III. THE MESOLITHIC FLINT INDUSTRY

"The mesolithic has an interest of its own which amply repays its study."—GRAHAME CLARK.

A. TECHNIQUE

(1) THE MESOLITHIC FLINT WORKER

The mesolithic flint worker was a craftsman of great skill, and his handiwork bears the stamp of a highly developed technique which followed a fixed pattern, judged by which all mesolithic flint work is fairly easily distinguishable. Also, it presents a remarkable constancy of typical form, and a persistent adherence to method. For instance, cores, blades, and microliths are all so true to type and the same may be said of their retouch, that mesolithic flints, whether implements or by-products, from the Horsham sites, from Selmeston, from Blackdown, or from the classic Farnham site, might well be judged to be the out-put of one and the same craftsman.

Also, the mesolithic flint worker was keenly appreciative of the best grade of raw material, and in its selection he displayed great discernment, in fact, the best quality flint was essential for the successful expression of his traditional technique, both in flaking and retouch. Further, he had perfected a masterly control of the flint core. By dexterous treatment he could transform an amorphous flint nodule into a shape ideally suitable for flaking, and then, by the deft application of directed force, he could detach slender blades, long or short, wide or narrow, at will. These blades were his basic implements.

(2) THE CHARACTERISTICS OF MESOLITHIC TECHNIQUE

The main characteristics of mesolithic flint work are:—

(*a*) The production of slender blades of varying lengths and widths with edges roughly parallel.

(*b*) The production of microliths by the notch method, which was an ingenious device whereby the bulbar extremities of blades could be removed and a retouched point developed in the strongest section of the blade.

(*c*) Steep retouch known as blunting and a lighter retouch known as trimming.

(*d*) Rejuvenation of cores and re-sharpening of tranchet axes.

Each of these characteristics is discussed in detail in the following:—

(*a*) *Blades and Blade Production*

Nodules of good quality flint were selected at the outcrop and trimmed to a portable size and shape. Judging from the raw material encountered on the hunting ground sites the trimmed nodule fitted the hand. Transported to the chipping sites these lumps were flaked as occasion demanded. A striking-platform was developed and the production of blades commenced. In the initial stages of flaking irregular blades with some cortex were produced, but, with skilful manipulation, a good blade core was shaped, from which blades from three to four inches in length could be obtained.

The outstanding feature of the mesolithic blade, whatever its length, is its slenderness, and, usually, such ideally thin blades have two or more ridges. In the case of exceptionally slender blades, say of one-tenth of an inch in thickness, the ridges usually lie close to the edges of the blade so that the two surfaces of the blade are practically parallel. But all the blades from the same core were not ideal in the matter of length, width, or thickness.

It is obvious that a special technique was employed in producing long, narrow and slender blades. It is claimed by experts that they were detached by force transmitted by a punch of flint, bone or hard wood. Sir John Evans suggested this in 1927 (12) and an interesting paper on the subject was recently published in Proceedings of the Prehistoric Society. (13) From the evidence of the cores found in the greensand chipping floors it is clear that two techniques were used in flaking. One type of core has fluted flake beds; and the other has wide and shallower flake beds. The blades from the former were probably produced by directed flaking by means of a punch and from the latter by direct percussion.

The short narrow blades from which microliths were fabricated were produced from special cores which are extremely numerous on chipping floors. These microlith blades, or primaries, were produced in quantities on most mesolithic sites. (14) Blade cores are not so common as microlith cores because, presumably, the former were flaked down into the latter. The most common type of core is the conical form which frequently has a pleasing symmetry. See Fig. 2. Another type is the two-way core or saddle core, so termed from its shape. Microlith primaries from such a core may show contiguous flake beds with ripples running oppositely to one another. The blades from these cores are usually straighter than those from conical cores.

Successfully handled, the conical core could yield ten to twelve primaries, but the flaking was not always ideal and a succession of mis-hits tended to destroy the tiny basal spurs which provided the striking platform. When the striking platform of either type of core became exhausted the nucleus was deftly rejuvenated by the removal of either the apex, the base, or side of the core as shown in Fig. 2.

The core trimmings so removed are commonly found on mesolithic sites. It is interesting to note that this rejuvenation technique is identical with that used in resharpening tranchet axes as described in Section III B (4).

(*b*) *Notch Technique and Microlith Making*

The notch technique was an ingenious device used in the fabrication of microliths; it is dealt with in detail in Section B 3 (d), which discusses the making of microliths. Figure 6 shows how it was employed so as to detach the thick bulbar end of a primary and leave the residual flake for conversion into a microlith, with its point developed in the stoutest section of the blade. The notch was developed by vertically applied chipping, as in the case of blunting, until the width of the blade was considerably reduced. A blow applied to the inner curve of the notch divided the blade into two pieces and the bulbar fragment was rejected. This fragment is still called a "micro-burin." In these pages it is referred to as the bulbar reject. The other fragment was fashioned into a microlith as described in Section B 3 (d).

Sometimes the double notch technique was used in the fabrication of certain types of microliths. (See Section III B(3), d).

(*c*) *Blunting and Trimming*

Blunting retouch is essentially mesolithic and consisted of elaborate chipping effected by a series of blows applied vertically, or nearly vertically, to the flake surface. Sometimes it is described as "battering," but it was not produced by battering as the French equivalent term *"à dos abattu"* would imply. All microliths were blunted, and occasionally blunting is met with in the case of some blade implements such as knives and saws, which were protectively retouched for prehension. The nature of blunting is illustrated in Figure 7.

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(12) See Appendix VII.
(13) Barnes, *Proc. Preh. Soc.*, 1947 (New Series, Vol. XIII).
(14) See Appendix I.

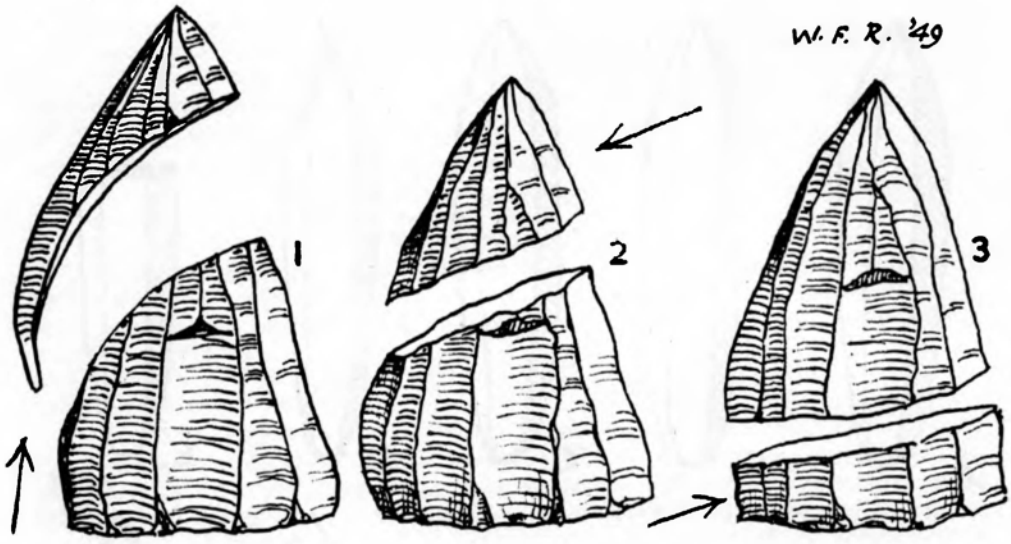

Fig. 2.—REJUVENATION OF CORES

The arrow indicates the direction of blow. 1—A lateral trimming of "plunger" type is produced; 2—An apical trimming; 3—A basal trimming. Core trimmings of these types are common in Greensand Chipping Floors.

Trimming is a finer retouch and may be studied on many types of microliths. It was effected by nibbling the edge of the blade or removing a symmetrical series of fine squills of flint. The pressure required for this was not applied vertically. Trimming may be seen at its best on Horsham points which were shaped by this kind of retouch. (See Fig. 7). It approaches scale flaking in principle.

(d) Rejuvenation of Cores and Axes

This useful technique, although not confined to the mesolithic industry, was used with typical frequency. In the case of cores it was employed to provide fresh and effective striking platforms and, therefore, was economical. This is illustrated in Fig. 2. In the case of axes it aimed at securing a fresh effective cutting edge.

B. TYPOLOGY

B(1). A Blade Industry

The mesolithic flint industry was essentially a blade industry. The tranchet axe is the only definite core implement found in the chipping floor contexts, and this implement is regarded as a borrowing from the Maglemosian. Excepting casual core trimmings which have been improvised into gravers, or scrapers and some conical microlith cores which may have been adapted for scraping, all the implements are converted blades. Certainly, there is a type of graver made on small nuclei of flint which we classify as core gravers, but they are uncommon.

Figure 3 represents diagrammatically the conversion of an idealised blade into the various implement types. The range of these is not extensive. It comprises tools for cutting, scraping, and piercing, which with the microliths, suggest a hunter's equipment. Microliths, incidentally, are described in a separate section. They are the dominant group in the mesolithic implement assemblage.

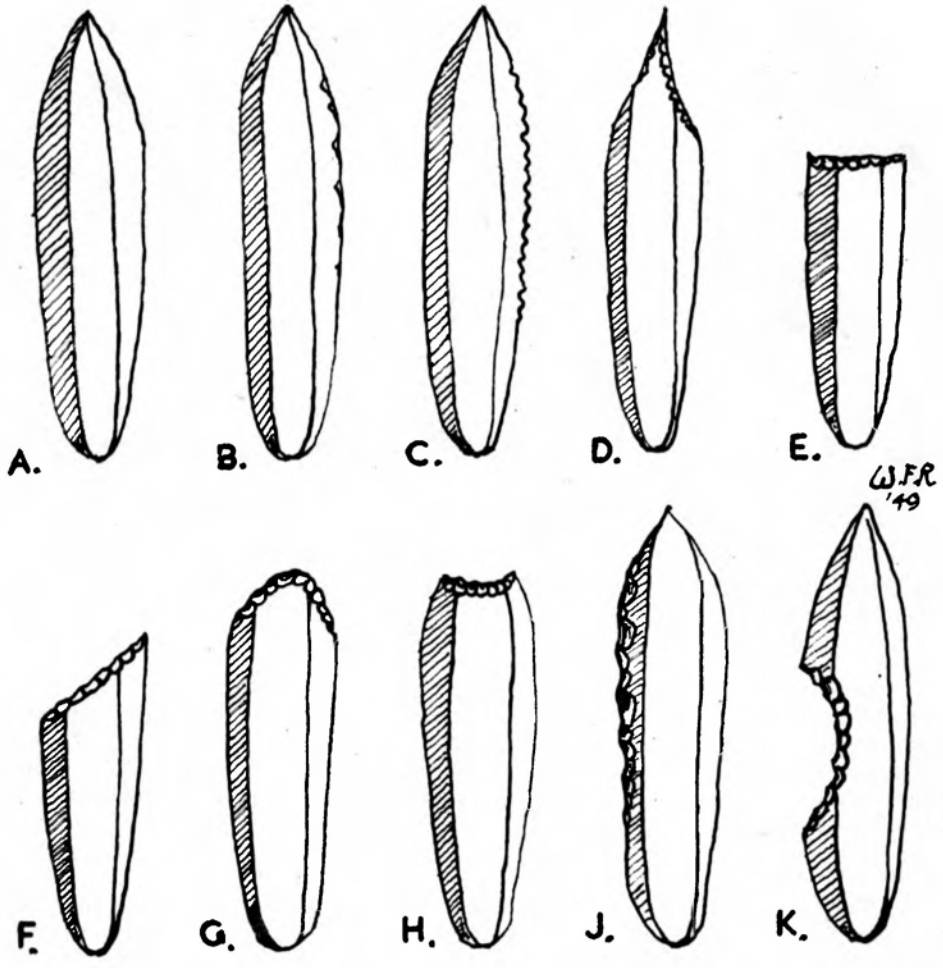

Fig. 3.—DIAGRAMMATIC REPRESENTATION OF TYPICAL BLADE IMPLEMENTS

A—Typical Blade; B—Knife; C—Serrated Blade; D—Piercer; E—Transversely Truncated Blade; F—Obliquely Truncated Blade G—Scraper on end of Blade; H—Notch Scraper on End of Blade; J—Scraper on Side of Blade; K—Notch on Side of Blade.

It should be noted that the mesolithic convex scraper cannot be regarded exactly as a blade implement although it certainly is a flake tool. It is usually a retouched squat flake, not infrequently with cortex, and, generally, has a wide striking platform. This type of flake was produced in the initial trimming of the flint nucleus.

In every chipping floor one encounters numbers of blades which were never converted into implements although many, on close inspection, may show signs of use. It seems to have been the practice to prepare a large stock of blades and from this reserve a blade was selected as the demand for an implement arose. This, too, was particularly the practice in the case of microlith blades which were prepared in large quantities, but only a small percentage of them was converted into microliths. And, in chipping floors near the chalk outcrop, where flint supplies were unstinted, the flaking of blades, large and small, was really lavish.

For instance, at Heath Brow hundreds of blades were found. At Tyting sandpit over two hundred microlith blades were collected by Mr. Fred Clark, and in the Farnham Dwelling-Pits excavations over 36,000 primary flakes, including many utilised flakes, were counted among the 38,000 flint by-products of four pits—not all blades, of course.

Blades may be conveniently classified thus:—

1.—Long blades of more than 3in. in length.
2.—Medium blades between 2in. and 3in. in length.
3.—Short blades less than 2in. in length.

Long blades were usually selected for conversion into implements such as knives and end scrapers, while the short blades, and sometimes medium blades, were used in the fabrication of microliths. Such blades are best described as microlith primaries.

B(2) Types of Implements

Cutting, Piercing, and Scraping Tools

Some consideration of the basic operations likely to be needed in the daily routine of a primitive food-gathering people will serve to introduce us to the implements required for such operations, and also to the nature of the media involved. Such basic tasks were cutting, scraping, and piercing and the materials cut, scraped, or pierced were, in the main, wood, bone, and hide. The tools were mainly of flint, but undoubtedly, some implements both of bone and wood augmented the tool equipment; unfortunately, only the imperishable flint remains as direct evidence of the mesolithic daily industry.

(a) Cutting Implements

Obviously the knife should be dominant in any flint industry. It is the simplest form of cutting implement and commonly consists of a blade with slightly retouched edge. An edge without retouch will not cut very easily because it clogs on the material which is being cut. Most of the utilised blades found in the chipping floors are knives. A less common form is the backed knife which has one edge blunted protectively for prehension. The simple retouched edge of the knife grades imperceptibly into the irregular serrated edge of the saw. This is not by any means a common implement type in mesolithic contexts, but most of the major settlements have yielded a few beautiful specimens with fine, regular serration. Some of these have more than twenty serrations to the inch. Mesolithic saws are usually made on small blades and one cannot resist a surmise that they were used in connection with a bone industry. The type reaches perfection in the rare backed saw which, with its protective blunting for prehension, is comparable in workmanship with the backed knife. Incidentally, some microlith primaries exhibit irregular serration, and one blunted point with serrated edge has been recorded. Remarkable West Surrey saws are dealt with in detail in Part III, B (6).

(b) Scraping Implements

Scraping implements form a very large proportion of mesolithic finished products. In the Farnham Pit Dwellings excavations scrapers formed 25% of the total number of finished implements. They vary in size and weight, evidently in accordance with the work which was required of them.

The commonest form is the convex scraper which, as already stated, is not a blade implement. The ends of long blades were occasionally adapted for scraping. Some convex scrapers are very small, suggesting that they, like the saws, were used in conjunction with bone. Side scrapers, or straight scrapers, are less common. Both convex and end scrapers may have been used in preparing skins.

A wide striking platform and also a prominent bulb are characteristics of these scrapers. Many have a cortex which indicates that they were made from the first flakes struck from a nucleus of flint in the preparation of a core. Others usually have a median ridge and sometimes two ridges.

Some convex scrapers show signs of re-sharpening. This type of scraper may be easily made by holding a suitable flake between thumb and finger at the basal end and tapping the convex edge lightly on a large pebble. Re-sharpening may be effected by tapping more forcibly.

It is generally accepted that this implement was used in cleaning skins, but it must be noted that it is inseparable from a mesolithic site, so, therefore, if the industrial interpretation of this implement type is correct then skins were prepared for use on every site.

It is not an uncommon experience to find fractured convex scrapers, and the break is usually at the tip. See Fig 4, 3 and 4. If these implements were skin scrapers they could scarcely have been broken in use.

End scrapers on blades are not common, but they do occur in the West Surrey chipping floors. Some are remarkably like the Aurignacian type found in the French caves.

Concave, or hollow scrapers, are also common and obviously functioned something like the modern spoke-shave. They could have been used in fashioning hafts for axes, or shafts for points, or lances. The smaller notched specimens, and many such are found in the floor contexts, again suggest a bone industry.

Small round scrapers are fairly common throughout the greensand floors; these are the so-called "thumb" scrapers and, obviously, had some specific purpose. Away from the lavish supplies of raw material available along the chalk outcrop scrapers are noticeably on the small side. On the other hand it is interesting to note the large size of the scrapers found in the Farnham Pits where flint supplies were unlimited.

Some mention should be made of core scrapers which are usually conical microlith cores with retouched basal perimeters. They have parallels in the Aurignacian industry. Many of the excessively squilled bases of rejected cores tend to simulate core scrapers.

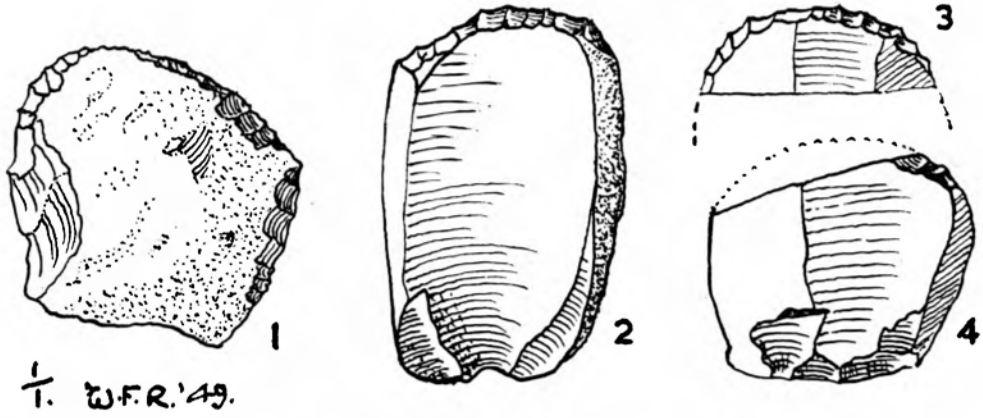

Fig. 4.— SCRAPERS

1 and 2 from Farnham Pit-Dwellings; 3 and 4 from Frensham Great Pond (South)

(c) *Piercing Implements*

Although well-made awls and borers do occur in mesolithic contexts, they are remarkably rare. (15) Most probably many of the microliths functioned as piercers. At times one encounters piercing implements improvised from core trimmings and other flakes where advantage has been taken of a chance contour.

Some authorities differentiate the borer from the awl by its retouch on alternate surfaces at the blade tip.

B(3) MICROLITHS

(a) *General Note*

The microlith is essentially a mesolithic artifact. More microliths were produced on the chipping sites than any other implement. In form and precision of execution it is the most elegant of all fabricated flint objects. In smallness it represents the limit of what keen sight and digital deftness can produce from a flint flake. But it is not necessarily small. Fabrication by the notch technique is the hall mark of a microlith. Some, which are made on medium blades, may be large.

Reginald A. Smith, the author of "Flints," (16) described microliths as one of the greatest problems in prehistory, and their purpose still remains a mystery today in spite of much plausible conjecture. The majority of microliths are less than 1in. in length. Despite their smallness they are elaborately retouched, blunted, and trimmed. To appreciate fully this elaborate retouch, one should inspect microliths through a lens.

(b) *Classification*

The classification of microliths on a morphological basis was published by Clark in 1934. (17) The material used for this classification was the famous Piffard Collection, surfaced from the Horsham sites, and now in the Barbican House Museum, Lewes. The classification was slightly modified by Clark (18) after the excavation of the Farnham Pit-Dwellings in 1937 and 1938. For the purpose of this work Clark's classification is followed, although the types are re-arranged for the purpose of discussing microliths from the functional angle. To facilitate reference Clark's classification is given here in an abridged form.

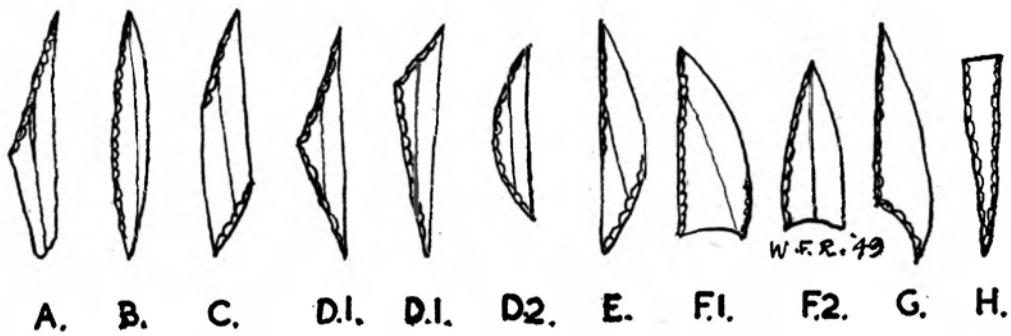

FIG. 5.— TYPES OF MICROLITHS (Clark's Classification)

(15) There are some piercing implements from Blackdown (No. 45) in Haslemere Museum.

(16) Flints, British Museum (1928).

(17) Clark, J. G. D., The Classification of a Microlithic Culture, *Arch. Journ.*, vol. XC (1934).

(18) Clark and Rankine, Excavations at Farnham, Surrey (1937-38), *Proc. Preh. Soc.* (1939, Jan. - July).

Type A. Blunted obliquely down part of one edge. (Obliquely blunted point).
Type B. Blunted down the whole of one edge or two edges.
Type C. Blunted down one edge and across the base.
Type D. Geometric forms.
(1) Triangular.
(2) Crescentic.
(3) Sub-triangular.
(4) Quadrangular.
Type E. Points with inverse retouch at base.
Type F. Hollow based points, or Horsham points.
Type G. Tanged points.
Type H. Chisel-ended (transverse) arrowheads.

Each type is represented diagramatically in Fig 5.

In the following discussion, types A, B, and C are grouped simply as points. Triangles D.1 are reserved as possible reversible points. Crescents D.2 are not explained. Type F, Horsham point, is treated as a specialised point. Types E, G, and H are disregarded on account of their extreme rarity.

(*c*) *Functional Interpretation*

Microliths, in general, have given rise to much conjecture with regard to their possible, or probable, uses. Some microliths are so fantastically small as to appear quite useless in any industry, and this is particularly true in the case of the sub-triangular forms.

The obliquely blunted point (Clark's A) would appear to have functioned as an arrow tip; this suspicion is strengthened by the absence from the mesolithic industry of any recognisable equivalent of the leaf arrowhead, or the barbed and tanged arrow point, and further, the transverse arrowhead, which is definitely mesolithic in origin, is not commonly met with, in fact, in the West Surrey chipping floors, it is a rarity. All the points, namely A, B, and C, could have functioned as piercers in putting hides to various uses. They are found on nearly every West Surrey mesolithic site.

The triangles, whether regular or irregular, may have been combined in series, in suitable haftings, to produce some kind of composite implement. Some are strikingly small. The Horsham point is difficult to interpret functionally, even conjecturally. After studying closely its salient features, namely three points, notch and a sharp convex edge, each of which may have had an objective use, one returns to the strong sharp point between the thick blunted edge and the sharp convex edge. Again, the thick blunted edge may have been fitted into a grooved bone and arranged in series, thus giving the point between notch and convex edge a possible functional value. Whatever its function, the Horsham point is outstanding among microliths on account of its elegance of form. It should be noted that the Horsham point is extremely local in its distribution.

Some idea of the industrial importance of these forms, namely points (including A, B and C, triangles D.1 and Horsham point F), may be obtained from the frequency with which each type occurred in the Farnham Pits. These frequencies are points 61%, triangles 25% and Horsham points 7%.

(*d*) *Fabrication*

However conjectural and unsatisfactory the industrial interpretation of microliths may be, we are on surer ground when discussing the method by which they were made. Reference has already been made to the notch technique which is characteristic of the mesolithic industry. By means of this ingenious technique all microliths were fashioned from primary blades.

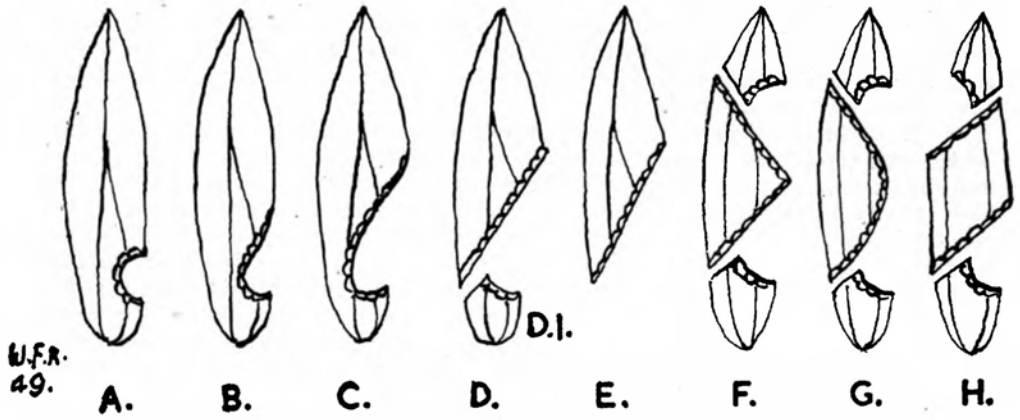

Fig. 6.— FABRICATION OF MICROLITHS

The simplest illustration of microlith making is afforded by the obliquely blunted point which is the commonest of microlith types in West Surrey. A notch was made either on the right or left edge, usually the right, near the basal end of a primary blade as shown in Fig. 6. The incipient notch is shown at A, developed at B, and deepened at C. The basal reject D.1 was separated by a blow, or by snapping, and D shows the detached microlith with the negative facet caused by the fracture. The blunting of the microlith was effected before separation. The complete microlith is shown with this facet blunted at E. Intermediate forms similar to B and C are sometimes found in chipping floors.

Sometimes the double notch technique was employed as shown at F, G and H. One notch was made at the basal end of the primary blade and the other near the tip end. Triangles, crescents, and penknife points, Clark's C, were made by this method. The two notches represented diagrammatically in Fig. 6, F, G and H show respectively how the triangle, crescent, and penknife point (Clark's type C) were fabricated.

Note on unfinished microliths. The undeveloped negative facet.

The obliquely blunted point is, in the majority of cases, retouched right to the point, but occasionally the blunting ceases about one-third of an inch from the point, which means that the negative facet due to detachment was not developed; see Fig. 6.D. Such instances are incomplete microliths, and probably mean that they were never used. It sometimes happens that such incomplete points can be fitted to their corresponding basal rejects, but this, of course, can only happen when a sealed-in chipping floor is being investigated.

(*e*) *The Horsham point or hollow-based point*

The Horsham point (Clark's type F) is an outstanding microlith which combines strength with elegance. In fact, it is a strikingly ingenious production, even for the notch technique. It is not widely distributed, and is not numerous in the floors where it does occur. In the Pit-Dwellings, Farnham, about 7% of the microliths were Horsham points.

Fundamentally this microlith is a triangle with two curved sides as shown in Fig 7, 1. One side ab is steeply blunted. The curved side ac is usually shaped by trimming near the point c, and the incurved side bc is retouched vertically either from the upper or lower surface. Judged by the disposition of the rings on the lower surface, which, however, are not always easily detected, there are

two types of Horsham points. In one the rings curve out from the point a as shown in Fig. 7,2. In the other the rings are parallel to the hollow side bc as shown in Fig. 7,3. The first type is asymmetrical and is identical with Clark's F.1b and F.2b. The other type inclines to the symmetrical. The asymmetrical outnumber the symmetrical.

No. 9 in Fig. 7 shows a rather large Horsham point, broken in the making, which was taken from a greensand floor. Apparently it was snapped when being detached from the blade. It will be noted that the trimming of the curved side had already been carried out and that the base had not been treated. This specimen suggests that the fabrication of the Horsham point was effected by the notch technique. A conjectural reconstruction of the process is shown in Fig. 7, 4. Fig 7, 10 is another find [19] from a West Surrey chipping floor which suggests that these points were sometimes made in pairs, or by the twin method. [20] In each case fabrication was abandoned through an accident. The find figured in No. 10 is of extreme interest because it explains the reason for the two types of Horsham points in Clark's classification.

Many theories have been advanced to interpret this point functionally. It will be appreciated that any one of its three points may have been the point of application in use. The thick blunted edge, usually straight, is significant, and may have been fitted into a slot in a bone or wooden haft. But whatever its use may have been it remains as a very elegant member of the microlith series.

Numbers 5, 6, 7 and 8 are of interest; No. 5 is a curved form of Horsham point excavated from a chipping floor at Kettlebury. Three other similar forms have been recorded, namely, one found on the surface at Spreakley, another dug at Kettlebury, and a third, in Dr. Wilfrid Hooper's collection, from Roffey, one of the Horsham group of mesolithic sites. Numbers 6, 7, and 8 are typical Horsham points and were excavated at Kettlebury. The shaping trimming at the base of the points is noteworthy. Number 7 is remarkable on account of the base which has no retouch.

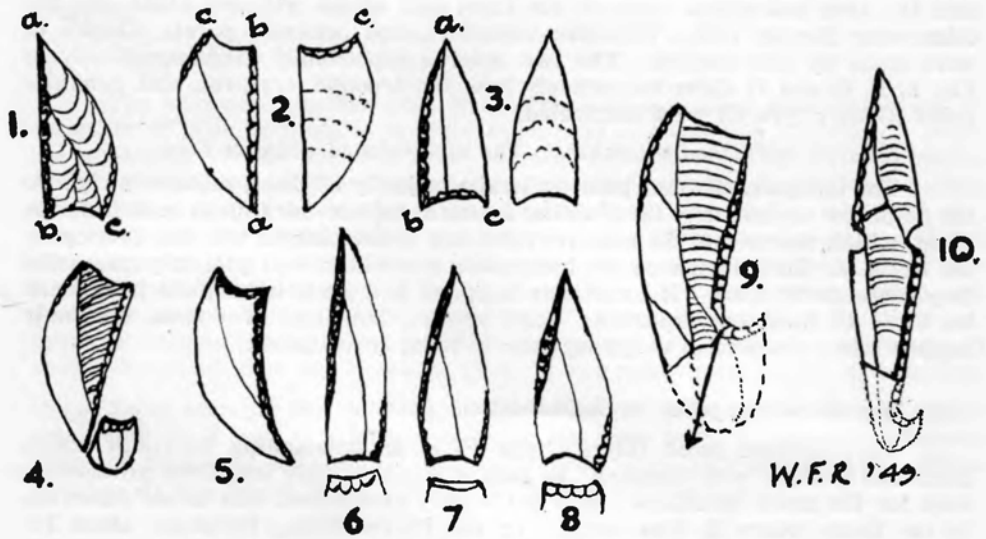

Fig. 7.— The HORSHAM POINT (Actual Size)

(19) Venables Coll.

(20) Rankine, Some Remarkable Flints from West Surrey Mesolithic Sites, *S.A.C.*, XLIX, 1947, 14.

(f) *Rod-like Microliths*

This form is blunted on both edges and, therefore, could be assigned to Clark's variety B2, but it seems to differ essentially from a typical microlith of that type.

These rods of flint, with both edges very carefully blunted, occur sparingly in all West Surrey greensand floors. They are remarkable for their slenderness. It is difficult to imagine any use to which they could have been put, unless they were employed for enlarging and smoothing the eye-holes of bone needles. Many specimens have a snapped facet at the base. A typical example of microlithic rod is shown in Fig. 8, 1.

Four small spoon-shaped implements (21) found in blown sand deposits, suggest some possible relationship to these rods. In form these flints are spoon-shaped and seem to have been fashioned from small microlith primaries by the double notch technique. Nos. 3 and 4 are perfect, but No. 2 was found broken and is here shown reassembled. A basal fragment is figured in 5. It is impossible to say which form was the objective, namely, the spoon-shape, or the rod.

The measurements of the three more or less perfect forms shown in 2, 3, and 4 are evidence of the deftness of the mesolithic microlith makers.
No. 2 has a total length of 1.2in., width .4in. and thickness .1in.
No. 3 is 1in. long, .3in. wide, and .1in. thick.
No. 4 is .8in. long, .4in. wide, and .1in. thick.
The lengths of the rod-like handles are .6in., .6in., and .5in. respectively.

Fifteen rod forms were recorded in the Farnham excavation. One exceptional specimen from Pit 4 was 1.5in. long.

Calkin (22) noted this form in his Peacehaven context. He says, "No. 20 is, I think, rather unusual. It is roughly rectangular in section. Mr. F. N. Howard (23) describes a similar implement from Thetford." (24)

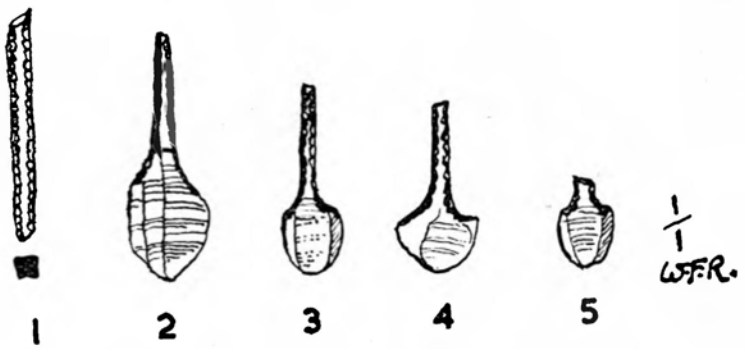

Fig. 8.—ROD-LIKE MICROLITHS AND SPATULATE FORMS

B(4). The Tranchet Axe

(a) *Description*

The tranchet, or transversely sharpened axe, so-called from the ingenious method used in restoring its cutting edge, was adopted from the Maglemose culture. It occurs fairly frequently throughout West Surrey both in direct association with mesolithic sites, and as stray finds remote from settlements. About 130 axes have been recorded from this region.

(21) Venables Coll.
(22) Calkin, A Site at Peacehaven, *Sussex A.C.*, vol. XLV, 231.
(23) Howard, *P.P.S.E.A.*, vol. I, pt. IV, 464.
(24) An elegant specimen of this type was found at Iwerne Minster, Dorset; it is now in Dorchester Museum.

Obviously the tranchet was a chopping tool used in a wood industry. The great majority of the West Surrey axes were far too light for serious wood-cutting; some could have been used in preparing dug-out boats. They were hafted for use.

While sharpening flakes, which were removed from the cutting end of the tranchet by a sideways blow, are not uncommon, axes are noticeably rare in the greensand chipping floors. Their general absence from the open stations of the bivouac type suggests that the tranchet was a treasured personal possession always carried by the owner, and so differed from the other implement types, such as scrapers, which were fabricated, used, and discarded on the sites where they are now found. With regard to the sharpening flakes which occur on most of the open sites, it is obvious that wood was being cut there as well as on the focal sites such as Farnham where, however, a number of axes were excavated.

(*b*) *Classification*

Two types of tranchet are distinguishable.

I. Axes without a median ridge.

II. Axes with a median ridge which may be further differentiated thus:—

A. Axes of triangular section

B. Axes with quadrangular section.

These, however, are broad distinctions only.

Type I is definitely asymmetric; it appears to be an early form of tranchet and is uncommon. It is well represented by the Warnham axe. (25) A fine tranchet of this type is illustrated in Fig. 9, 1, from the vicinity of the Farnham focal site. It is No. 24 in the West Surrey List of tranchets. (26) Type II is well represented by the Selmeston tranchet (27) and the Hassocks axe. (28) These types are shown in Fig. 9, 2 and 3. Type II, B, is the Thames pick.

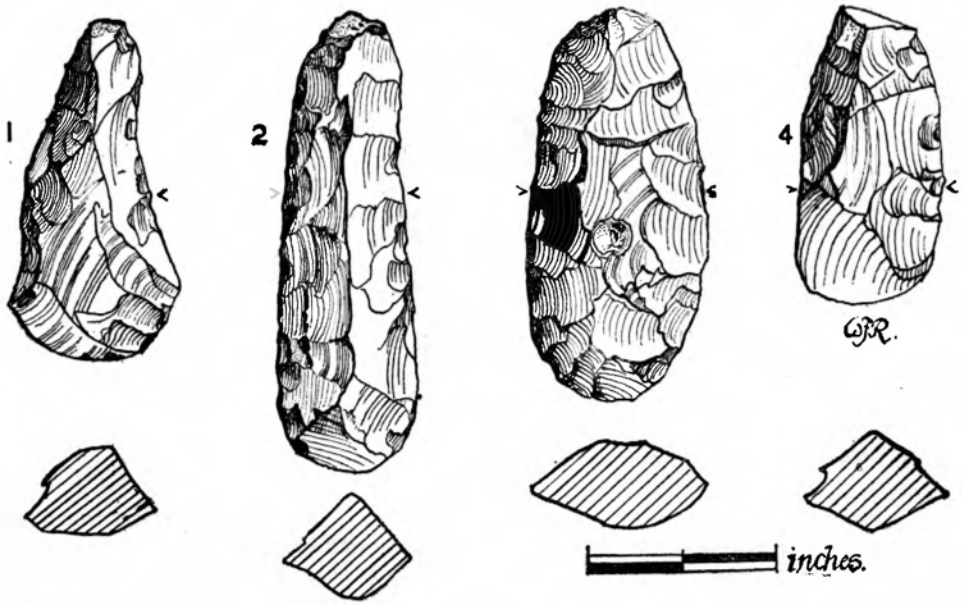

Fig. 9.— TRANCHET AXES

1—Six Bells Site (No. 24 in West Surrey List); 2—Lawday House (No. 37); 3—Roman Bath Building I (No. 130); 4—Alma Nursery (No. 102).

(25) Clarke, The Classification of a Mesolithic Culture, *Arch. Journ.*, vol. XC (1934, p. 76, fig. 11.

(26) Rankine, Tranchet Axes of South-Western Surrey, *S.A.C.*, vol. XLVI (1938).

(27) Curwen, E. C., *The Arch. of Sussex*, p. 55, fig. 10.

(28) Ibid, p. 58.

The shorter tranchets are sometimes referred to as adzes, but many tranchets are shortened by much re-sharpening so length is no criterion. (See Fig. 9, 4). The difference between the adze and the pick seems to be functional rather than typological.

Picks

Several long tranchets of Type II form have been found, from time to time, in the vicinity of the Farnham Pit-Dwellings in the course of gravel digging, when the top soil was moved by hand. Mr. J. A. Patterson had a fine series from the Alma Nursery section when the Junction Pit was being worked, and Dr. J. H. Gibson collected several from the old Six Bells Pit.

The freshness of all these specimens was remarkable. The finding of five tranchet picks of similar type by Dr. Grahame Clark in the 1938 excavation of the Pit-Dwellings, brings all the previous finds in the top soil into possible mesolithic association. It should be recorded that one of these five picks was of quadrangular section.

(*c*) *Distribution of Tranchet Axes in West Surrey*

In the West Surrey region, as defined in Part I, 134 tranchets have been recorded and, therefore, are too numerous to be clearly plotted on the distribution map. Concentrations of tranchets attach industrial importance to the site groups:—

Farnham Pit-Dwellings and marginal sites: 49 axes.
Hill-top sites north of Farnham, namely Heath Brow, Caesar's Camp, and the Ranges: 7 axes.
Tilford region focussed on Chapel Field: 17 axes.
Seale and Puttenham region: 8 axes.
Blackdown region: 8 axes.

The remainder are isolated finds.

The following are additional finds since the publication of the West Surrey List:—

113 to 127. Axes found in the Pit-Dwellings excavations of 1937-8.
128. Frensham Great Pond.
129. Tickners Farm, Dunsfold.
130. Six Bells, Roman Bath Building I, foundations.
131. Snailslynch (7¼in. long. Resembles tranchet 15).
132. Hindhead. Butt only. A. Richards, Thursley.
133. Hambledon. Brachi, S.A.C, vol. XLIX, p. 90.
134. Hillbury. F. S. Clark Coll.

B(5). GRAVERS

(*a*) *Description*

Essentially a graver is a strong flint flake, or less commonly a core, from the tip of which a splinter has been sliced longitudinally to form a cutting edge which resembles a modern mortising chisel. Probably it functioned similarly. In the case of a graver made on a core, or nucleus, the splinter was struck by a blow directed, more or less, at right angles to the surface of the core. See Fig. 10 for simplification. Thus a strong, sharp edge suitable for slotting wood or bone was obtained. Until about 1920 gravers were exclusively associated with the late palaeolithic industries of the French caves, and it was widely accepted as the instrument by which the cave pictures were inscribed. Such a functional interpretation, however, cannot be claimed for our West Surrey gravers. (29)

(29) Rankine, Some Remarkable Flints from West Surrey Mesolithic Sites, *S.A.C.*, vol. XLIX (1948), I.

The first record of the graver in West Surrey appears on page 78 of the *Guide to Antiquities of the Stone Age,* British Museum, 1926. " Excavations carried out at Snailslynch Farm, half-mile east of Farnham Station . . . . were successful in finding a number of undoubted gravers." The excavation is not dated, but about 1924 gravers began to come to hand from more than one surface site in the Farnham region and, eventually, in the Pit-Dwellings excavations of 1937 - 38 numerous specimens were secured. The West Surrey graver is a type implement of the mesolithic industry, and although far from being numerous, it is widely distributed. Some specimens bear a striking resemblance to the famous burins of Aurignac.

The graver is the least spectacular of all the mesolithic implements and, consequently, it is liable to be overlooked in the field. Its characteristic feature is the fluted facet which remains after the splinter, or spall, has been struck off. This facet gives the impression that the flint has been deliberately cut into, and so differs from the typical flake beds observable on a microlith core.

(*b*) *Classification of West Surrey Gravers*

West Surrey gravers fall into two groups:—

Group I. Gravers made on a blade or flake.

Group II. Gravers made on a core or heavy flake.

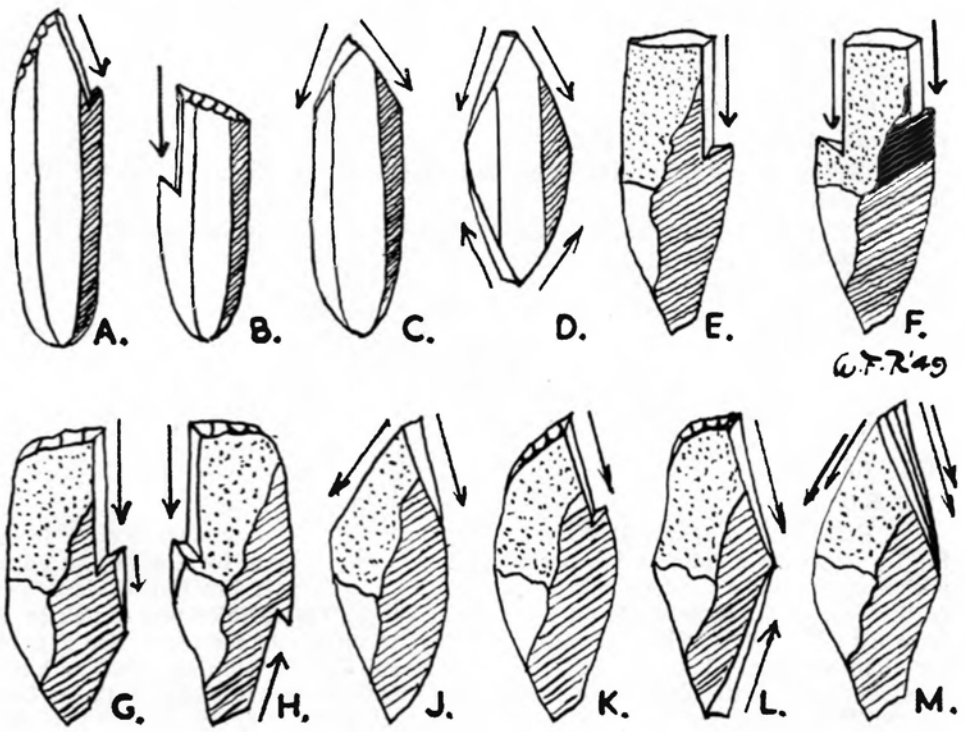

Fig. 10.— TYPES OF GRAVERS

Trimmed backing, the abrupt retouch of the edge from which the graver spall is removed, occurs in both groups although it is usually better developed, and more common, in Group I.

The graver types of both groups are represented diagrammatically in Fig. 10.

Explanation of Fig. 10.

A. Backed blade struck obliquely as indicated by arrow. When the blow is directed inwards the *parrot-beak* type of graver is the result.
B. Truncated blade, with backing, struck at right angles to retouched edge; sometimes the blow was struck obliquely.
C. Blade struck from both sides resulting in the *screw-driver* type of graver.
D. A double graver of *screw-driver* type. Very rare.
E. A core graver struck at right angles to upper surface resulting in an angle graver.
F. A double angle core graver.
G. Core graver resembling type E except that upper surface is crudely backed.
H. Core graver, backed on upper edge and struck from both upper and lower edges as indicated by arrows.
J. Core graver, struck obliquely resulting in *screw-driver* type.
K. Core graver, backed obliquely and struck obliquely, a variant of G.
L. Core graver, backed on upper edge and struck from above and below on same side.
M. Core graver of *screw-driver* type with multiple facets.

Signs of sharpening are often observable on gravers. See Fig. 10, G and H.

(*c*) *Distribution*

Although gravers are widely, but not numerously, distributed throughout West Surrey, they appear to be associated mainly with the larger settlements. I have never found one on the greensand hunting camps even when every piece of flint has been collected. This implement is prominent among the finds recorded from the classic Farnham site, Snailslynch, Moor Park A and B, Horsell, Leith Hill (Cockshott Hollow), Blackheath, and Woolpit. It is interesting to note that no graver was found at Heath Brow where flint was most prolific, nor in any site on Kettlebury.

B(6). · Serrated Blades or Saws

Typical mesolithic saws are small and very finely serrated. They are usually made on blades of medium length, averaging about 2in.; the serrations vary from twenty to thirty to the inch. The teeth were made by notching which was effected from either surface, but generally from the upper. In Fig. 11 it will be observed that A, B, C, D, E, and H are serrated from the upper surface, but F was notched from the under face of the blade, and the squill scars may be seen on the upper surface. Very small saws, less than 1in. in length, are occasionally met with, and Fig. 11, G shows a microlith with its longest side definitely serrated. The extent of serration varies, and rarely takes up the entire length of the edge as it does in Fig. 11, F.

These serrated blades could have been used on wood or bone; the fineness of serration indicates that the latter was the usual medium, and it seems reasonable to conclude that bone working entered largely into mesolithic industry. Obviously the saw was held, when in use, between the tips of the thumb and forefinger. For this purpose it will be found that a blade about 2in. in length is ideal; it is interesting to note that fifteen flint saws out of twenty studied by the writer, were from 2in. to 2½in. in length. Sometimes these implements have protective retouch at one end of the blade and, now and then, both edges of the blade are serrated as in Fig. 11, E and F.

Serrated flakes are by no means uncommon on the mesolithic sites of West Surrey; a limited experience of excavation suggests that they are associated industrially with scrapers and obliquely blunted points. They appear to occur more commonly in the bivouac sites, like Frensham, than on the focal sites such as Chapel Field or Farnham. However, on account of their finely serrated edges, they are easily overlooked. Running a finger nail along the edge is the easiest method of detecting serration.

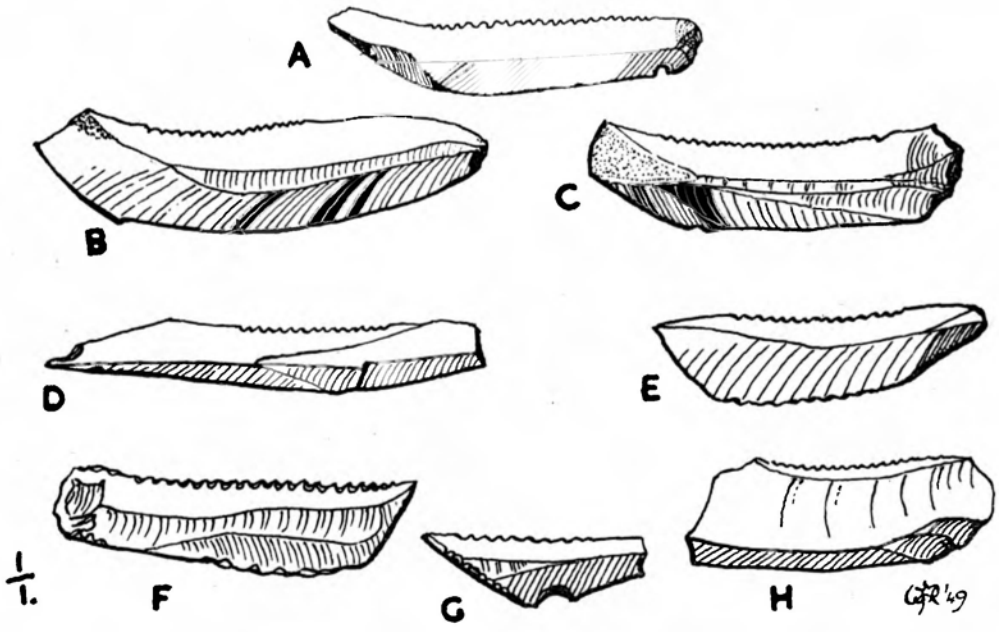

Fig. 11.— SERRATED BLADES

DESCRIPTION OF FIG. 11, SERRATED FLAKES
(l=length. s=teeth to the inch).

A.[30] Chapel Field (Site 14): l=2in.; s=30.
B. Trottsford [31] (Site 2): l=2⅜in.; s=30.
C. Farnham (Site 6): l=2in.; s=24.
D. Trottsford (Site 2): l=2¼in.; s=30.
E. Farnham (Site 6): l=1¾in.; s=28.
F. Woolpit (Site 59): l=1⅝in.; s=24.
G. Woolpit (Site 59): microlith (Clark's A).
H. Trottsford (Site 2): l=1⅝in.; s=20.

(B, C, D, E and H were found in mesolithic chipping floors).

B(7). UTILISED FLAKES AND FRAGMENTED BLADES

The greater number of mesolithic implements are adapted flakes; they were retouched without any attempt to modify their original shapes in any way. These flakes are prominent on any site which is even moderately prolific, but owing to their non-spectacular appearance they are liable to be over-looked or rejected. In many cases a lens is required to detect the delicate trimming retouch so characteristic of mesolithic technique. On every site which yields sufficient material for analysis a group of these utilised flakes is certain to be found, and will repay for study.

Obviously these flakes were selected from wastage on the chipping floor, on the spur of the moment, as some need arose. Such emergency implements can only be classified functionally. Odd flakes, and core trimmings in particular, were often converted into provisional scrapers, borers, or gravers.

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(30) Univ. of Bangor Museum, No. 2917.
(31) A site in the Sleaford group.

Fragmented Blades

The number of snapped blades, particularly short ones, attracted the writer's attention during the preliminary digging of the Farnham Pit-Dwellings. Blade fragments, usually as long as they are broad, are so generally distributed on West Surrey sites as to deserve mention. At first sight they would appear to be accidental fractures, and no doubt some are, but when one has accumulated and examined a group of these fragments and noted their used edges, it appears possible that the fragmentation was intentional and that they had some functional value. The fractures are ancient.

A selection of these fragmented blades are illustrated in Fig. 12, Nos. 4, 5, 6, 7 and 8.

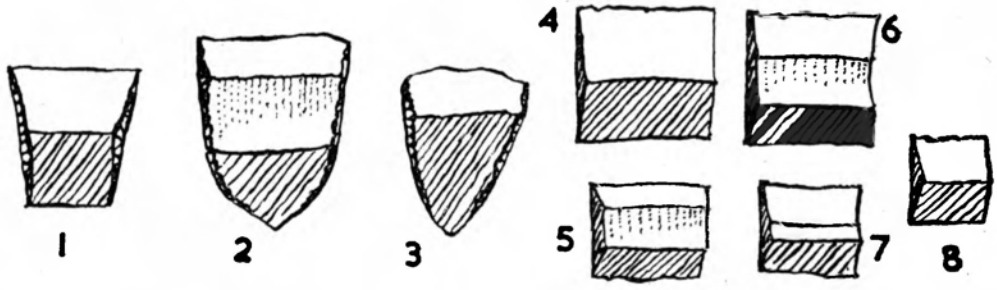

Fig 12.—TRANSVERSE ARROW-HEADS AND FRAGMENTED BLADES (Actual Size)

1—Typical Mesolithic Transverse Arrow-head; 2—Cotmandene (excavated); 3—Farnham Pit-Dwellings (excavated); 4, 5, 6, 7 and 8—Fragmented Blades from various Chipping Floors; 4, 6 and 8 have used edges.

B(8). The Petit Tranchet or Transverse Arrowhead

The petit tranchet is definitely a mesolithic artifact and, although very uncommon, should be recorded (32) here on account of its rarity. Only two West Surrey finds are known to the writer, but some are recorded from Sussex sites. The West Surrey petit tranchets are:

1. Farnham Pit-Dwellings (preliminary digging).
2. Cotmandene.

In Sussex the petit tranchet has been recorded from Peacehaven, Warnham, and New Faygate, and in Hampshire, from West Heath.

No. 1, Fig. 12, is a diagrammatic representation of the petit tranchet; No. 2 shows the Cotmandene find, and No. 3 the Farnham specimen.

IV. THE MESOLITHIC SITES OF WEST SURREY

A. Incidence and Occurrence

Of the eighty odd sites in the region, the majority are on the sandy sub-soil of the Lower Greensand Beds and Hythe Beds. The discovery of these sites has been due to a variety of reasons—the plough, the wearing down of heathland tracks, and chance sections. Without a doubt, numerous other sites await discovery on the sandy wastes of the commons. It should be noted that some sites lie " off " the greensand; there are some on the Eocene sands, and a cluster on the Weald Clay which, obviously, could only have been used in dry seasons.

(32) Hooper records two petit tranchets from Surrey, sites not specified, *S.A.C.*, vol. XLI, p. 58, fig. 1, 14.