with this it is possible by an exhaustive study to reconstruct the history of the deposit and perhaps to distinguish between the work of nature and of man. So far as my investigation has proceeded it leads me to suspect that nature may produce, by what we call chance, every single character which has been regarded as evidence of design, but whether nature can produce them all together, united in one assemblage, is a question which I imagine will be found more difficult to answer, either one way or the other. Yet the answer is of profound importance : should it be in the negative, it would allow us to infer that a primitive Hominid or progressive Anthropoid ape had already acquired the art of working in flint and of using the tools he fashioned, and this might lead us to speculate on the influence which such a liberation from the necessities imposed on the brute creation might have had in promoting his subsequent development. It would go far also to explain a difficulty which has long puzzled anthropologists who have found it hard to understand how man—the most defenceless of beings when deprived of weapons—could have passed through those intermediate stages of his development when he possessed neither the natural weapons



of the ape nor the artefact substitutes provided by his own invention.

On looking backwards over the progress of discovery in this branch of archæology we have every reason to be proud of its continual advance. The future will I believe prove no less fruitful than the past. The greater part of the world still awaits exploration and Asia and Africa, the twin cradles of the human race, have still much to reveal—"there is always something new from Libya."

Even nearer home and in this county of Somerset the gravels of the river banks and the caves of the Mendips still treasure many secrets which it will be your privilege and pleasure to discover.