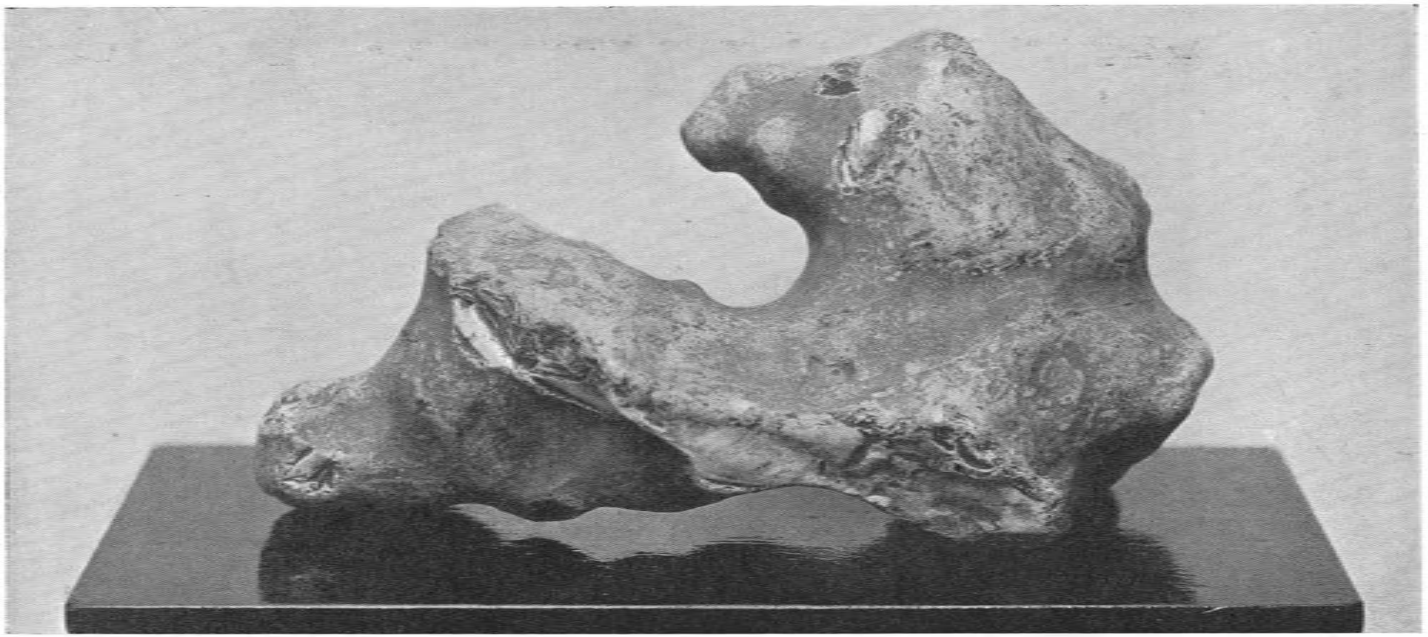

The above is from the photograph of a Figure Stone, 12½ in. in length. The stone rests as shown, and in this position appears to suggest a likeness to the head of some animal looking backward. The natural resemblance has been improved by intentional chipping. The eye also is represented by a chip. Flaking is old and patinated.

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MARCH, 1913.

ON PALÆOLITHIC FIGURES OF FLINT FOUND IN THE OLD RIVER ALLUVIA OF ENGLAND AND FRANCE AND CALLED FIGURE STONES,

WITH SOME OF THE LITERATURE ON THE SUBJECT AND AN ACCOUNT OF ITS PROGRESS.

By W. M. NEWTON, Fellow of the Royal Anthropological Institute.

FIGURE STONES are simply nodules of flint that on completion of their formation had assumed in some degree the shape of animals or of animal's heads, etc.

These nodules after having been washed out of their chalky matrix and deposited in gravel beds were found by the men of the early flaked implement age, who endeavoured, by the exercise of the only art that we absolutely know they were masters of, to intensify nature's freaks, thus rendering them more realistic and capable of appreciation.

It may readily be conceded that the subject is one of some difficulty from the fact that nature did not cast her silex in moulds. To the man of the period, however, whose hunter's instincts would lead him to appreciate the analogues of those animals most familiar to him in the chase, it was enough if the nodule had some animal resemblance when viewed in one position only, and it is

this fact, that the objects are intended to be looked at from one point of view (as a rule) that constitutes at

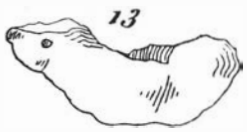


Plate LXXI.

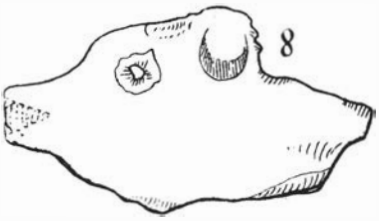


Plate XLIV.

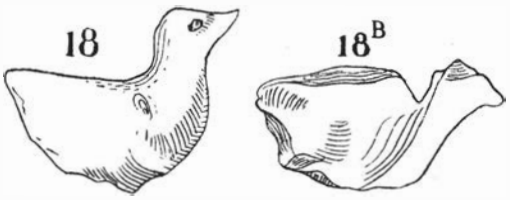


Plate XLVII.

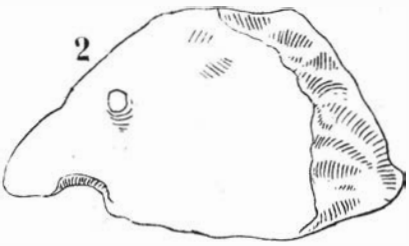
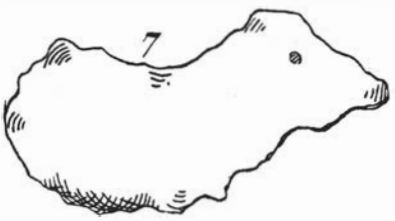


Plate LIII.



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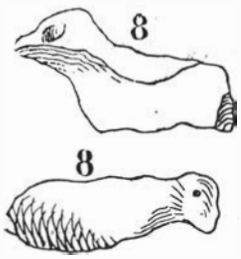


Plate LXIII.

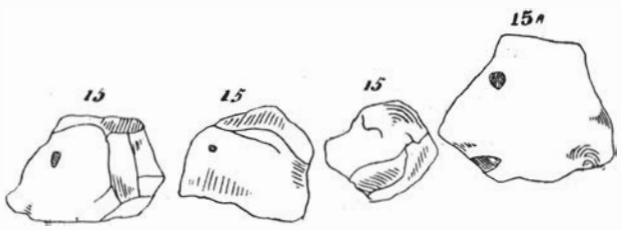


Plate LXXX.

Illustrations actual size from Boucher de Perthes' Work, "Antiquités Celtiques et Antédiluviennes."

once their great simplicity and a stumbling block to an easy appreciation of them.

It is to Boucher de Perthes that we owe the discovery

of Figure Stones in the gravels of Abbeville, where he also found in association flaked flint implements and the well-known human jaw-bone of Moulin Quignon.

The monumental work published, in 1849, by Boucher de Perthes under the title "Antiquités Celtiques et Antédiluviennes," contains no less than one thousand six hundred diagrams; he was doing splendid pioneer work under depressing conditions in an effort to prove the existence of the artefacts of man in stratified ground. To him all man-worked flints had an equal value. He did not know which form would be most useful to prove his case—as it happened it was the Coup de poing or hache-shaped flints that were effective. The weary draughtsman has done his best to represent one aspect of the flints in outline, and over the titles of "Figures et Symboles" of the Antediluvian period there are some suggestive animal forms in which a small circle has been apparently introduced with the intention to represent an eye.

So far as I am able to estimate the pictorial effects, there are many items over the title, figures and symbols of the Celtic epoch, that really came from the gravels.

The animal forms in these illustrations are easily recognisable if we admit the effect of the eye chip or cavity, whichever it is the artist intended to depict, and they are referred to by Boucher de Perthes in language which leaves no doubt as to the absolute faith he had in them as representing, to his mind, the art of the Man of the World before the Deluge.

At page 480 of his book he describes some of his finds:—

> The head of an animal of a quadrumanous species commences the series. The curve of the half-rolled flint takes the form of the back of the head. So far the human work is not clear; but if one continues the examination, it will be seen that the ear, the eye, and the nose have been worked. Another, of the same form, is so worn by bruising that one hesitates to admit it (as having been worked). A third, more flat, has the same cut. Coming afterwards to other flints whose heights vary from 5 to 20 centimetres by 4 to 18 centimetres wide, they represent the heads of Carnivora whereof the resemblance is determined, like their analogues in the Celtic burials, by two

wide strips taken off the cortex of the flint. Several heads of dogs of varying sizes are alike in details. Some others—and notably, the head of a wolf in black flint, with half its cortex removed—are surprising by the recent appearance of the flaking, and yet they all came from the lowest horizon of the gravel bed.

And so on, through several pages, his finds are described by Boucher de Perthes.

In his work, "Mémoires de la Société Impériale d'Émulation d'Abbeville," published in 1861, Boucher de Perthes again refers to the flint images, pages 535-6 :—

Examine each of these stones which by itself has appeared to you to be the result of a simple accident; if you there see that the notches which you have taken for fractures are so many chips cleared away in the same manner at the same places, this repetition can but be the result of a combination; the human hand has been there.

And you will doubt no longer when you recognise in the fashioning of all these stones one identity of purpose, is it a bird, a fish, a quadruped they would represent—you will recognise not only the class but the species. All these flints, then, have been worked, only the workman in order to curtail his labour has taken care to select those stones whose shape came near to the model he desired to imitate.

It is thus that my conviction is formed and as yours also will be formed when you shall have handled nearly twenty examples of the same image, and in all of them you will follow the work by which the resemblance has been obtained.

There is a peculiar remark at p. 538 of the "Memoires," 1861. I give it as printed :—"Ce qui determinait d'abord son choix, était l'extremité devant servir de manche ou d'appui"—meaning, I take it, that the preference of selection by the maker of images was given to such stones as those of which one end might serve as a handle or place to lay hold of.

This remark of Boucher de Perthes is most interesting to me, because before reading his book I had found one or two Figure Stones, which suggested the idea that they had in such a way been held up for admiration or adoration.

In "Archæologia," vol. xxxviii, 1860, Sir John Evans refers to these curiously shaped flints as follows :—

In M. de Perthes' museum, and in the engravings of his

"Antiquités Celtiques et Antédiluviennes," the flints resembling in form various animals, birds, and other objects, must, I think, be regarded as the effects of accidental concretions and the peculiar colouring and fracture of flint, rather than as designedly fashioned. This is, however, a question into which I need not enter, as it in no way affects that before us. Suffice it that there exists an abundance of implements found in the drift which are evidently the work of the hand of man, and that their formation cannot possibly be regarded as the effect of accident, or the result of natural causes. When once their degree of antiquity has been satisfactorily proved, it will be a matter for further investigation whether there are not other traces to be found of the race of men who fashioned these implements, besides the implements themselves.

It may be inferred by the foregoing remarks that the case for the animal resemblances was weak, but the relative experience of the two men at the time should be carefully borne in mind—the master, M. de Perthes, had devoted many years to a close study of the subject —the pupil, Mr. John Evans, was only then entering a domain of science in which he afterwards so eminently distinguished himself.

In spite of non success the master maintained his convictions respecting the flint figures, and in 1866 we find him writing to M. Chatel, Member of the Society of Antiquaries of Normandy, who, it would appear, had been making investigations in the same direction on his own account, as the following letter will indicate :—

Abbeville, October 29th, 1866.

Mr. Victor Chatel.

Sir,—To the letter which you have done me the honour to write on the 17th inst. was added the printed proof of another letter that you have the intention to address to me. I find it interesting in every way, and its publication can only serve to bring out your discovery. But it would appear as though it had been written under my inspiration and with my concurrence. The merit of your useful labours must rest with you alone, and if I bring out anything upon the question it is in that sense I shall speak of it. It is indeed not an easy thing to admit a truth. Common sense tells us that the primitive people who made haches and tools were able to make figures, and no people have yet been found, however brutal they may have been, who have not attempted it. The desire to imitate that which is striking to us is so ingrained in our nature, that children of all countries, without any teaching, design or model as soon as they

can find a pencil or a morsel of paste. It is twenty years since I wrote—I have not found one alone of these figures which I still say exist and may be found in the diluvium, as haches may be found when they are sought for.

From the year 1844 I have submitted specimens of them to the Institute, and I published designs of them, in 1846, in my volume of antiquities, which appeared at that period under the title of "Primitive Industry." Since that time my collection has been open to all the world, and visited by nearly all the well-known geologists and archæologists of Europe. It required twenty years to establish a belief in my unpolished haches, in which people would only see accidental forms.

As to the Symbols and Figures, although I have gathered of these some types which may be seen at my house to-day, numbering about fifty analogous shapes on which the human work is evident, I have converted very few people, and of the number, not one Englishman. "Why," they say to me, "are you the only one who finds Figure Stones?" "Have they never been found anywhere else than at Abbeville?" and "Mention one collection besides your own in which they may be seen."

To-day, Sir, your examples will be questioned. I do not say that I shall have gained my cause, but truth will have made one more step, and will strike more forcibly by coming from two sides.

In your exhibition at Paris be severe in your choice, do not show any specimens in which the human hand is not manifest. Place no faith in profiles: I have found them in hundreds, but after close examination, I have recognised that three-fourths of them were only accidents. Heads of birds abound, but many are only imprints or freaks of nature. The eye, suitably placed, is a sure sign of intention. When there are two eyes it is a certainty, but this is rare.

This letter, so remarkable for the expression of a firm conviction, yet evincing the strongest desire for patient demonstration, is highly characteristic of the methods of the great Frenchman who, it is sad to relate, has had many detractors.

The subject of Figure Stones appears to have remained in abeyance for many years after the death of Boucher de Perthes in 1868, when it was vigorously revived by Mons. A. Thieullen, of Paris.

A short extract from an address given by this gentleman before the Society of Emulation at Abbeville on Thursday, June 9th, 1904, will serve to convey to the reader some idea of the position taken up by him, and

practically illustrates the present-day scientific attitude towards the subject in France.

As to the question of Figure Stones with intentional retouches, one of the most difficult that prehistory has left us to unravel, it has not been made one of the first importance, because it has served as a topic for reproaching, with hallucinations, the thinker with the clear and well-balanced brain, Boucher de Perthes. In this connection I must confess, to my shame, that I shared a prejudice from which I would not have been free to-day had not chance demonstrated to me the absurdity of it. From mere opinion, without reasoning, and during many years, I should have thought myself to be going wrong if I had given the least attention to Figure Stones. I rejected them without being willing to look at them, and this just because I had always heard say that the thing was impossible and the idea mad.

Poor M. Thieullen, he also was to suffer in his turn from the stings of contempt founded upon mere opinion and without reasoning. Upon an occasion when addressing a meeting of anthropologists, he exhibited a flint in the form of a duck; holding it up for their admiration, he exclaimed, "Gentlemen — Un Canard"—alas! the same words in the French language mean "a hoax," also "a mare's nest." Shrieks of laughter followed the announcement.

Upon another occasion Sir John Evans, to whom M. Thieullen had handed a figure stone for his approval, returned the stone, with the remark, "I wasn't there at the time." This remark, M. Thieullen described afterwards, as "monumental."

M. Thieullen, although nearly eighty, still takes an interest in Figure Stones. He has been accused of having a desire to prove that he has found a regular farmyard in the gravels, but he continues on his road.

The most energetic advocate at present in France in the cause of Figure Stones is M. Isaïe Dharvent, town councillor of Bethune, Pas de Calais, a member of the Departmental Commission on Historical Monuments. I am sorry to say that this gentleman carries on his researches under most unfortunate conditions, as, owing to a noble attempt he made about thirty years ago to rescue a person in danger of being run over by a train, he lost both his arms. In 1902 M. Dharvent published

his "First attempts at Sculpture by Prehistoric Man," in which, among the illustrations, may be recognised one of an undoubted Figure Stone, the formation of the flint nodule has suggested to the artist a ready means of improving a natural monkey-like appearance of the stone when looked at in one certain position. So rationally simple was the awakening of the human mind in the direction of æsthetic art.

I only refer to the other illustrations in M. Dharvent's

Two-thirds Natural Size.

A Figure Stone, as above illustration, was found *in situ* in gravel drift at Gosnay-lez-Bethune, Pas de Calais, by M. Isaïe Dharvent.

pamphlet to say that one piece like the above is worth all the other illustrations in his book put together. I can understand them, and have obtained many similar objects, even with the little fossils exposed in them ; but I have never forgotten the remark of my friend, Mr. W. J. Lewis Abbott, F.G.S., etc., made many years ago, with reference to my own examples of Figure Stones, "Only the best will count."

Discovery of Figure Stones in England.

In the acquisition of knowledge concerning the ancient history of mankind, it is remarkable how large a part is played by chance discovery, the most recent illustration of this fact being the finding of a human skull at Pilt Down, Sussex, by Charles Dawson, Esq. It was a question of eyes and no eyes, or the art of seeing. The labourer who "chucked a thing like a cocoa-nut" on to a rubbish heap, reduced to the merest thread of chance the possible discovery of one of the most important pieces of evidence that ever emanated from the gravels of England in support of a belief in the immense antiquity of and gradual developmental stages in the evolution of the human race.

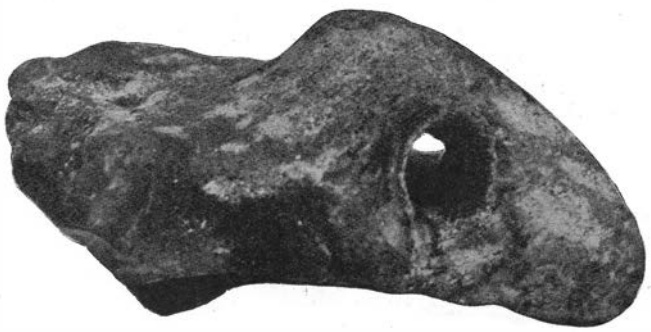
There are hundreds of square miles of gravel beds in the country, and allocating Crag Man for the time being to a suspense account, we have then only the gravels in which to prosecute our archæological researches for evidence relating to the earliest existence of man in England. In my own district of Kent the gravels are generally implementiferous; at Swanscombe they have been especially productive of flint implements. The genetic term implement is distinctly ambiguous, but it would be difficult in the present embryonic condition of our knowledge concerning the flaked Stone Age to allocate to each known form its distinctive use.

It was during the month of February, in the year 1902, that I received information of a newly-opened gravel-pit within a short distance of my home at Dartford, Kent. The surface of the land at the spot is only about 65 O. D., and the deposit of gravel, some 18 ft. thick, forms a portion of the bed of that grand old-world river Darenth, whose greatly-diminished stream now flows about half-a-mile away. On visiting the pit first, I judged from the appearance of the drift that it might be implementiferous, but, although I detected upon many stones evidence of intentional work, I failed to appreciate the reason why such work had been done. I was regarding the flints from the only point of view then possible to me—viz., as implements, and the strange shapes I met with were exceedingly puzzling; they did not even suggest incipient

forms of coup de poing, scraper, or other item of Palæolithic industry.

After a long search there came from the face of the gravel one flint which, from its curious resemblance to the head of some animal, appeared to invite more than ordinary attention. The likeness was only observable from one point of view, but the evidence of resolute human effort seemed incontestible, a natural perforation in the flint suggested an eye.

In the belief that I had made a discovery worthy of some investigation, I submitted my find to my friends, Mr. W. J. Lewis Abbott, F.G.S., and Mr. Benjamin Harrison, F.G.S., with results that opinions were ex-



My First Figure Stone. Actual length 4 in.

pressed by both these experts in favour of the artificial work upon the stone. With his reply, Mr. Harrison kindly sent me a pamphlet written and issued by M. Thieullen. It was from this pamphlet I learned that Boucher de Perthes was of the opinion (1st) that Palæolithic man had the ability to appreciate the natural resemblances of certain flint stones to the heads or general forms of the animals with which he was familiar; (2nd) had the ability to improve an accidental shape; and (3rd) that he, B. de Perthes, had actually discovered such stones in the gravel drift at Abbeville and Amiens.

In order to ascertain if my find might be classed as a Figure Stone, I sent it to M. Thieullen, who replied :—

Paris, 20th February, 1902.

Dear Sir,—I have received the stone in question, as to which

you ask my opinion, but you must know that, at least for the present, my opinion bears no weight. Nevertheless, this is what I think of it. One must either have no knowledge of chipped stones or else shut one's eyes intentionally, if one fails to recognise at once that the prehistoric man has seen and hailed this perforated stone with joy. He has cut it on all its faces—three cuts on the nose, around the eyes, etc., etc.; he has recognised in it the head of a rodent, a rabbit or a bird, a parrot—no matter what; this is not the question, but he has seen in it a fantastical shape, and he has pleased himself by adding to it on his own part. . . .

I am, etc.,

72, Rue d'Arras. A. THIEULLEN.

With the pamphlet above referred to by M. Thieullen, Mr. Harrison was good enough to send me also a weekly number of the "Journal of the Society of Arts" for April 27th, 1894, containing an excellent paper on "The Evolution of Decorative Art," by Henry Balfour, Esq., M.A., who, referring to the art of the Cave Age, says :—

It is quite evident that the beginnings are not to be found here. In the still earlier period of the River Drift Gravels we find no traces of art work amongst the remains of human industry preserved, and we are therefore unable from actual relics of antiquity to trace the history of this branch of æsthetic art back beyond a period at which it already reached a high state of development, which implies a long ancestry of which we, as yet, know nothing.

The lack of knowledge suggested by the foregoing quotation, and especially the possibilities adumbrated by the two simple words "as yet," exercised a powerful influence in my mind, and, taken in relation with the knowledge I had then newly gained of M. de Perthes' belief in Figure Stones and my own little discovery, I resolved to make an exhaustive search for the evidence of pre-Cave Age æsthetic art work, and to trace, if possible, the beginnings of that long ancestry of which we then knew nothing. Upon getting into touch with the four men who worked the pit in which I had found my first Figure Stone, I was told by them all that they had never seen such a funny lot of stones, and one workman, the only one who had a family, had taken many of the stones home for his children to play with.

By an arrangement with the owner of the estate, I obtained (1st) the right to enter the pit; (2nd) permission

to enlist the workmen's services in throwing out from the mass all flints of curious shape, and especially those upon which human work might be detected, and (3rd) to take away or to have conveyed from the pit any quantity of such stones.

This arrangement lasted until the end of the year, when, in consequence of bad trade, the men were discharged.

The pit would then have been closed, but during the eight months of my working arrangement I had acquired such remarkable examples of Figure Stones with intentional work upon them, that a new agreement was made by which I obtained the privilege to work the pit at my own expense, the proprietor taking all the produce, flints, ballast, and sand, and my man selecting stones for me as usual. In this way, for a further period of five years and two months, to the end of February, 1908, every bit of gravel excavated—some 5,000 tons—passed under the deliberate scrutiny of my workman, and every evening his daily finds had my careful examination.

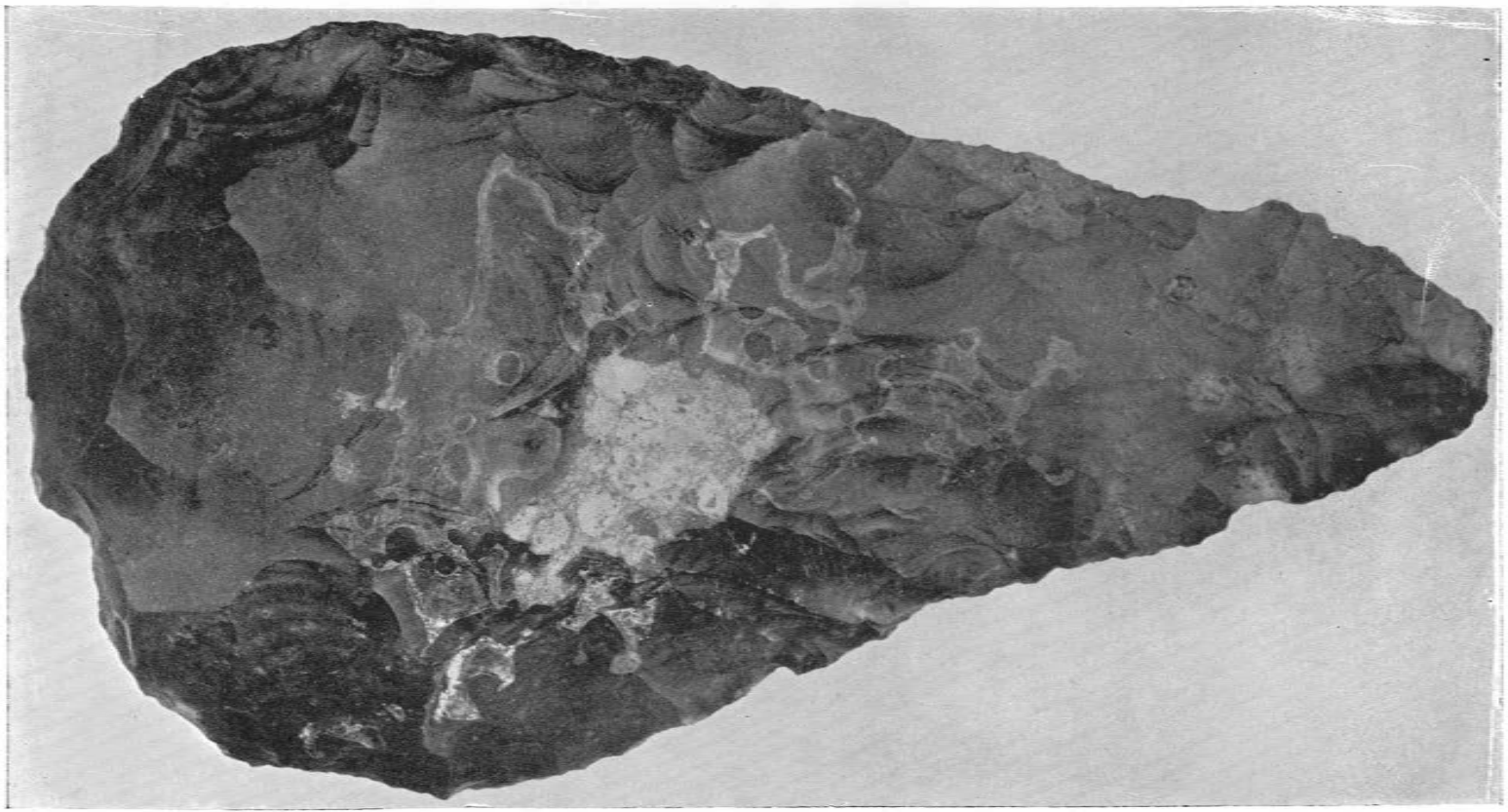
At an early period of my enquiry, it became evident that I had chanced upon the site of a Palæolithic settlement of great antiquity—implements, cup-stones with worked rims, rings of flint, anvils (so-called), and many curious shapes in worked flint made their appearance, among the latter the forms of animal heads predominated —the cups taking next place in point of numbers, implements in very small quantity considering the vast amount of gravel excavated.

Many of the flints are deeply stained with iron oxide: this fact appears to lend support to the idea I desired to convey in my paper No. 55, printed in "Man," 1906—viz., that the black band frequently seen in gravel strata represents a portion of an old-world surface that was exposed during an extended period of black desolation to the action of the elements previous to being broken up by the floods from rapidly melting ice.

While many thousands of flints from the pit I worked have been passing before me, I noticed that some were coated as with soot over part of their surface, the other portion having been covered by some protecting stone or

NATURAL SIZE.

Form of Animal Head in Flint, improved in Shape by Human Industry. Found near large Implement. *(Illustrated.)*



FLINT IMPLEMENT, NATURAL SIZE, FROM THE DARTFORD GRAVEL PIT.

Near to this implement was found my finest cup stone and also my best animal head in flint.

stones during the period the dust was falling. Other flints bearing human work upon them are coated as with iron rust on one side, while the other upon which they have apparently rested, is unstained.

Of the many flint forms of living creatures so different in appearance to the usual flint implements, but clearly bearing marks of patient human industry, it has been possible to make a classification of analogous shapes having from one point of view some resemblance to the heads of animals, and in some cases suggestive of the head and body of bird, beast, fish, and reptile.

During the past three or four years I have obtained some Figure Stones from the 100-ft. terraces at Stone Court, on the east of Dartford and the north-western corner of Dartford Heath; also from the Dartford Brent, from which locality came the extraordinary image illustrated in colour, Plate I.

Exhibitions, etc., of Figure Stones.

As this is the first time that the advocacy of Figure Stones has been permitted to appear in the pages of a well-known scientific English journal, I may, for the sake of general information, record here, as briefly as possible, the exhibitions of my specimens and some of the visits to my collection. In connection with the exhibits, I have added certain remarks that appeared in the public journals, as these are of an unbiased character and should carry weight with those who are unable by lack of experience to judge the value of the scientific evidence afforded by the work upon the stones.

The first Figure Stone exhibition in England was held at the Langham Hotel, on July 29th, 1903, at the instigation of Mr. Auberon Herbert, who also exhibited a number of small flint figures he had obtained from the gravels in the New Forest.

There was a very fair audience to listen to his charming discourse, and the affair had a notice in most of the newspapers next day. The following extract is taken from the "Globe," July 30th, 1903:—

> The collection of Mr. W. M. Newton was shown at the same time, and while his specimens were larger and more marked in

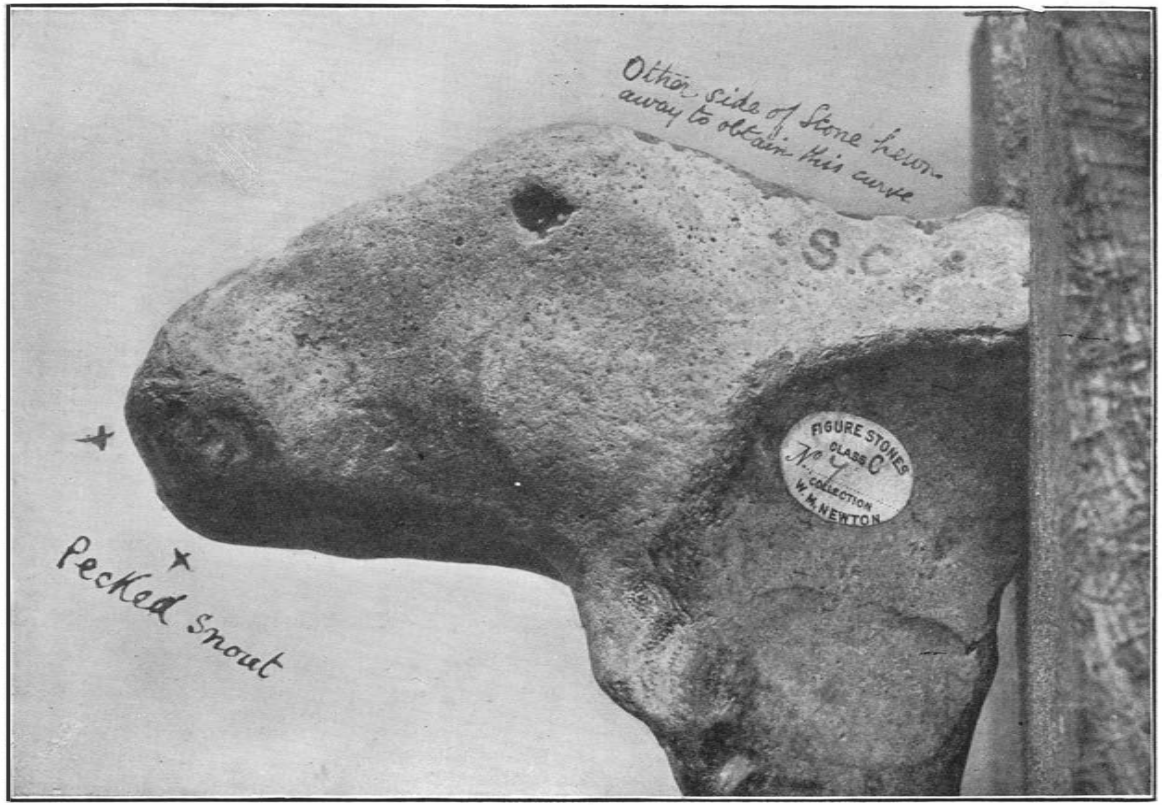
their resemblance to men and animals, birds and fishes, Mr. Herbert's were much more numerous. As he rightly argues, a single resemblance might be accidental, but when he has been able to demonstrate the existence of so many stones partaking of a more or less uniform likeness, the idea of a chance picture is largely dissipated. Mr. Newton's specimens all come from Kent, with one exception found in Dorsetshire, that of a most remarkable figure, full-face, in which the nose is evidently part of the natural shape of a curiously-fashioned stone, and the eyes and mouth have been made by some sharp instrument. He did not show more than a dozen, but, as we have said, they were specimens of quite exceptional size and accuracy of shape. All the stones suggest the theory that they were first chosen for their partial resemblance to a human head or the form of some animal or fish, and then a chisel, and in some instances a rubbing process, was employed to give greater accuracy of suggestion. A horse's head, the head of a man, the full figure of what might be a duck, and more than one stone fashioned like a fish, distinguished Mr. Newton's exhibits, the best, as he stated, resulting from search in seven tons of gravel. (See Plate II for Dorsetshire Stone).

In August of 1903 I carried some of my specimens to Paris, in order to submit them to M. Thieullen, who could scarcely believe his eyes when he saw what I had. I requested him to select from the bulk a convenient number of what he considered the most telling examples, as I intended to visit that eminent man, M. Salomon Reinach, whose opinion I was most desirous to obtain.

The selection having been made, I visited M. Reinach at his beautiful museum in Saint Germain, where I met with a most kind reception. M. Reinach informed me that he remembered a short paper of mine in "Man," with illustrations of some fine Palæolithic implements found in the shell bed at Greenhithe.

My Figure Stones had a happy reception, and for some time both M. Reinach and his assistant laughed heartily at the animal resemblances, representing, as he himself said, such as bird, dog, hippopotamus, etc. In the end he remarked in very good English, "Well, Mr. Newton, I see all that you wish me to see in these stones, but at present I have such objects catalogued as freaks, and as such they must remain until they are proved to be otherwise."

By this I knew that the human work upon the flints



A Well-selected Stone, Natural Size.
See Reduction in Colour on Plate V.

had had no weight, and at once decided to work on and endeavour to obtain more, and, if possible, better evidence. For nearly four more years I worked, when, in May of 1907, I had a visit from M. Durdan, a French archæologist, who went to the Figure Stone pit, and carefully examined a number of specimens of my collection. In a contribution to "La Révue Préhistorique" of October, 1907, he remarks:

> Our long visit having terminated, we were dazed by all that we had seen. These quantities of Figure Stones, perfectly chipped and retouched, call for the attention of the highest scientific ability of prehistorians. Go and see the collection of M. Newton, and you will be convinced.

On the occasion of my visit to Abbeville, of June 7th, 1907, when I had the honour to represent the Royal Anthropological Institute at the inauguration of a monument to Boucher de Perthes, I had the pleasure to submit a few specimens of Figure Stones to M. Ch. Bignon, Mayor of the town, and to Madame Bignon. As in the case of M. Reinach, they could not go into the subject from a scientific point of view, but they were very much amused by the representations of the little animal heads, and Madame suggested that they might have been the playthings of children.

On February 6th, 1909, I exhibited about one hundred examples of Figure Stones at the Hall of Learned Societies, Paris, where were also to be seen many others from various collections.

The February number of "La Révue Préhistorique" was entirely devoted to the Exhibition and the question of Figure Stones. After referring to the difficulty he experienced about the chips for eyes, M. Paul Raymond (the editor) proceeds (page 50):

> I must, however, say that certain series such as those collected by Mr. W. M. Newton are really very striking. The number of pieces in which there is just one eye, accompanied or not by some other retouches on a nodule, the profile of which is clearly Zoomorphic, gives cause for reflection; and, for my own part, the question of the eye in Figure Stones remains in abeyance. In examining an isolated piece (such as a very interesting piece of this kind belonging to the School of Anthropology, Paris) one remains undecided; but when one has under

one's eyes such series as those of Mr. Newton, conviction comes near to substituting one's first indecision. It must be added that in certain cases the endeavour to get the other eye is evident. At the Exhibition we had some examples (the Leroy, Dharvent, Newton collections) in which the prehistoric man has, beyond dispute, endeavoured to represent both eyes.

In October of the year 1910 my collection was visited by R. R. Marett, Esq., M.A. (Reader in Social Anthropology, Oxford), who was surprised to find on what a large scale I was working, and he saw so much evidence in support of the claim put forward for the Figure Stones, that a favourable report on his return to Oxford resulted in obtaining for me the honour of an invitation to read a paper before the University of Oxford Anthropological Society, at Jesus College, on Thursday, December 1st, 1910. The following notice appeared in the "Oxford Magazine" of December 8th, 1910.

On Thursday evening last Mr. W. M. Newton, F.R.A.I., discoursed on the subject of Figure Stones to the Anthropological Society, in the handsome lecture-room of the new Chemical Laboratory at Jesus College. It was no less a man than Boucher de Perthes, the first to penetrate the secrets of the Palæolithic Age, who was likewise the first to announce to an incredulous world that the pierres figures found in the drift-gravels of the Somme, along with the Palæoliths, were the handiwork of primitive man. Some of these appear among the illustrations of his "Antiquités Celtiques et Antédiluviennes," and at the Abbeville Museum there is a whole case-full of such curiosities labelled by their discoverer, "Silex travaillés de main d'homme et representant des images grossières de hommes et d'animaux." On the other hand, Sir John Evans could see in them nothing but "the effects of accidental concretions and of the peculiar colouring and fracture of flint." In 1902 Mr. Newton lighted on some specimens of apparently man-made Figures Stones at Dartford, in a gravel-pit that had been opened, at 65 O.D., in the 20-ft. drift of the old-world river Darenth. Thereupon he undertook, at the cost of no little time and money, to make a thorough search amongst these "implementiferous" gravels, with the special object of vindicating the hypothesis of Boucher de Perthes. The spoil of his five years' hunting he now exhibited to the Society. That here were the rude likenesses of men and animals there could be no doubt. On all sides they held one with their glittering eye—that eye which, according to Boucher de Perthes, "suitably placed is a sure sign of intention." Moreover, it came out clearly in the course of a discussion maintained by Dr. Arthur

Evans, Professor Sollas, Mr. Balfour, Mr. A. M. Bell, Mr. Marett, and others, that similar freaks of Nature, whether improved by art or not, are treasured by primitive peoples all the world over, and even adored. It is another thing, however, to prove that in the Kentish river-drift are preserved the actual first beginnings of that Palæolithic art which culminates in the masterpieces of the Reindeer Age. Mr. Newton can hardly be expected to demonstrate that Nature could not have brought about the chippings in question. On the other hand to clinch his argument, he must be able to show exactly how a human hand could have produced them. This point he proposes to work out further. Meanwhile, the Society is extremely grateful to him for a most stimulating address.

On Thursday evening, October 3rd, 1912, it was my very great privilege to read a paper before the British Archæological Association, and I avail myself of a report of the meeting printed the day after in the columns of the "Morning Post," to give a synopsis of the address in connection with an exhibition of specimens, and also of the Dartford skull, kindly lent for the occasion by the Royal College of Surgeons. This human skull, of Cro Magnon type, was found by me in the gravel pit, and presented to the College.

From the "Morning Post" of October 4th, 1912:—

Dartford Figure Stones.

Mr. W. M. Newton read a paper yesterday before the Archæological Association on the "Figure Stones" which he had discovered in the Dartford gravel-pits in association with the well-known Dartford skull. These flints, which, he contended, had been shaped by man, could be divided into six classes, representing human features, birds, beasts, fishes, reptiles, and grotesques. It was significant that implements of various kinds were found in conjunction with the Figures Stones at Dartford, cup-stones, which correspond perhaps with the libation vessels of later times, being specially abundant. All the flints exhibited, he pointed out, had a small scale removed from the surface in a certain fairly uniform position on the stone, representing the eye of the figures. The question to be determined was whether these eye-chips had been produced by man intentionally or by the blind forces of Nature. Many experts had given their opinion that the chips were the work of man, one authority having stated that he would accept the stones as fashioned by man if it could be shown that any man to-day could reproduce the particular type of eye-chipping. Unfortunately, he had been unable

to find anyone able to produce the markings to be found in what had been described as his petro-zoological collection. If man had not done this work, it was very remarkable that Nature in the Dartford district had worked in a way entirely different from that in which she worked in other districts. While the eye-chip was the most important point in placing these objects in archæology, there was supplementary evidence in the rough-hewing, pecking, profile work, base-levelling, truncating, and splitting that were to be seen in the stones. In his opinion, the Figure Stone was the highest expression of Palæolithic æsthetic art. The wonderfully perfect geometrical shapes of some implements forced one to form a high opinion of the intellectual capacity of those who had produced them.

Mr. Reginald Smith and Mr. R. Garroway Rice, who took part in the discussion, took the view that the time would come when, despite the scepticism on the Continent, Mr. Newton's work would win recognition as constituting a most important advance.

Many visitors have found their way to see my collection besides M. Durdan and R. R. Marett, Esq. Among others, recently, I have been honoured by the Earl and Countess Bathurst, who were good enough to make quite a prolonged stay, being greatly interested in my work. R. de Rustafjael Bey also has lately made a lengthy examination of the Figure and Cup Stones. It is the latter in which he is most interested, but he is going to look for flint Figure Stones with chips for eyes when his present commercial activity permits him to resume his research work in Egypt.

I may mention that I have for a long time had a strong impression that students of ancient history will ultimately be able to trace a connection between Palæoman of North-Western Europe and the early inhabitants of Egypt. Man has been accustomed from the earliest times to work in the hardest of materials.

It is this continuity of ability that should appeal to us when we have before us the question of Figure Stones, especially when we bear in mind that so much effort has been directed to the manufacture of small animal forms in the country whose historical record extends beyond that of any other into the dim past.

In his magnificent work entitled "Primitive Art in Egypt," chap. iv, page 152, Jean Capart, the author, remarks:

We have now arrived at the most difficult and at the same time the most interesting part of our study. To begin with, we will consider flints which have been shaped into the form of animals. As early as 1890 an example representing a hippopotamus was discovered at Kahun.

After giving illustrations of many animal forms in flint, M. Capart observes:

These curious pieces testify to a remarkable dexterity in flint working. The only analogous pieces known in other countries have been discovered in Russia and America.

At page 185 of the book reference is made to some natural flints roughly worked to resemble baboons; these

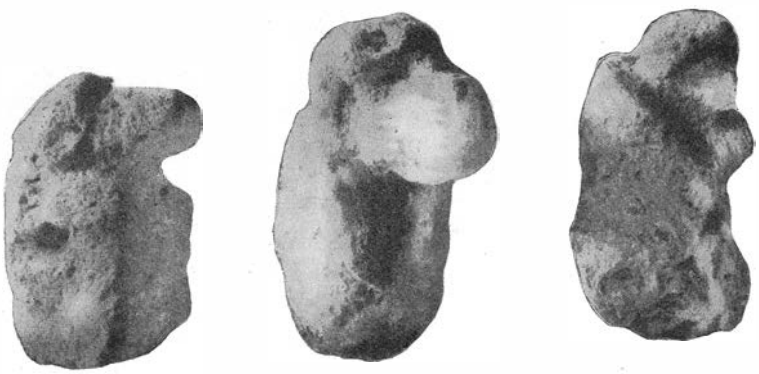


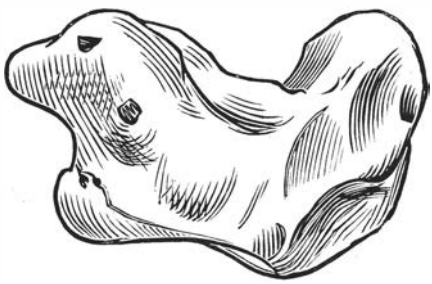
Fig. 146. Natural Flints roughly worked to resemble Baboons. Found in the Temple of Abydos.
By kind permission of Messrs. H. Grevel and Company.

are Figure Stones pure and simple, and come exactly into line with their Palæolithic precursors in North-Western Europe.

At the University College, London, a few years ago, I was amazed to see among the objects exhibited by W. M. Flinders Petrie, Esq., some flint implements that made me wonder if they had been imported from Swanscombe, or carried into the land of Egypt by some old-time wanderers.

We have little idea of the movements of the older nations of the world. Apart from the necessity which must have arisen at a certain period to seek warmer latitudes in consequence of the approach of Arctic con-

ditions in North-Western Europe, I have a notion that at one time there was a steady exodus from west to east, prompted by a very natural desire to ascertain where the sun came from every morning; the world, of course, was flat and stationary in those days to the limited understanding of its inhabitants; the glorious luminary went home every night through its tunnel beneath the earth; every morning, wherever the wanderers were, it would appear to come out of the tunnel just at the eastern edge of a plain, or immediately behind the most distant hill, and so the hope of imminent discovery led ever onward and onward. Central Asia is sown with the remains of ancient civilisations. What work there is yet in store for



No. 60. Length, 4½ in.

archæological enterprise to link up the old world records! In his "Old Chipped Stones of India," Mr. A. C. Logan, I.C.S., states his belief that the quartzite implement makers of that country were immigrants from Europe.

It is worthy of remark that while the Dartford district has produced hundreds of Figure Stones, scores of cup-stones, and very few implements, the gravels of Swanscombe, situate about four miles to the east of Dartford, have only produced implements — these probably in thousands, very few cup-stones, and no Figure Stones that I am aware of, save the one example that I have (No. 60 in my collection). Ever since the discovery of flint implements there, and up to quite recently, these gravels have been under almost continual observation. The working men for many years past have been keenly

alive to the value of flints bearing human workmanship. The late Mr. H. M. Stopes, an omnivorous flint implement collector, rented for several years a house at Swanscombe for the express purpose of acquiring by search and purchase all the evidence of human work procurable. He had hundreds of implements, but not

A Gem of Dartford Palæo Stonecraft. Length, 4 in.

one Figure Stone. Here, then, we have at no great distance from each other the two important settlements of Dartford and Swanscombe, and evidence of two distinct industries—in one the making of flint images, and in the other the manufacture of geometrical forms of flint.

Of the manufacture of implements it is not here

necessary to speak; they were made by flaking blows struck from the edge of the flint towards the centre of the stone, and some men were more clever than others of the craft.

I here illustrate one of the gems of Dartford Palæo stonecraft in my collection to show the dexterity of the workman in varying the direction of the flaking planes while at the same time preserving a well-balanced contour. The implement (?) was photographed on black card, carefully shaped by the aid of ruler, compass, and pencil, but I am inclined to think that the older man's eye and hand has the best of it.

It is such examples as this that mark the commencement of that marvellous ability in the glyptic art of which we have so much evidence throughout the ages.

Illustrating a Typical Eye Chip. See No. 8, Plate III.

It will be seen by reference to foregoing pages that the interest in the Figure Stones centres largely upon what is termed the "eye" chip, a small scale removed from the surface of the flint in a certain fairly uniform and relative position. The proper point of view in which to regard the stone is regulated by the position of this chip. It is the key note of the work. Every time we look at the natural animal-like formation of the flint, this eye chip gives the finishing touch to a natural resemblance.

The size of the chip is not always in proportion to

the size of the head to which it gives an appearance of life; it was not always possible to regulate the effect produced by a blow; hence we have sometimes a large head with a small "eye" chip, and sometimes a small head with a large "eye" chip; but in every case, whether large or small, the chip comes in just about the right place—rather too high up in some cases.

The question should, if possible, be settled upon strictly scientific lines whether these persistent "eye" chips have been produced by man intentionally or by the blind forces of Nature.

W. J. Lewis Abbott, who has examined many specimens, says the "eye" chips are the work of man.

When first I took up the study, Mr. Abbott was at a loss to understand how the chips were made, although admitting them to be man-made. On the 14th of November, 1910, however, Mr. Abbott writes:—

> It is some years since I spoke to you about the *modus operandi* of flint working, and it is only the last few years that I have been able to fill in much which before was a mystery. I am very encouraged by the flood-light that has since been thrown upon the study by persistent research upon every possible line. I should not care now to say: "I know it is man, but do not know how he did it." I now like to say: "I know how it was done, and therefore say man did it."

Mr. B. Harrison, of Ightham, gives it as his opinion that all the "eye" chips he has examined (through a lens) have been done by man. Mr. G. F. Lawrence, now at the London Museum, who has handled large collections of flint implements, gives it as his belief that the "eye" chips have been "hit in" by man. Many others hold the same opinion. But it is not upon the eye-chip alone that the place of the objects in archæology depends. There are several methods of working to be found on some of the stones, and these may reveal much that is suggestive of the genesis of certain later methods of work whose sudden appearance in the world it is at present difficult to understand.

1. ROUGH-HEWING.—The removal of portions of a nodule by dull heavy blows, the result not always recognisable from Nature work.

2. PROFILE WORK.—The clearing away certain parts in order to obtain a good contour.
3. SPLITTING.—Cleaving a flint in half the longest and broadest way, producing what may be termed a flang, for the same purpose as No. 2.
4. PECKING.—To reduce or round off prominent projections; hammering would only powder the stone.
5. TRUNCATING.—The usual accepted indication of man work.
6. BASE-LEVELLING.—Work in a few instances apparently directed to cause an object to rest in a desired position. Truncating will sometimes produce the same result, but cannot always be relied on.
7. FLAKING, or chipping, as applied to the work upon flint implements, but not much used upon the Figure Stones.

No. 48 C, Natural Size.

The claim that some of the Figure Stones have been subjected to rough hewing in a manner not easily recognisable as human work, is not unreasonable when we note the results obtained by that method. We may take my No. 48 C as an example to illustrate how, by a few rough blows, a nodule has been made available to represent an animal head. See illustration of other side of this stone in colour on Plate III.

Profile work on a projection is very well exhibited on example No. 78 C, this, owing to the difficulty in reproducing the effects in half-tone, I have had to resort to colour to convey a proper idea of the process. I had not washed this stone, and I see there are indications on this, as on many other stones, of a chalky film. Profile

work is done by flaking and sometimes by a simple process that suggests the derivation of bas relief sculpture.

If there was one thing that surprised me when I visited Egypt—happily before beautiful Philæ was submerged—it was the marvellous extent and charm of the low relief decoration. That it was here no original

Portion of Frieze.
(*By kind permission of Dr. Lalanne.*)

invention is suggested by the discovery of a remarkable frieze representing horses and other animals carved in high relief on the limestone of a rock-shelter at Laussel (Dordogne) by Dr. Lalanne. This remarkable work (the horse alone is 7 ft. long) is illustrated in "The Childhood of Art," by H. G. Spearing, M.A.

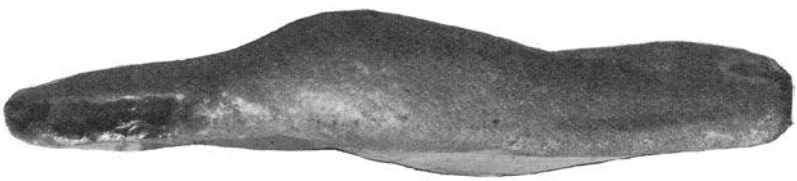
But the beginnings of this beautiful art of surface decoration cannot be credited to the Cave Age; we must

step into the gravels and consult the progenitor of the Cave-Age man; it was he who first conceived the idea from the natural undulating surface of many flints that met his gaze on the banks of the old-world rivers, and, in addition to his efforts to improve the natural animal likeness of a nodule, he sought also to cut a likeness from the side of a flint, and this he did in two ways—by flaking from the other side or by splitting off at one blow.

To make my meaning clear, I would ask the reader to think of any low-relief design that might accidentally be assumed by the top crust of a loaf of bread while baking. Now, if instead of a loaf, we think of a flint, whose undulating surface on one side suggests a similar low-relief design to that on the loaf, we then have exactly the same surface conditions as regards form on both loaf and flint. If it was desired to remove the design from the crust of the loaf, a knife would do the work, but how different the process necessary to slice off the design upon the surface of the flint; it might be severed from the block by one clever stroke, but the chances are great that the slower process of hacking and flaking away the stone from the other side would have to be resorted to in order to separate the low-relief design from the mass. It was a lucky blow that detached the form I here figure. That it is an animal form is clear, but of what animal must be left to individual judgment.

The Flake Face.

The Relief Face, Natural Size.



View from beneath, showing bulge of breast and, on the left, chipping to perfect shape of neck.

The above form would in an ordinary way be described as an outside flake; the eye chip has been well struck in, and a series of small chips perfects the shape of neck. I am reminded of some examples of Dartford figure stones, in which a natural cavity has been made to do duty for an eye. Of the three representations on page 41, one is from direct photograph, and the other two wood cuts as best serving the purpose of illustration.

There were some stones in the gravels that required very little more than a chip to represent an eye to complete an animal or other resemblance. Perhaps the most remarkable is figured here, together with a Greek terra-cotta image. They both rest on the level as

photographed. Here, again, I was not satisfied with the result of the half-tone blocks, so had the objects printed in natural colours, which give a better idea of the originals. I do not suggest that the flint resembles a horse, but the idea of the early man is evidently identical with that of the Greek artist (see Plate VI).

I have only found one example of what I regard as a design in intaglio; I picked it up in 1902, just where a cart had been loading up with gravel in the pit I worked. The design appears to have been slightly chipped, but mostly rubbed in.

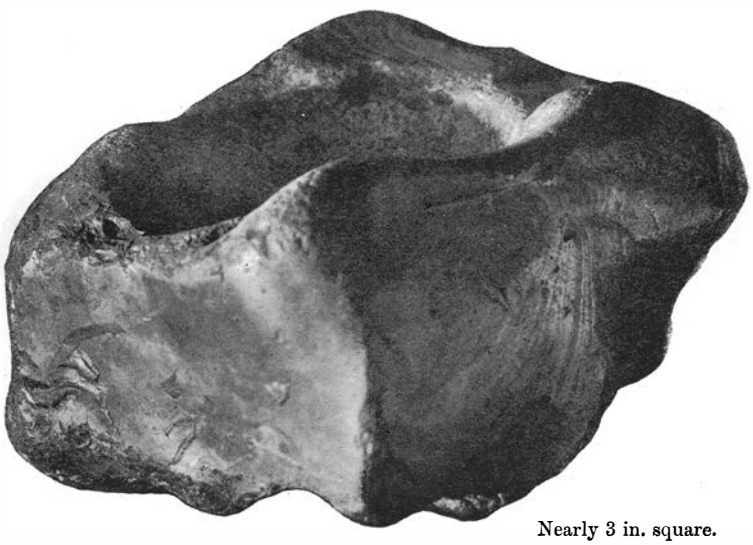
Height, 3 in.

The large number of cup-stones found in association with the figures is most remarkable, and causes one to think that the presence of one might explain the purpose of the other—rites or ceremonies in which both were used. It is well known that cup-stones are rarely found in gravel-pits. In the Swanscombe gravels, so highly implementiferous, during the many years I was in touch with people who collected the implements, only three or four made their appearance. The best one of these was found by Mr. M. Heys, and given by him to Mr. H. M. Stopes. It is probably in some other collection now, and will be found to be somewhat oval in form, and to have the edges slightly rounded. It is quite fifteen years since I saw this cup.

So precious was a receptacle to hold liquid in those

Natural Size.

Natural size.



Nearly 3 in. square.

FLINT CUP STONES.

pre-pottery days that even a cup-like depression on the surface of a flint was carefully negotiated, and a few clever blows would produce a cup. I figure one example actually squared up.

The photograph of my finest circular cup-stone here figured shows the fore edge a little out of focus. I have cups of all sizes and shapes smaller than this, down to the very little one shown, upon whose edge there are indications of work, and it has a peculiar circular perforation at the apex.

I have also found some objects in flint as Fig. M.

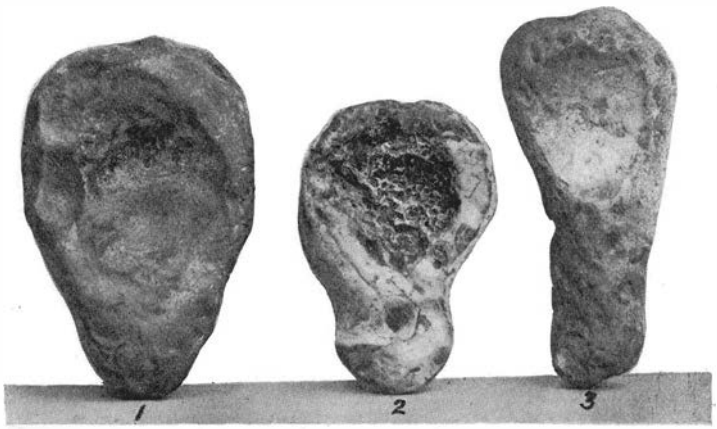


Fig. M. Three-eighths Natural Size.

No. 1 appears to be still stained with the remains of whatever liquid it last held; No. 2 has a nicely-worked handle; No. 3 has a shallow depression, which I do not think is natural.

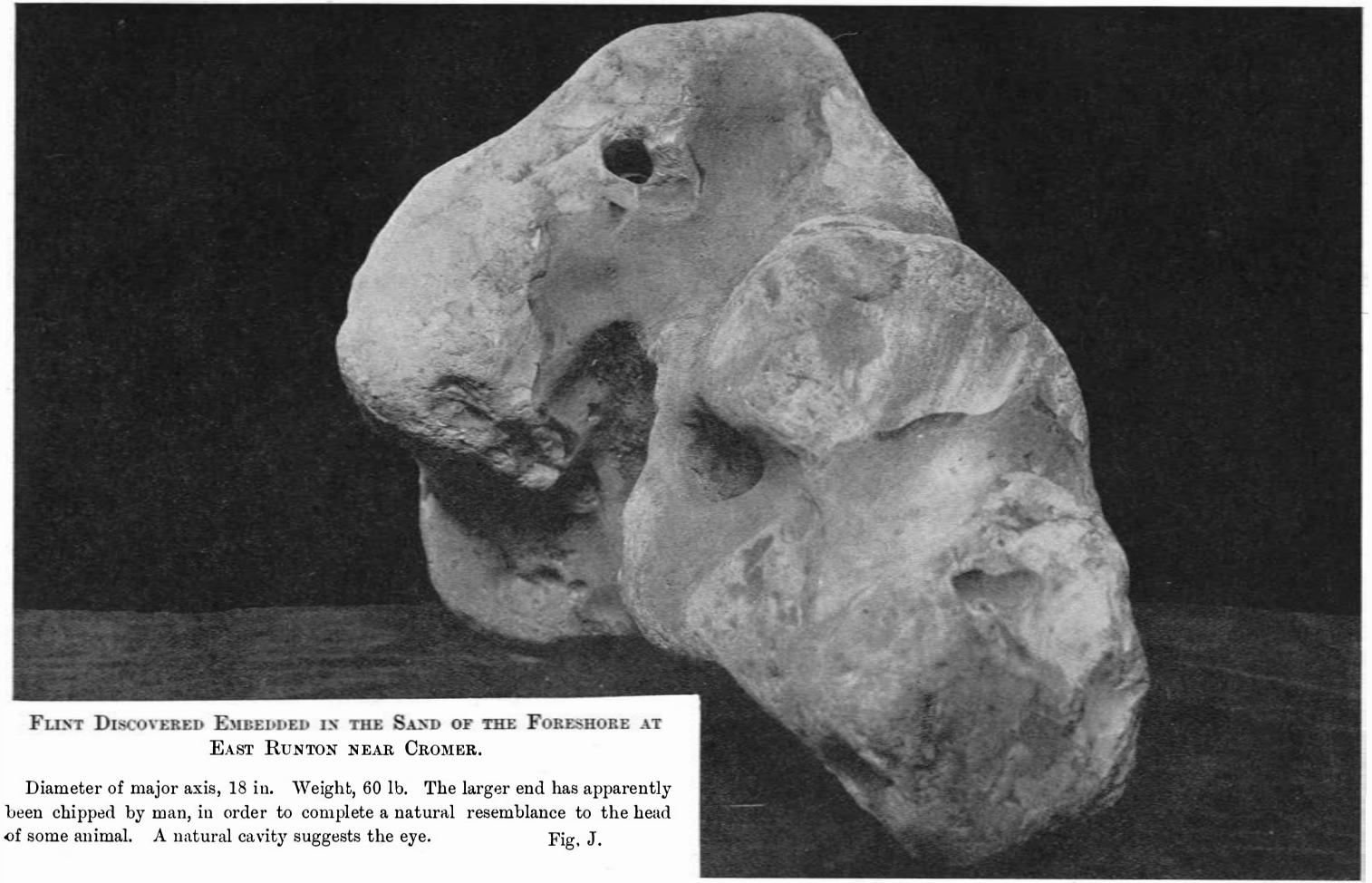
With respect to the Figure Stones found at the north-west corner of Dartford Heath, it is worth recording here that in the course of a conversation with Lord Avebury, his lordship remarked upon the unusual appearance of some of the chips—that they had been larger at one time than now. This, upon examination, I found to be true with respect to many others in my collection, and the explanation seems to be that the stones themselves have been reduced in size

since they were deposited in their containing bed; they must have been subjected during a long period to a continuous infiltration of clean running water and sand, the effect of which has been to wear down the comparatively soft calcareous cortex; while the harder old chipped surfaces that at one time must have been below the cortex are now level with it, and, in some instances, above it. Admitting the foregoing explanation as correct, we have in it evidence in support of the theory that glaciers extended at one time south of the Thames, and then, perhaps, even more important evidence of an intelligent race of men living during at least the last interglacial epoch. It is a remarkable fact, and well worth recording, that, although I have had a man for several years prowling about in this spread of gravel at least three days per week, he has never found an implement. The same non-implementiferous condition obtains at Stone Court on the east of Dartford, where many Figure Stones have been found, and only one quaint form, which may be an implement, has found its way to me.

Figure Stones will never be so easy of identification as flint implements, but they should be looked for in any gravels that are not implementiferous. I believe they are to be found in the Cromer Forest bed. When I was at Cromer a few years ago a gentleman informed me that the boatmen were always bringing to him flints in the shape of animal heads; but, "of course," he said, "they are only natural."

I figure one remarkable block of flint (Fig. J) that I discovered the next day after the above statement was made to me—the side of the flint away from the spectator has been worked as well as other surfaces of the huge block weighing over half a hundredweight.

Every man to his trade is an old saying. While enjoying the hospitality of my friend, the Rev. Frederick Smith, of South Queensferry, I went with him to search the bed of the Firth of Forth, at low water, for examples of those stones of which he has made a special study. Strange to say, that we found two objects, as here



FLINT DISCOVERED EMBEDDED IN THE SAND OF THE FORESHORE AT EAST RUNTON NEAR CROMER.

Diameter of major axis, 18 in. Weight, 60 lb. The larger end has apparently been chipped by man, in order to complete a natural resemblance to the head of some animal. A natural cavity suggests the eye. Fig. J.

Form of Animal Head, with natural cavity for eye, and bearing evidence of intentional work.

Two-thirds Natural Size.

Flang of flint, with chips marking position of one eye, the nose, and mouth. A natural cavity represents one eye.

Natural Size.

Flang of flint, with a natural cavity for eye, contour well worked. Rests upright on an older chipped base. Appears to represent some large animal form.

FIGURE STONES WITH NATURAL CAVITY FOR EYE.

depicted: one (Fig. K) is of the usual hard rock of the district; the reverse side is flat and quite rough.

Fig. K.

The other (Fig. L) is made of a thin piece of laminated sandstone, of bird-like form.

Fig. L.

The extraordinary curve forming the neck, appears to have been worked from both sides; the beak is bevelled. It is difficult to believe that this thin stone could naturally have assumed such a shape.

There are many strange forms in flint among my collection of figures, all bearing evidence of having been man-handled, such as, possibly, saucers and anvils, etc. These, and the implements found in association with figures in the Dartford pit, will make the subject of another paper.

As I finish this, there comes from France the announcement of a discovery by Count Begouen of two clay figures representing bisons, in one of the upper passage-ways of the Cave of Tuc d'Audoubert at a distance from the entrance of over 2000 ft. The fact which should concern us in relation to the study of figure stones is that there appears to be an identity of thought common to the Cave Man who fashioned these images and the Drift Man who selected his flints with the intention to complete a natural resemblance—viz., the appreciation of animal form as viewed from one side only, for the clay figures, as stated by Count Begouen, are only worked on one side—the other side is probably flat. It did not concern the Drift Man what shape the "other" side of his images were so long as he was able on one side to give expression to his ideas, the picture side.

I give as a tail-piece the outline sketch of a flint, suggesting the form of a bird on a pedestal; there is a clever bit of work running diagonally across the top of head, the exceedingly small eye has perhaps been made by pressure, and the object rests on a truncated base.

Natural size.

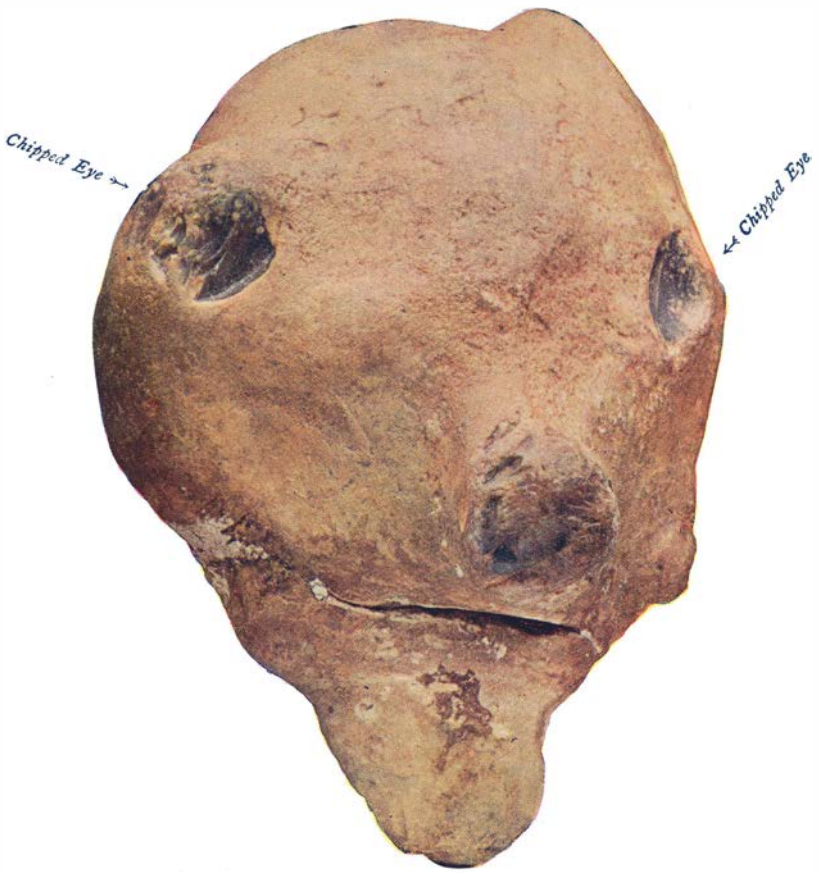
PALÆOLITHIC FIGURES OF FLINT.

Figure Stones may be classed under six heads (a) Human Features, (b) Birds, (c) Beasts, (d) Fishes, (e) Reptiles, and (f) Grotesques. It may be said that the human features partake largely of a grotesque character.

NATURAL SIZE.

This extraordinary flint image came from the gravels on the East shoulder of the Darenth Valley (about 100 O.D.) just where the old road out of Dartford leads on to the Brent. There are two eyes well hit in. It has been truncated, but will not rest in an upright position, as no doubt was intended by truncating.

PALÆOLITHIC FIGURES OF FLINT.

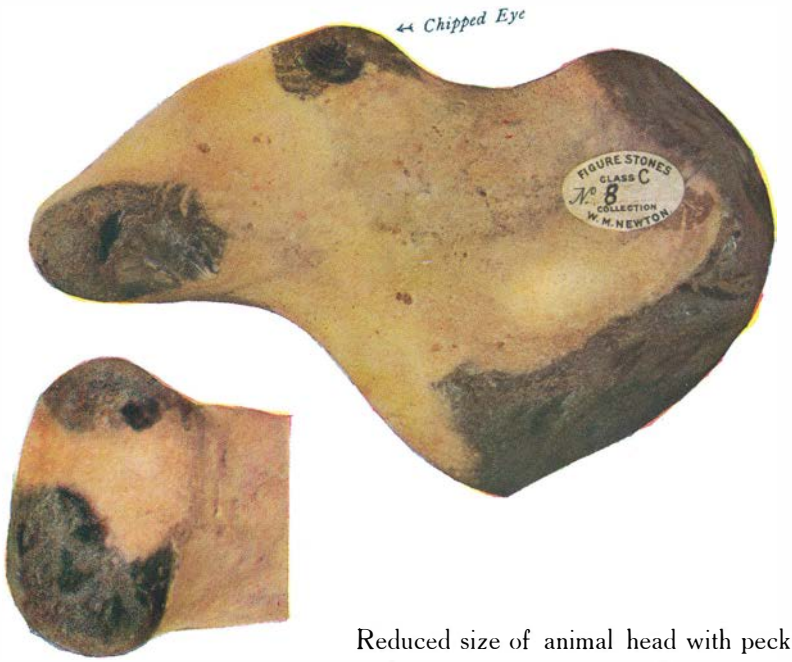


NATURAL SIZE.

A Mask. Found by M. F. Thornton Michel, a Frenchman, in 1895, at Coll Hill, near Wimborne, Dorsetshire, in a gravel pit.

"*J'ai trouvé cette pierre telle quelle.*"

PALÆOLITHIC FIGURES OF FLINT.



Full size view under the muzzle showing the continuity of pecking work at each side. About ¼-inch of the cortex separates the workings.

Reduced size of animal head with pecking work at butt end, over the eye chip, and at each side of the muzzle. This pecking process was practised by the ancient Egyptian and American Sculptors after rough masoning, in order to shape a work and prepare the surface for final grinding and polishing. Hammering would only powder the stone.

Natural size of animal head form. The eye and mouth are indicated by chipping. A small part of truncation is apparently polished. Rough hewn at other side. See page 30.

PALÆOLITHIC FIGURES OF FLINT.

THE "PICTURE" SIDE.

THE "OTHER" SIDE.

Slightly reduced size of the front and back view of a flint showing a method of improving a natural projection in the form of an animal's head.

PALÆOLITHIC FIGURES OF FLINT.

Reduced size of Stone No. 7 (illustrated full size in black on page 19) showing more clearly the pecking work on point of muzzle. Some slight indication of flaking appears on the pecking.

Length 4½-inches. Form of Tortoise. The point of nose has been reduced by pecking and the under side has been chipped but is much worn down, probably by running water. This object rests in the above position. Has a chip for eye.

PALÆOLITHIC FIGURES OF FLINT.

NATURAL SIZE.

Miniature form of some great creature? Both ends slightly chipped and has a distinct eye chip.

NATURAL SIZE.

Miniature form of some great creature? End of muzzle, tail end, eye, and indication of mouth all worked.

Height $3\frac{1}{8}$-inches. Form of Animal, that rests as illustrated, having no other work but a well hit-in chip for an eye. The form suggests the idea of the later Greek terra cotta image.

PALÆOLITHIC FIGURES OF FLINT.

NATURAL SIZE.

This fish form is from the Bexley corner of Dartford Heath. The flaked surface at tail end is exactly level with the cortex which has evidently been worn down since the flint was worked probably by running water from melting ice. The inner curve of tail is the result of human work.

EOLITHS [Old Brownies].

From the collection of Mr. B. Harrison, which may serve to give one answer to the oft repeated enquiry: **What were they chipped for?**

¾-NATURAL SIZE.

Flang or outside flake of flint from Speed Gate, Fawkham (420 O.D.). Resembles at one end the contour of an animal's head. There is a small chip in the possible position of an eye. Future excavators of the deposit should look for such objects.

¾ NATURAL SIZE.

Nodule of flint resembling at one end an animal's head. Eye well chipped in. From Crowslands, Kent Plateau (740 O.D.).