

MESOLITHIC RESEARCH IN EAST HAMPSHIRE.**THE HAMPSHIRE GREENSAND.**

By W. F. RANKINE, F.S.A. SCOT.

Introductory.

THE aim of this contribution is to record the results of a Mesolithic survey of the Hampshire Greensand carried out by the writer as a complement to a similar investigation in the adjacent region of West Surrey.¹ The Greensand outcrop in East Hampshire forms an irregularly shaped area, some 40 square miles in extent, in the western extremity of the Weald. On its western margin it abuts against the Gault clay on a line curving south-westerly by Kingsley, Hartley Mauditt, Selborne, Empshott and Petersfield. On the east side it is bounded by Surrey and Sussex. Much of it, incidentally, lies in the Gilbert White country.

In the main this Greensand surface is much concealed by heath and conifer, with appreciable intervening tracts of marshy ground, and so it does not lend itself readily to investigation. There is, however, a moderate acreage of arable land at Kingsley and Oakhanger. Thus the kind of surface on which prehistoric relics are sought is limited to a small extent of ploughland, worn trackways on the commons, and chance exposures. However, much of the area is War Department land which has been used as exercising grounds for tanks and heavy vehicles over a long period. Such activity has resulted in stripping the vegetation from large areas of heathland and the subsequent combined action of wind and rain has, in some instances, brought about total surface erosion. Fortunately for research, this destructive action has some compensation in that it has succeeded in disclosing much valuable evidence of Mesolithic occupation in East Hampshire. Later in this narrative an account is recorded of the discovery of a very important chipping floor which had been exposed by tanks.

Geology and Topography.

The Greensand outcrop is that of the Folkestone Beds ; these consist of warm-coloured sands with some carstone which produce relatively sterile soils described by Gilbert White as "hungry and lean." Hence the incidence of arable land is low and it is on such land that the archaeologist must search for clues. It is on the

1. Rankine, W. F., "A Mesolithic Survey of the West Surrey Greensand," Research Paper No. 2, Surrey Arch. Soc., 1949.

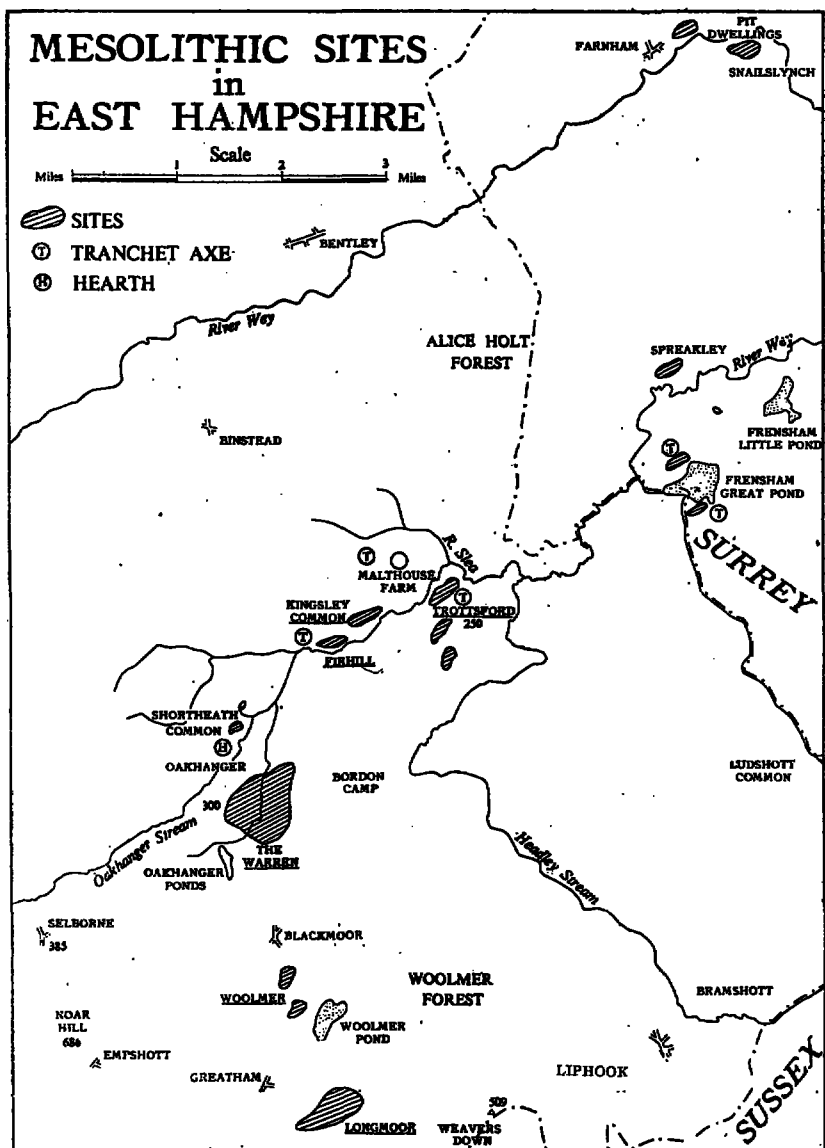


Fig. 1 Mesolithic Sites in East Hampshire

Folkestone Beds that we find extensive deposits of wind-blown sands which were accumulated during a climatic phase in post-glacial times ; these deposits appear to have been contemporary with the Mesolithic occupation and it is in them that we occasionally find chipping floors which have been preserved intact since they were abandoned. Such wind-blown deposits are remarkably well developed on the Hampshire Greensand and between Oakhanger and Shortheath Common they are heaped into dunes or hummocks. Then, connected with this phenomenon of wind-blown deposits, there are the wind-faceted carstone pebbles which abound in this district. Their smoothed contours were etched by the same winds which built up the blown-sand deposits.

Scatters of flint are sometimes seen on fields where they have been brought to the surface by the plough but the implements collected from such sites may be mixed with industries later than the Mesolithic. However, if a chipping floor can be located in an undisturbed deposit then it is possible to excavate the entire flint industry and so obtain valuable data concerning Mesolithic activities.

As regards the topography of the Hampshire Greensand its ponds are an outstanding feature. To-day the largest are Oakhanger and Woolmer. Gilbert White wrote : " Within the present limit of the forest (Woolmer) are three considerable lakes, Hogmer, Cranmer and Wolmer." Of the last named he added : " Wolmer Pond is a vast lake . . . of sixty-six acres." To-day all these ponds are very much diminished in extent and their marshy margins indicate that they are still receding. In prehistoric times they must have been very large stretches of water indeed and, undoubtedly, the seasonal haunts of wild fowl. In Gilbert White's time the ponds in the forest held fish in abundance and his mention of " vast flocks of ducks, teals, and widgeons of various denominations " suggests that in Mesolithic times these waters may have been a veritable paradise for nomads in search of fish and fowl.

The most important stream is one which enters the Weald from Selborne, in fact it is described as " the Selborne stream " by White. It becomes the Oakhanger Stream, then the Oxney Stream until it becomes the River Sleas near Kingsley. This water joins with the Headley Stream where it enters Surrey to flow into the Frensham Wey. The considerable Mesolithic association of the country traversed by the Sleas attaches some importance to the Hampshire Greensand. The distribution map shows several sites along its banks and these integrate with the very extensive network of Mesolithic occupations in West Surrey.

Apart from its peculiar prehistoric association the River Sleas offers an interesting study in river sculpture ; it has a well-developed but rather constricted flood-plain and its steep river cliffs bear witness to the considerable denudation the river has effected since post-glacial times in this corner of the Weald.

Archaeological Background.

There is ample evidence of post-Mesolithic settlements in this region. Barbed and tanged arrowheads, typical of the Bronze Age, occur on the surface and there are numerous round barrows presumably of the same period. Also there are indications of extensive Roman occupation which, undoubtedly, was influenced by the proximity of clay supplies on the Gault outcrop. In the Alice Holt Forest there are two considerable centres of the Roman pottery industry. Roman pottery has been dug at Malthouse Farm, Kingsley. In 1741 a hoard of Roman coins was discovered at Woolmer Pond and in 1867 "a hoard of Roman coins, bronze sword blades and spearheads" was found at Hogmoor as recorded on Ordnance Sheet Hampshire XLIV, N.W.

Mesolithic Sites.

The following sites have been located on the Hampshire Greensand: (1) The Warren, Oakhanger; (2) Trottsford, Sleaford; (3) Kingsley Common; (4) Fir Hill, Kingsley; (5) Shortheath Common; (6) Woolmer and (7) Longmoor.

Of these sites The Warren and Trottsford are the most important—The Warren is the most important site in the Weald. The other sites are recorded as minor evidence of Mesolithic settlement.

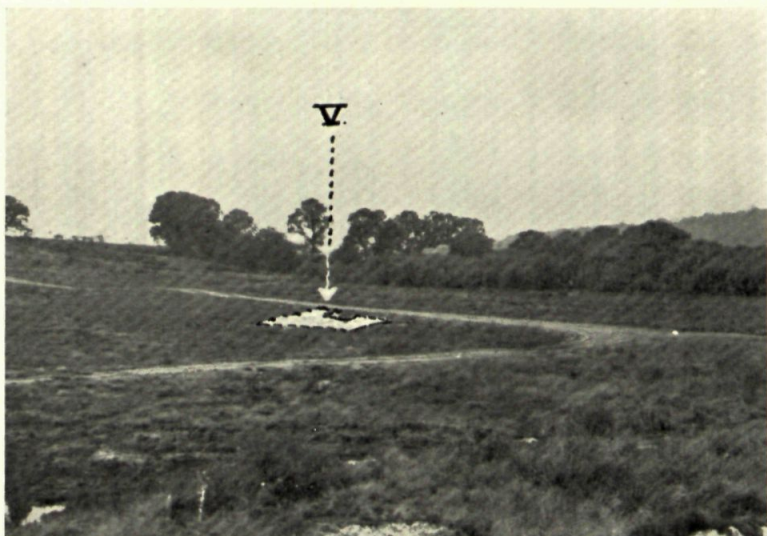
Description of Sites.

- (1) **The Warren, Oakhanger** (Hampshire XXXVI S.W. and XLIV N.W.).

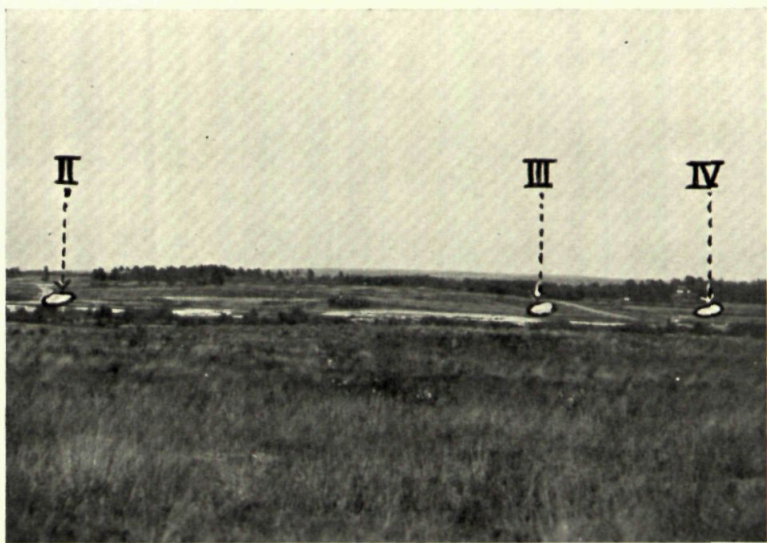
The Warren and the Slab (Fig. 2) form an irregular quadrangular area of heath and marsh, abutting on the Bordon-Oakhanger road. It is dissected by a strong stream which issues from the Oakhanger Ponds to enter the Oxney Stream. This land, which is generally known by the one name Warren, is War Department land and is reserved as a testing ground for tanks and very heavy vehicles. It has never been cultivated and can have changed in contour but little since prehistoric times. Its surface is undulating and exceptionally uneven; the highest point on the west side approaches the 300 contour. (See Plate I.)

In 1950 a chipping floor was observed in the blown-sand deposit capping a sand-pit exposure on the north-east corner of the Slab. This led to a survey of the adjoining area from which much of the heather covering had been removed by vehicular traffic. This survey which eventually was extended to the Warren led to the discovery of six concentrations of Mesolithic flints. In order of discovery these concentrations were named Sites W. I, W. II, W. III, W. IV, W. V and W. VI. Site W. V proved to be of unique importance but all the sites yielded valuable data.

PLATE I.



A. View of the Warren looking South-West showing Site V.
Malm rock hills in distance.



B. View of Slab looking due East from the Warren showing Sites II,
III, and IV. Stream in middle distance. Hindhead ridge in distance.

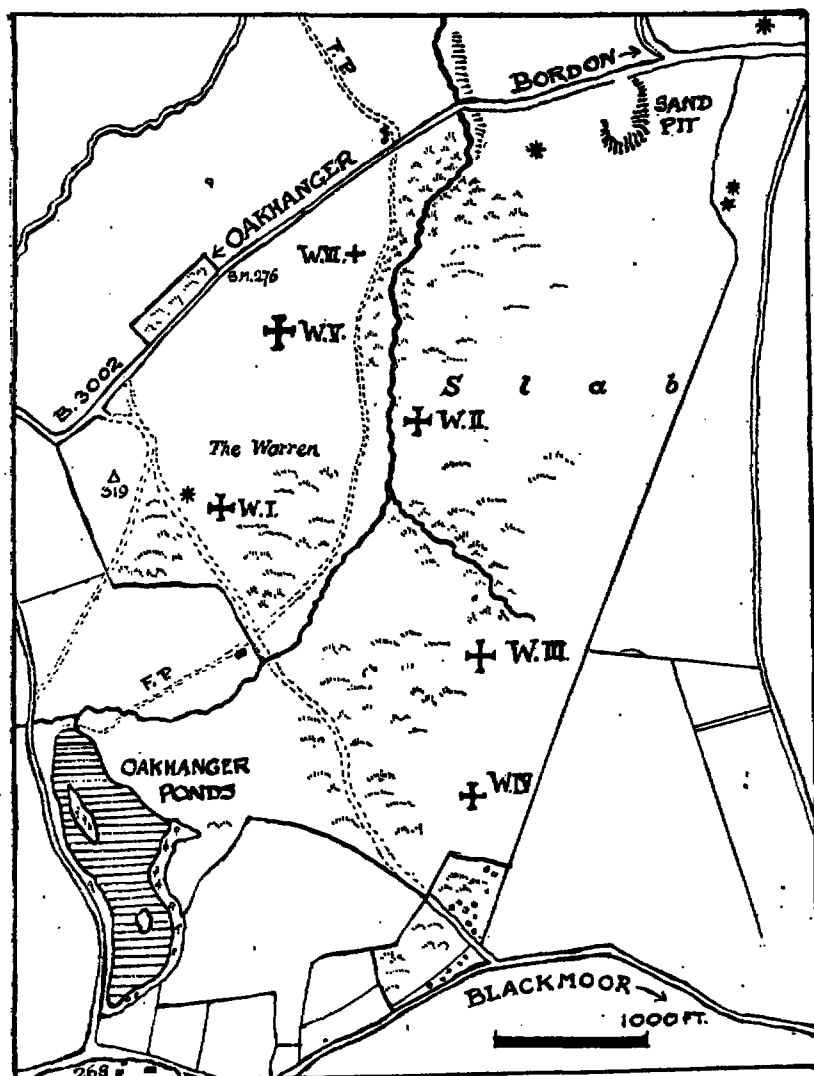


Fig. 2. Mesolithic Sites on the Warren and Slab, Oakhanger
(asterisks represent tumuli.)

(a) **Site W. I** was a restricted surface scatter near the tumulus on the west side of the Warren, but digging failed to reveal a floor. It is noteworthy, however, because it was the only site of the group on which the hollow-based, or Horsham point, was found. (Fig. 3, x). Incidentally, this microlith type has not been recorded elsewhere on the Hampshire Greensand.

(b) **Site W. II** was a line of sites along the eastern bank of the Oakhanger Pond Stream. The sand deposit had been disturbed by tanks and here much Mesolithic material was collected. The flints were scattered around hearths which were indurated and firmly based on an outcrop of fragmented carstone.

(c) **Site W. III** was a chipping floor of great importance ; it was revealed by wind action which had completely removed the blown-sand deposit after the heather mat had been worn away by tanks. The flints were scattered around four hearths. Some 1200 pieces were collected including narrow-blade cores, scrapers, graters, saws and about 50 microliths which were mainly rod-like forms. With them were small fragmented blades with blunted backs. Such forms were not seen on any other site in the group, nor were obliquely blunted points found here. It should be recorded that soon after Site W. III had been recorded it was completely obliterated by tanks.

(d) **Site W. IV** was a minor site in the south-east corner of the Slab on the edge of a marsh. It had been partially uncovered by the usual agency which, eventually, obliterated the site. Obliquely blunted points were found here.

(e) **Site W. V** was located on the north side of the Warren. Its National Grid reference is 41/774356. Here the surface had been deeply furrowed by tanks traversing boggy ground. This furrowing had the effect of squeezing the sand deposit on to the surface. This revealed an unusual concentration of implements and flint wastage. A trial hole revealed a prolific floor. With permission from the appropriate War Department authority a transect excavation was commenced. A transect unit of two feet by two feet was decided upon. The finds from each transect were counted and reserved and from the records a distribution plan of the entire floor was gradually developed. In all 312 transects were cut and from these about 85,000 pieces of flint were taken, including some 3,000 implements. A separate transect count of fire-injured flints was made and this made it possible to locate the hearths of which six were determined in two groups of three each. In some transects the flint density, namely the number of pieces to the square foot, was over 300 ; these density counts were plotted on the distribution plan and so revealed the areas on which the knappers were most active.

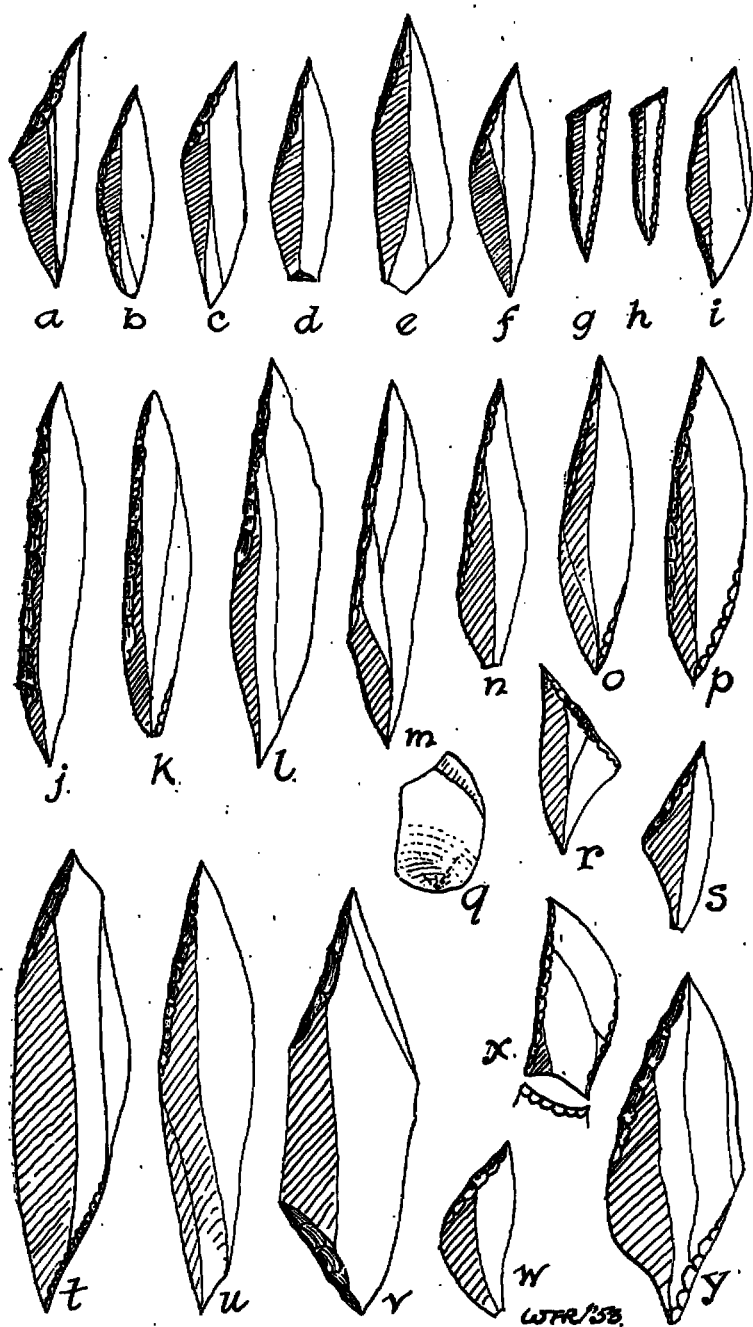


Fig. 3. Microliths from Hampshire Greensand Site. Actual size.

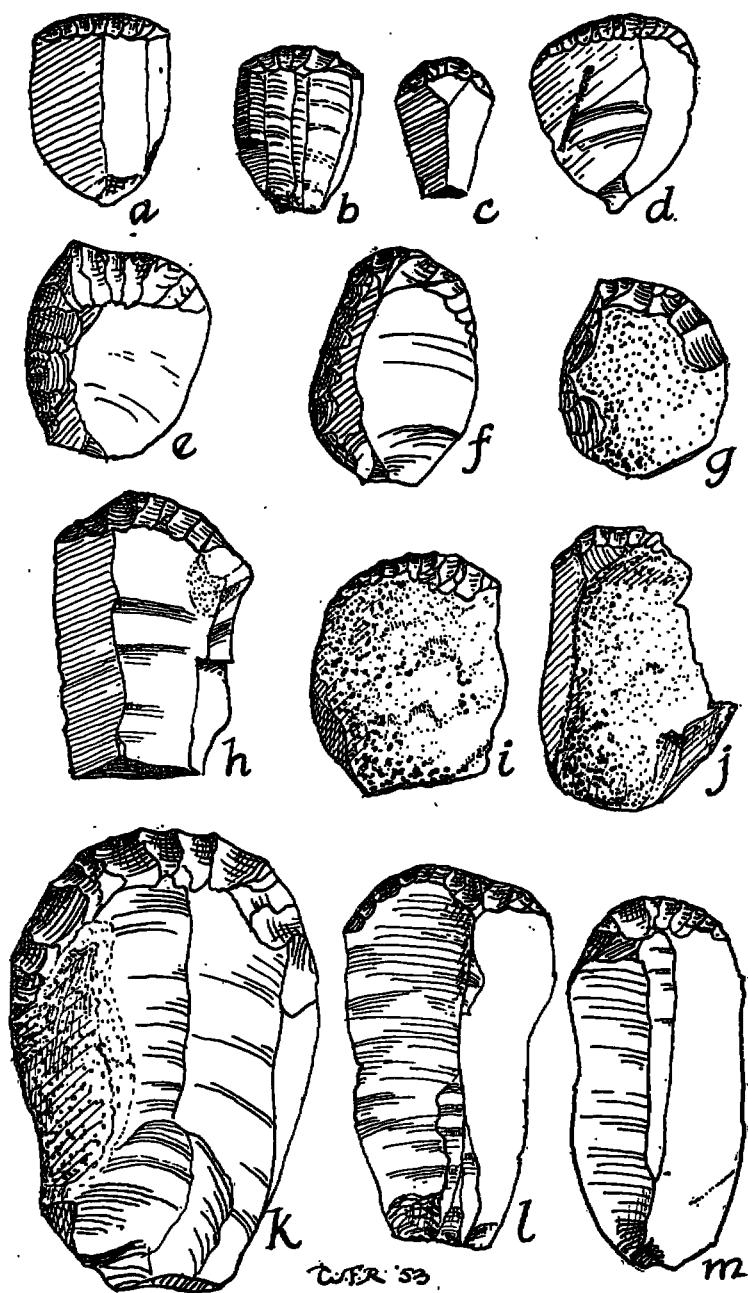


Fig. 4. Scrapers from Hampshire Greensand Site. Actual Size.

The Finds : The implements of flint, which numbered 2,965, consisted of :—

Microliths	-	-	-	1281
Scrapers	-	-	-	1052
Saws	-	-	-	444
Gravers	-	-	-	180
Punches	-	-	-	7
Axe	-	-	-	1

Among the by-products, which were about 85,000 in number, were over 700 cores and nearly 800 core dressings. Nearly 4,000 blades of varying lengths were counted and among these were some 2,000 small, narrow blades expressly flaked for conversion into microliths. A typical example of this type of blade is depicted in Fig. 6, i.

Notes on the Flint Finds.

Microliths.

These consisted almost exclusively of obliquely blunted points (Fig. 3, u) ; there were no sub-triangular forms (Fig. 3, g) and the hollow-based point, or Horsham point (Fig. 3, x) is absent. The points may be broadly grouped as (a) narrow, blunted points (Fig. 3, j), which clearly functioned as missiles—the Mesolithic arrow tip, in fact—and (b) a shorter, broad point blunted at a wider angle (Fig. 3, s) which seems to have been mounted as a barb in a composite implement of harpoon type.

It is noteworthy that about 30 per cent. of the microliths were fractured and that some 25 per cent. of the total were fire-injured. About 300 micro-burins—the bulbar end of the blade rejected in fabricating microliths—were accounted for, which suggests that many of the 1,281 points were not made on the site.

The occurrence of 1,281 microliths in a chipping floor measuring some 140 square yards is remarkable, but still more remarkable is the limited range of the types presented by these points.

Scrapers.

In the writer's previous experience of transect digging the scraper has invariably been the dominating implement type but here we found over 1,000 of them of all types and sizes. The smallest is $\frac{3}{4}$ in. long and the largest 2 $\frac{1}{2}$ in. long. The end scraper, a typical Mesolithic type (Fig. 4, h) dominates and the notched scraper is practically absent. Side scrapers represent about 10 per cent. of the total number.

Saws.

About 60 per cent. of the 444 saws collected are between 1 $\frac{1}{2}$ in. and 2 $\frac{1}{2}$ in. in length. Serration is from 20 to 30 teeth to the inch. The majority are worked on small blades and the squilling of the serrated edge was invariably done from the upper surface of the blade. This assemblage of over 400 serrated implements implies an extensive bone industry.

Gravers.

Excepting one solitary example of the blade graver the 180 gravers are heavy implements of nucleiform type. This kind of graver is ubiquitous on Wealden sites, but, being remarkably non-spectacular, it frequently escapes notice. Some of these gravers have more than one facet (Fig. 5, b). The graver is accepted as a slotting tool and, thus, implies a bone and wood industry.

Tranchet Axe.

It is significant that such a prolific floor should yield but one axe. However, two sharpening flakes (Fig. 5, c) were found, proving that two others were used on the site.

Punches.

Seven flint punches were dug; these are the first to be recorded by the writer. Each of these implements has well abraded ends (Fig. 5, d). It is noteworthy that similar tools have been found on surface sites in the Weald and attributed to the Neolithic period.

Other Finds.**Pebble Tools.**

The most important find was a series of five fragmented pebble tools (Fig. 5, e). These were of non-local material. They were submitted to the Department of Petrography, Geological Survey, for petrological examination, and were identified as siltstones of south-western origin, probably from Cornwall. As implications of folk movement these siltstone pebbles are of prime importance. A series of similar pebbles was found in the Farnham dwelling-pits and these also were identified by the Geological Survey as siltstones of south-western origin. All the pebbles from the Farnham site were complete but the five found on Warren V are broken.

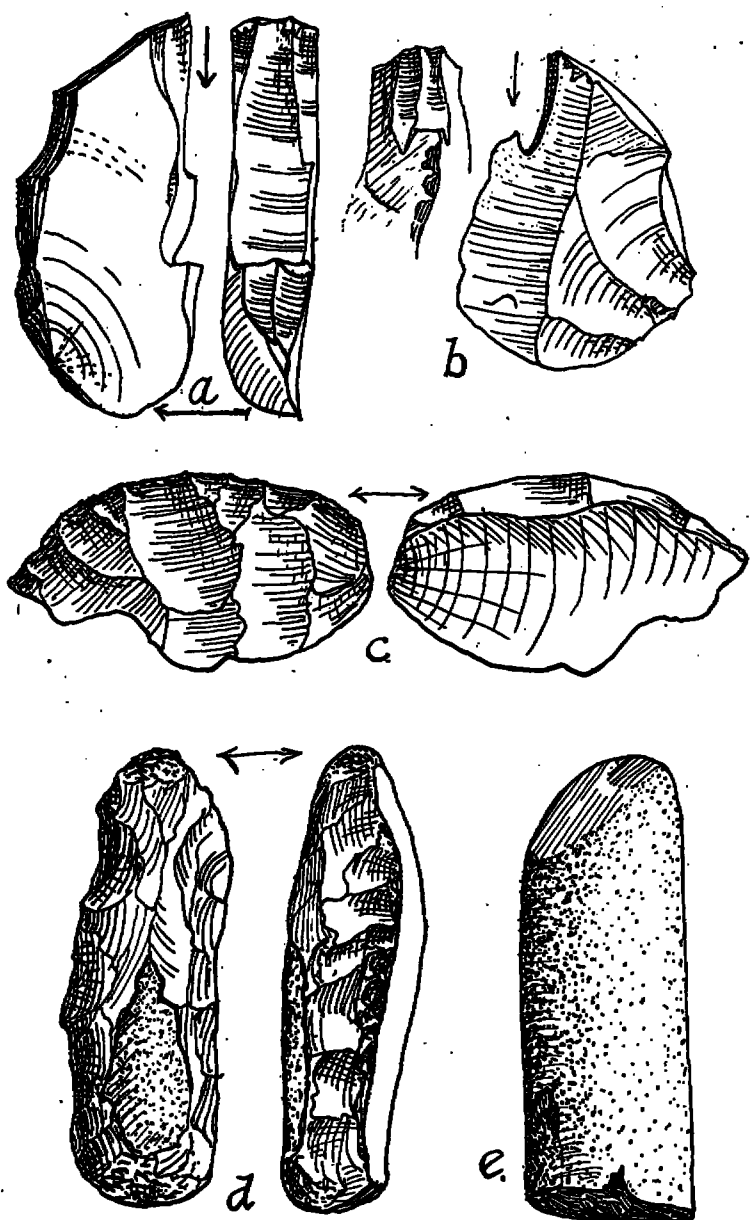
(f) **Site W. VI.** On a slight eminence some 150 yards east of Site V a number of slit trenches were dug by infantry in training at the time of our excavation. At a depth of about 18 inches a chipping floor was exposed resting on the old land surface in a thin deposit of blown-sand. Flints of Mesolithic character were obtained and these showed signs of incipient patination. All the flints taken from the other five sites were unpatinated.

(2) **Trottsford, Sleaford.** (300 O.D. Hampshire XXXVI S.E. and Surrey XXXVII.)

A group of sites was located here on a slightly undulating plateau near the 300 contour. On the western side is a cliff cut by the River Slea. The highest point of the plateau, immediately above a large sand-pit, commands an all-round view. Just east of north, about two miles away, there is a gap in the Binstead malm-rock ridge which was cut by the ancient Headley-Crondall river,² a consequent stream which drained the Wealden dome in Pleistocene times. Through this gap one gets a view of the Bentley country and the nearest chalk outcrop. Eastward stretches the Alice Holt Forest over the Gault outcrop. Five miles south-west looms the Selborne malm-rock promontory and five miles south-east is the Hindhead ridge. Kingsley village is about a mile to the west.

This plateau is dissected by a sunken road which leads from the Portsmouth road to Frensham. The northern half belongs to Trottsford Farm and the southern part is on War Department land and its surface was much eroded during the war.

2. "A Survey of the Prehistory of the Farnham District," *Surrey Arch. Colls.*, 1939, p. 12.



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Fig. 5. Gravers, Sharpening flake, punch and pebble tool. Actual size.

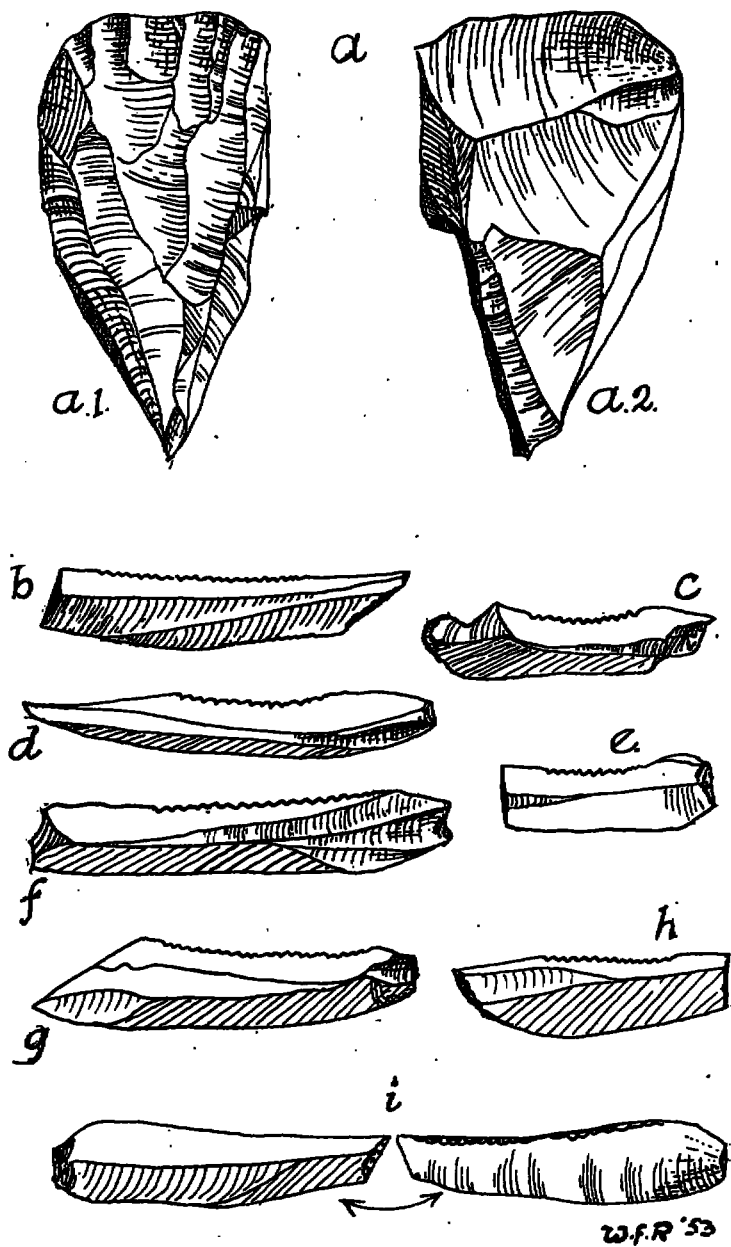


Fig. 6. Tranchet-axe, saws and knife blade. Actual size.

Mesolithic flakes were observed here by the writer as far back as 1926. After several trial holes had been dug near a scatter of flint on a trackway, on the Trottsford land, a site was located in a deep deposit of blown sand. An area of three yards by four yards was transected with the object of determining the nature of the deposit and the disposition of the flints. A transect of one yard by one yard was adopted and some interesting data were obtained. The deposit varied from one foot to two feet in thickness and a hard pan was found at about one foot. The flints were disposed horizontally in a zone about six inches thick which implies that the deposit was accumulating during the occupation of the site. About 200 pieces of flint were dug with much fire-injured flint. The assemblage consisted of seven narrow-blade cores, two microliths, both blunted points, and two end scrapers (Fig 4, i and j), two micro-burins and numerous small microlith blades with several long blades showing signs of usage.

Search for other sites was defeated by the dense heather but in 1948 the area of about five acres was ploughed for the first time and revealed three large chipping floors. The flints from these floors were collected regularly. They were unpatinated and in mint condition. Microliths, saws, scrapers, graters and numerous cores were obtained. Blades were numerous. A flint punch (Fig. 5, d) was found resembling the type described from Warren V. It is noteworthy that one of the punches from that site appears to have been made by the maker of the Trottsford specimen and the sites are three miles apart. A small transect axe (Fig. 6, a) was found and also a sharpening flake. One well-used pebble rubber was ploughed up. It was examined and cut at the Geological Survey and found to be of local Bargate stone.

On the War Department sector of the plateau, chipping floors had been churned up by heavy vehicles and eventually obliterated.

Plateaux with commanding views were frequently occupied by the Mesolithic people. Fir Hill, near Kingsley, is another example of this type of site and there are many others along the Wey in West Surrey.

(3) Kingsley Common. (Hampshire Sheet XXXVI S.W.)

Dense scatters of Mesolithic debris were at one time observable along the main track on Kingsley Common, but most of the flints have now been collected. On Potter's Field, Malthouse Farm, which is close by, a small transect was found by the writer; it is now in Alton Museum.

(4) Fir Hill, Kingsley. (Hampshire Sheet XXXVI S.W.)

Here a large chipping floor was obliterated by heavy vehicles in training. The site was based on a small plateau above a river cliff as in the case of the site at Trottsford. The heather and blown-sand deposit were removed completely exposing the bright

orange sands of the hill top which made a striking landmark for three or four years until a heather capture commenced to re-clothe the plateau.

Mesolithic debris was scattered widely ; a tranche axe and sub-triangular microliths (Fig. 3, g and h) were salvaged with other flints. This is the only East Hampshire site from which sub-triangles have been recorded.

(5) **Shortheath Common.** (Hampshire Sheet XXXVI S.W.)

Between the pond and Oakhanger village there is an area covered with dunes or hummocks of blown sand. Near the pond and immediately south of it, a gun pit was sunk in a very large dune and revealed unusual quantities of fire-injured flint. The base of the pit was dug into and a large hearth containing Mesolithic flints was found. This hearth was about three feet below the surface of the dune ; therefore the sand above the hearth level had accumulated since Mesolithic times. This discovery suggests that there may be Mesolithic floors in the vicinity hidden two or three feet below the surface.

(6) **Woolmer.** (Hampshire Sheet XLIV S.W.)

A Mesolithic site at Woolmer is mentioned in *The Mesolithic Age in Britain*.³ The marshy margins of the pond and its strict enclosure make it difficult to survey the area in detail. However, just south of Regency House, some concentrations of flint were found ; these consisted exclusively of the small blades, already described as primaries used in making microliths. They were flaked from yellowish gravel flint. Similar small concentrations have been observed in West Surrey and appear to mark spots where microliths were made away from occupation sites. Between Woolmer and Blackmoor a very large graver was found on a small ploughed field.

(7) **Longmoor.** (Hampshire Sheet XLIV S.W.)

This site was situated on the highest part of Longmoor Enclosure at a height of about 300 feet and about 500 yards east of Palmers Ball. It was located by Mrs. Martell of Liphook who very kindly showed the writer over the ground. The floor was revealed by bulldozers when the land was being levelled for military purposes and although the site was partially obliterated Mrs. Martell succeeded in salvaging an appreciable quantity of Mesolithic flint work. The discovery of this floor emphasises the need for a survey of the surrounding surface which, however, is closely masked by heather.

[Since the above was written the finding of a tranche axe on a housing estate at Gunn's Farm, Liphook, has been reported by Mr. John Clegg of Haslemere Educational Museum (Jan. 1954).—W.F.R.]

3. Grahame Clark, *The Mesolithic Age in Britain*, 1932, p. 73.

Explanation of Figures.

Fig. 3.

Microliths from Hampshire Greensand Sites. Actual size. *a* to *f*, single points, Clark's Form A, Trottsford; *g* and *h*, sub-triangles, Clark's Form D, Fir Hill; *i*, unfinished double point, Clark's Form C, Trottsford; *j* to *n*, single points, Warren V; *o* and *p*, double points, Clark's Form C, Warren V; *q*, micro-burin; *r*, *s* and *w*, single points of barb type, Trottsford; *t*, *u* and *v*, large points, Warren V; *x*, hollow-based point or Horsham point, Clark's Form F, Warren I; *y*, large double point, Warren V.

Fig. 4.

Scrapers. Actual size. *a*, *b* and *d*, small end scrapers, Warren V; *c*, end scraper without bulb, Warren V; *e*, *f* and *g*, two-sided convex scrapers, Warren V; *i* and *j*, end scrapers on blades with cortex, Trottsford; *k*, large convex scraper, Trottsford; *l* and *m*, large end scrapers on blades, Warren V.

Fig. 5.

Gravers, sharpening flake, punch and pebble tool. Actual size. *a*, nuclei-form graver, Trottsford; *b*, nuclei-form graver, Warren III; *c*, tranchet sharpening flake, Trottsford; *d*, flint punch, Trottsford; *e*, siltstone pebble rubber, Warren V.

Fig. 6.

Tranchet and serrated blades. Actual size. *a*, small transversely sharpened axe, Trottsford; *a* 1 shows longitudinal flaking from cutting edge and *a* 2 the transverse sharpening flake bed; *b*, *c*, *d*, *e*, *f*, *g* and *h*, small serrated blades or saws, Warren V; *i*, two aspects of an obliquely truncated small blade with one edge trimmed for use.

Flint Material Used on the Sites.

The flint used for implement making on the East Hampshire sites consisted of:—

- (A) Black outcrop flint in small quantities.
- (B) Clear black flint with thick porous cortex much frost-pitted. Old fractures show lustre and it is much pot-lidded. This flint contains red inclusions as lines, smears and festoons.
- (C) Brownish-yellow flint also with frost-pitted, thick cortex. Both (B) and (C) seem to have derived from an ancient gravel; both were remarkable for their good flaking quality. Most of the microliths were made from such flint.

The nearest outcrop from which flint could have been taken is three miles away.

Conclusion.

This survey of the Hampshire Greensand has been carried out so far as exposed surfaces would permit but, undoubtedly, there are more sites, and probably equally important ones, awaiting discovery and investigation. For instance, by analogy with the country traversed by the River Slea, the valley of the Headley Stream could hardly have been overlooked by the Mesolithic foragers but the terrain is not easy of access to-day.

The Hampshire Greensand system of Mesolithic sites integrates with the widespread network of West Surrey occupations which are mainly based on the River Wey and its rivulet tributaries. Also, it would seem to link up with the Rother system over the Sussex border, but little has been written about that sector of the Weald. In this connection the country between Liss Forest and the Sussex border, which at present offers very limited opportunity for exploration, should eventually contribute some important evidence of Mesolithic occupation.

EDITORIAL.

THE Editor regrets the delay before the appearance of this volume, brought about by unforeseen circumstances in the printing of this Part. The next part of *Proceedings* goes to press on December 31st, 1953. Contributions intended for publication after 1954 should be sent to the Hon. Editor, 10 The Close, Winchester. Incomplete contributions, for example those with maps to follow, cannot be accepted, and contributors whose work is likely to need many illustrations or plans are strongly advised to consult with the Editor before deciding on the final form of their contribution.

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