

ART. III.—IS “PALÆOLITHIC MAN” A REALITY OF THE PAST, OR A MYTH OF THE PRESENT?

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THE evidence which geological and antiquarian research has furnished in support of the high antiquity of man is now said to be so conclusive that it should be accepted on the testimony of the scientific experts who have examined and confirmed the facts on which it is founded. No doubt we should know but little of the higher developments of science if we did not receive our knowledge from those who have especially devoted their time and talents to the inquiry; from such labours we are in the enjoyment of the most beneficial results, and to such experts our grateful acknowledgments are due.

But when this authority is pushed to an extreme, and where the evidence adduced on the face of it does not appear to justify the conclusion; and further, when the subject is so simple that the final court of appeal must be made to our common-sense knowledge of common things, then this submission to authority is clearly overlapped by the duty of endeavouring, within our means, to test the authority by investigating the evidence, and thus to supplant trust by knowledge.

Of the St. Acheul “hatchets” Professor Ramsay says: “There can be no doubt whatever that they were formed by the hand of man; and I say this with authority.”* This *ex cathedrâ* utterance has been urged on our acceptance by Lyell, by Sir John Lubbock, by Dr. McCausland, and others; and certainly, in the absence of proof, and in so simple a case, we should decline to rely on authority, and trust only to the facts. But when we ask for the evidence in support of such authority, we are referred to some rough pieces of flint dignified by the name of “manufactured implements,” and to other relics, doubtful both in their nature and in their age, found in numerous cavern deposits. The history of the origin of the opinion founded on such evidence is curious and instructive.

The discovery of some fractured flints of a peculiar form in the gravel beds of the Valley of the Somme, near Abbeville, led an imaginative antiquary, M. Boucher de Perthes of that city

* *Physical Geology, &c., of Great Britain*, p. 247. Third edition.

to assert that he had found the remains of antediluvial man; and in the year 1847 he published the first volume of his *Antiquités Celtiques*, in which he endeavoured to show that the broken flints which he had selected were human implements, and that they were found in association with the remains of the mammoth in the old river gravels of the Somme. The flints were so rough both in form and fracture, and were accompanied with such fanciful suppositions as to their origin and use, that the author was looked upon as an ignorant enthusiast and almost a madman.

The further discovery of a new and intact bone cave at Windmill Hill, Brixham, and its exploration by a committee of geologists in 1858, led them to the conclusion that flint implements had been found there mingled with the remains of the extinct cave mammals. Impressed by this evidence, Dr. Falconer visited Abbeville, and after inspecting the relics, became a convert to the opinion of Boucher de Perthes; Mr. Prestwich followed, and inspected the gravel beds, and he also came to the conclusion that these roughly chipped flints were implements made by the hand of man. Elaborately written papers were laid before the Royal Society, and before several meetings of the British Association for the Advancement of Science, to show that these discoveries carried back the presence of man to a very remote period, and aided by other discoveries of similar flints in similar deposits to those of the Somme, it was urged in numerous publications with great ability and in lecture halls before large audiences that the evidence undoubtedly carried back the origin of man to at least the closing period of the Northern Drift.

The principal witnesses, however—the flints from Brixham Cavern—had never been brought into court, never cross-examined. - Exhumed in 1858, they were kept under lock, and not placed in the Christy Museum for the inspection of the public until 1874, and during this long period of sixteen years they were constantly referred to as affording undeniable evidence of the high antiquity of man. Lyell says of them: "Neglecting the less perfect specimens, about fifteen knives, recognised as artificially formed by the most experienced antiquaries, were taken from the bone earth."* Dawkins describes them as "thirty-six rude flint implements, of indisputable human workmanship."† Evans, after examining them in detail, records his opinion "that most of the implements prove not only to have been made by man, but to have been actually in use before becoming imbedded in the cave loam;" and adds, "That the

* *Antiquity of Man*, p. 100.

† *Cave Hunting*, p. 320.

whole of the flints discovered present these signs (of use?) of human workmanship or use upon them."*

Thus the general acceptance of the opinion of the high antiquity of man rests at present rather on the authority of great names than on such a substratum of evidence as carries conviction to the understanding. It is not too much to say that not one believer in twenty in palæolithic man can give a satisfactory proof for his belief; indeed, Dr. Carpenter went far beyond this (believer as he is in the high antiquity of man) when he stated from the presidential chair at the meeting of the British Association for the Advancement of Science, "that no logical proof can be adduced that the peculiar shapes of these flints were given to them by human hands." It is now said to be rather a question of opinion, in reference to which we ought to accept and rely on the authority of experts. It is now, however, certain that such reliance has been misplaced, that evidence which has been brought forward and urged on our acceptance by so-called experts, has completely broken down under a searching examination—notably that from Brixham Cavern and from the Settle caves—and that the time is come when the evidence in support of palæolithic man should be strictly examined from another point of view; and such is the object of our present inquiry.

The palæolithic age, as defined by Sir John Lubbock, is "that of the Drift, when man shared the possession of Europe with the mammoth, the cave bear, the woolly-haired rhinoceros, and other extinct animals. This we may call the palæolithic period."† How far back in past time this period extended is at present an open question, but there is a general opinion that it must have been intimately connected with the glacial age; that it was both pre-glacial and inter-glacial is advocated by some of its supporters, while others affirm that the present state of the evidence does not carry man back beyond the closing period of the glacial age.

Sir Charles Lyell has given us a table showing the variations in the exentricity of the earth's orbit for a million years before A.D. 1800 and some of the climatal effects of such variations, from which he infers that at a period 210,000 years back the mean temperature of the coldest month in the latitude of London would be as cold as $0^{\circ} \cdot 7$ F., and he says that "it would not be difficult to imagine that this might have coincided with those palæolithic times when man co-existed with a great many species of mammalia now extinct."‡

* *Ancient Stone Implements*, p. 471.

† *Pre-historic Times*, p. 2.

‡ *Principles of Geology*, p. 296, Vol. i. Tenth edition.

The table* also shows that there is another similar period of excessive cold 850,000 years previous to A.D. 1800; and Sir Charles says that he "agrees with Mr. Croll that the date of the most intense glacial cold would be more probably assigned to that period." Thus if the first evidence of the existence of man on the earth is geologically found at the glacial age, then, in the opinion of the most accomplished of modern philosophers, his first appearance on our globe can be traced back at least 210,000 years, or more probably to 850,000 years prior to A.D. 1800. If this be so we may be well excused from expressing our surprise that the bones which we are told are those of ignoble palæolithic man have not long ere this been reduced to their native dust, and that the flesh of his more noble contemporary, the mammoth, should still be so well preserved as to feed the wild dog's maw, and to furnish an unrelished morsel for a zealous French anthropologist.

The amount and clearness of the evidence for such extreme antiquity should be of the strongest possible nature to induce us to discard all that we know of the dates of the origin of nations and of the beginnings of their early civilisations obtained from recognised historical records by the labours of the highest intellectual men of our time.

Canon Rawlinson, Camden Professor of Ancient History, Oxford, having examined this subject in great detail, gives us the following tabular view of the chief chronological conclusions at which he had arrived in this inquiry: †

	B.C. about
Date of the Deluge, according to the Septuagint	3,200
Rise of Monarchy in Egypt (probably)	2,450
" " in Babylon (probably)	2,300
Early traces of civilisation in Asia Minor (probably)	2,000
Rise of Phœnicia	1,550
" of Assyria	1,500
Earliest Iranic civilisation (Zendavesta)	1,500
" Indic " (Vedas)	1,200
" Hellenic " (Homer)	1,200
Phrygian and Lydian civilisations commence	900
Etruscan civilisation commences	650
Lycian	600

Thus, if the high antiquity now claimed for man be correctly stated, he must have lived at least during a period of 200,000 years as a bestial savage in the midst of ferocious animals, with only rough almond-shaped flints as weapons of defence; when, as Lyell phrases it, "the state of the arts remained stationary

* *Principles of Geology*, p. 293, Vol. i. Tenth edition.

† *The Origin of Nations*, p. 161.

for almost indefinite periods ;"* and his life,—“ always in danger, always on the watch ; he can depend on no one, and no one can depend on him ; he expects nothing from his neighbour, and does unto others as he believes they would do unto him. Thus his life is one prolonged scene of selfishness and fear.”† If, as we are now told, such a life as this was that of the early progenitors of our race, and extending over a period of 200,000 years, we may fairly infer that it is highly improbable ; and that reasonable men will hesitate to accept such a conclusion, unless the evidence for it is well-nigh overwhelming.

What, then, is the nature and force of this evidence on which the so-called palæolithic age is founded ? It mainly rests on some roughly chipped flints, said to be human implements, found in ancient gravel beds in the Valley of the Somme, and in other similar deposits, supplemented by more reliable evidence of man's presence and workmanship obtained from cavern explorations.

Restricting the present inquiry to the evidence of the genuineness of the supposed implements from the gravel beds, the question to be determined by a balance of the evidence is this : Are these roughly-chipped flints implements made by man ?

In the first place, there are many admissions which tend to narrow the limits of this inquiry.

It is admitted that the implements are of a type unlike any other known tools of the succeeding neolithic age.

Sir John Lubbock says of the flints from the gravel beds : “ These are all of types which differ considerably from those which came subsequently into use, and they are none of them polished.”‡ Again : “ It is not going too far to say that there is not a single well-authenticated instance of a ‘ celt ’ being found in the drift, or an implement of the drift type being discovered, either in a tumulus, or associated with the remains of the later stone age.”§

Dr. Evans says : “ But even granting that exceptional instances of resemblance can be found, there is no one who can deny that the general *facies* of a collection of implements from the river drift, and one from the surface, is totally and entirely distinct.”||

It is admitted that the implements are very rough in form and fracture. Lyell says of them that “ they are so irregular in

* *Antiquity of Man*, p. 377.

† *Pre-historic Times*, p. 484.

‡ Introduction to Nilsson's *Stone Age*, p. 20.

§ *Pre-historic Times*, p. 280.

|| *Ancient Stone Implements* p. 569.

form as to cause the unpractised eye to doubt whether they afford unmistakable evidence of design.”* And again: “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. Some of these chips can only be recognised by an experienced eye as bearing marks of human workmanship.”†

Admission of Forgeries.—Of these Mr. Evans writes: “The proofs I gave in my former letter were, I think, sufficient to show that a regular system of imposition had been carried on by the gravel diggers of Abbeville; that the majority of implements lately obtained at Moulin-Quignon are false; and, inferentially, that the human jaw which was associated with them is probably unauthentic.” Mr. Evans afterwards secured the services of Mr. Keeping to be with the gravel diggers during the search for the implements, and he returned to England, bringing a written report of the discovery of seven implements, of which he said: “I have every reason to believe that all the specimens I have brought from Moulin-Quignon were placed there on purpose for me to find.” Mr. Evans examined the specimens referred to in this report, and adds: “I have not the slightest hesitation in pronouncing them all modern forgeries.”‡

These false implements are generally more perfect in form than the rough authentic flints found *in situ* in the gravel, and dignified by the name of implements. Of these Sir Charles Lyell says, in his work on the “Antiquity of Man”: “As much doubt has been cast on the question whether the so-called flint hatchets have really been shaped by the hand of man, it will be desirable to begin by satisfying the reader’s mind on that point.”§

But in the following pages this vital point is not discussed, and no evidence whatever in reference to it is given; “the genuineness of the implement” is inferred from the “vitreous gloss”; the dendritic markings, which only indicate age, are figured; and the subject is closed by a quotation from Professor Ramsey, who had written: “For more than twenty years, like others of my craft, I have daily handled stones, whether fashioned by nature or art, and the flint hatchets of Amiens and Abbeville seem to me as clearly works of art as any Sheffield whittle.” I will put quotation against quotation. “Wherever,” says Hallam,

* *Antiquity of Man*, p. 379. First edition.

† *Ibid.*, p. 118.

‡ *Athenæum*, July 4, 1863.

§ *Antiquity of Man*, p. 112. First edition.

"obsequious reverence is substituted for bold inquiry, truth, if she is not already at hand, will never be attained."

The simple issue to be tried is, as Sir John Lubbock clearly puts it, "Are the so-called flint implements of human workmanship?"* And this proposition, which Sir John undertakes to prove, he does not support by a tittle of evidence; but he does prove convincingly that the flints are found in undisturbed gravel; that they have marks of age on their surfaces, by which the genuine implements can be known from forgeries. And then Sir John assumes that he has proved his case, and says: "On this point, therefore, no evidence can be more conclusive." This is a mistake of the question. It is proved that the flint is found deep in the gravel beds, which no one who has inspected the beds can doubt; but it is not proved that the flint has been formed into an implement by man.

Writing on another occasion, Sir John says: "That the flint implements found in these gravels *are* implements it is unnecessary to argue. Their regularity, and the care with which they have been worked to an edge, prove that they have been *intentionally* chipped into their present forms, and are not the result of accident."†

The weight attached to such an opinion would greatly vary with the character of the specimens examined. Some rare and selected specimens of an oval form are as perfect in outline as the flint pebble of which they once formed a nucleus; while the great mass pass by insensible degrees into the forms of the rough, shattered gravel in which they are found; and these, as Lyell tells us, "are a vast variety of very rude implements," and are "so irregular in form as to cause the unpractised eye to doubt whether they afford unmistakable evidence of design."‡ Sir John Lubbock also gives us the benefit of his experience when he says: "I have been several times to the Valley of the Somme, and have examined all the principal pits; though I have never met with a perfect hatchet, I have found two implements which were quite unmistakable, though rude and fragmentary."§ This is the inference of the "*practised eye*." "When," said an inquirer, "I visited the museum of Boucher de Perthes, and was told that the shattered flints exhibited there were human tools, I felt as if I was hoaxed." But let the flints speak for themselves.

1. The "*implements*" have a geological and not an archaeological origin. An inspection of a section of the St. Acheul gravel shows that the implements mostly lie at the lower part of the bed, and that there is a general uniformity of size between

* *Pre-historic Times*, p. 276.

† Introduction to Nilsson on the *Stone Age*, p. 18.

‡ *Antiquity of Man*, p. 379. First edition.

§ *Pre-historic Times*, p. 274.

them and the broken flints with which they are mixed; the whole of the gravel is stained, and of the same colour; and, where waterworn, the angles of the implements are rounded to the same extent as the rougher gravel with which they are associated.

2. *There is a gradation in form from the most perfect almond-shaped implement into the rough angular gravel of the same stratum.*

This is most obvious from an inspection of the gravel in which the tools are found, where a search for implements mainly resolves itself into the selection of the most symmetrical specimens to the rejection of those which do not come up to the preconceived standard of what constitutes an implement, and no line of demarcation can be defined between what is supposed to be the work of man and the work of nature. We have a good illustration of this in a large number of specimens now in the Museum of Practical Geology in Jermyn Street, collected by Professor T. McKenny Hughes, M.A., for the purpose of showing the gradation from the natural form into that which he considers to be the artificially made implement; and from the detailed description given of these flints, we find that this most accomplished geologist is often at a loss to determine, from his point of view, the implement made by man from the flint chipped by nature; and he makes the surmise that natural forms of broken flints may have suggested to the primitive savage the forming of tools of the St. Acheul type.*

3. The general character of the chipping corresponds with the nature of the flint. Where the flint is cross-grained, the chipping is coarse; where the structure of the flint is fine, the chipping is fine, and the most perfect of the implements are then produced. There are on those flints no marks of human skill overcoming the intractableness of the rougher material, the inference being that the work in both cases is that of nature and not of man.

This is further confirmed by the fact that the sites from whence the best and purest blocks of flint are at present obtained for the manufacture of gun-flints and other purposes, is where the so-called flint tools are most perfect and numerous, as at Brandon and at Spiennes, near Mons.

4. *The Drift implements exhibit no evidence of having been used by man.*

Sir C. Lyell says of the implements from Hoxne, that "they are so much more perfect, and have their cutting edges so much sharper than those from the Valley of the Somme, that they

* *Proceedings of the Society of Antiquaries*, Vol. iv. p. 95. Second Series.

seem neither to have been *used by man* nor to have been rolled in the bed of a river. The opinion of Mr. Frere, therefore, that there may have been a manufactory of weapons on the spot, appears probable.* This fancy involves an imaginary trade or a system of barter among savages who have not left in the gravel a single relic to indicate their presence except these rude "implements." I obtained from the workmen in the gravel pits at St. Acheul thirty "implements," and not a single specimen bore any marks of having been used for any purpose whatever; where the point was sharp from fracture, the edges at the sides were equally sharp from the same cause, and some of the specimens partly rounded, by being rolled in water, had their edges worn precisely to the same extent as the points, and the edges of all the split contiguous flints presented the same appearance. I have inspected a large number of the Drift "tools" in gravel pits and museums, probably a thousand, and I say advisedly that I have not seen one bearing the same indubitable marks of use as are stamped on the true stone tools of the neolithic age.

5. *Their Number.*—Boucher de Perthes writes: "Anyone visiting me may count them by thousands. From the beds which I have called celtic I have seen them drawn in barrows to metal the neighbouring roads; one would have thought a shower of them had fallen from the sky."† At the Little Ouse hundreds have been obtained from a single gravel pit, and these pits dot the valley for a distance of eight or ten miles. At St. Acheul, in about three acres of land, certainly more than 3,000 tools have been exhumed, which is equal to 640,000 in a square mile, and as these beds are now known to extend more than twenty square miles along the Valley of the Somme, if equally productive, there must be 12,800,000 in this small area. The present population of France is less than 200 to a square mile, and these implements are assumed to have been lost by a race of men living by the chase, when the country could have sustained only a very sparse population. It has been estimated that 800 acres of hunting-ground produce only as much food as half an acre of arable land, and on this basis *the ratio of the lost axes of the Somme to the savage population would be as six millions to one.*

6. *Their Geographical Distribution.*—The home of the entire flint nodule is in the upper chalk, and the home of the so-called flint implement is in the angular flint gravel derived from the denudation of the chalk; thus their paternity is geological, and this relationship is close and unbroken. The instructive

* *Antiquity of Man*, p. 169.

† *The Geologist*, Vol. iii., p. 376.

geological map of Europe by Sir Roderick Murchison shows that the Somme drains a large *cretaceous* district—that Hoxne, Bury St. Edmunds, and Brandon are in the middle of a *chalk* plateau; that Fimber is in the middle of the *chalk* district of Yorkshire; that Fisherton is at the foot of the *chalk* plain of Wiltshire; and it is well known that all the valley gravels in which the “implements” have been found, whether close to or drifted from the chalk hills, are composed of *flint detritus*. On the other hand, *far from the chalk*, on the ancient rocks of Norway and Sweden, there are no palæolithic tools. In the museum at Stockholm there are not fewer than 15,000 stone axes, but “the palæolithic types are absolutely unknown there.”* The ancient valley gravels of Cornwall have been thoroughly explored in search of the valuable stream-tin which they contain, through a period of at least 2,000 years, but not a single tool of the Drift type has been discovered in them. We must therefore infer that this intimate relationship of the geographical distribution of the “implements” to the geological structure of the country is an indication of their natural production.

7. *No other relics of man have been found in the Drift with the so-called implements.*

Wherever man has existed, even in his most degraded condition, the evidences of his former occupation of the country are multiform. We need only refer to the relics of the lakewallers of Switzerland, of the remains of the Celtic tribes in France, and of the Romans in England. But when we turn from these abundant and conclusive evidences of the former presence of man to the consideration of the evidence obtained from the Drift gravels, we find no human bones, no pottery, no works of art, or the slightest indication of the existence of a constructive or an intellectual being: nothing, in fact, but roughly chipped flints dignified by the name of axes, and unlike in form and type any implements known to have been used by man.

In conclusion, I put the physical evidence which I have brought forward in support of the foregoing seven propositions against the assumption that these flints are implements made by man. The question whether palæolithic man is a reality or a myth must be decided by the evidence of the facts alone, and I leave these to speak for themselves.

* Introduction to Nilsson's *Stone Age*, p. 24.