

The first serious contribution to Surrey mesolithic literature was made by Dr. Wilfrid Hooper, of Redhill, in 1933 (7). He followed up a line of occupation sites across the country from west to east and over the border into Kent.

Then came the discovery of the important Pit-Dwelling Village at Farnham and the two excavations of 1937 and 1938, under the direction of Dr. Grahame Clark, brought to light a complete assembly of mesolithic flint work for the first time in this country. Thus the unique importance of West Surrey as a mesolithic region was established.

II. THE MESOLITHIC OCCUPATION OF THE GREENSAND

“Life in prehistoric Britain was moulded more by the exigencies of the food quest than by any other factor.”—GRAHAME CLARK.

The mesolithic occupation of West Surrey, as of the Weald generally, was in no way a haphazard or fortuitous happening. It was the outcome of natural causation, influenced and decided by a fortunate mingling of favourable geological and topographical factors. These factors combined to provide comparatively comfortable, if not genial, living conditions for a food-gathering people—conditions which, at any rate, made existence at least possible for them. Briefly, the geological factor provided unlimited stores of flint and well drained soils which favourably influenced ecological conditions. Topographical variety provided hills, streams, and an easy terrain. Each factor in itself contributed in some measure to ensure an optimum economic background both for animal life and for the nomads who pursued it, and, over and above all, the geological factor provided flint in profusion to be fashioned into the implements which made that pursuit profitable.

(1) THE GEOLOGY OF WEST SURREY AND ITS INFLUENCE ON SETTLEMENT

Before the main features of the mesolithic settlement in West Surrey can be adequately appreciated, some acquaintance with the geology of the region is essential.

The main feature of the geology of West Surrey is a continuous outcrop of chalk running east and west, measuring about one hundred yards in width at Farnham and widening to three miles near Horsley. Inconspicuous in the Farnham region, this chalk ridge gradually swells into fairly high downland towards the east where its scarp dominates the scenery. Between Farnham and Guildford the highest point reached by the outcrop is 505ft.; near Dorking, and to the west of it, Hackhurst Downs stand 733ft. above sea level.

The upper beds of this chalk ridge contain layers of flint either in nodular or tabular form, and, the beds being well inclined to the north, these flint layers are much exposed on the surface. This outcrop, with its maximum exposure of flint, was the main reason for the mesolithic settlement just as it attracted the flint-using people in palaeolithic, neolithic, and to a lesser degree in Bronze Age times. On this chalk outcrop the mesolithic folk had easy access to unlimited supplies of good raw flint material which provided them with the implements that ensured their existence. How they discovered this belt of flint-bearing outcrop we do not know; they came upon it in their wanderings into the Weald probably before the land bridge collapsed and they maintained contact with it all along the inner margin of the North and South Downs. For them it was a veritable flint craftsman's paradise. Moreover, these rich flint supplies were close to good hunting grounds—the well-drained lands of the greensand proper—and, near at hand, were ample supplies of water which attracted game. Over this outcrop,

(7) Hooper, *The Pigmy Industries of Surrey, S.A.C.*, vol. XLI (1933).

measuring many square miles, flint nodules could be collected at will, with ease and discernment. If ever there was a need to delve below the surface in search of a fresher flint, then the operation would have presented very little difficulty to a people who could scoop dwelling pits out of gravel spreads. And, as has been stated before, the outcrop ran side by side with the hunting grounds.

It is interesting to note that in the west, in the Farnham area, the outcrop was exposed on gentle slopes of no great height, unlike the steeply rising scarp of the Downs near Dorking. Thus flint was more easily accessible along the lowest exposures at Badshot, near which we find a maximum of settlement.

North of the chalk belt are the Eocene deposits which, for our discussion, are simply clays and sands yielding pervious or impervious soils. Southward, neglecting an insignificant strip of Gau't clay, are the Lower Greensands—the Folkestone and Hythe Beds—which underlie the heathlands. South of them is the tenacious Wealden clay. (See map).

In some localities the outcrops we have detailed are concealed by overlying deposits. To the west of Farnham on the Hampshire border the chalk, which is very wide there, is masked by clay deposits containing degenerate flint. Around the Bourne Mill spring, the focus of the Pit-Dwelling Settlement, the chalk is concealed by a spread of gravel which, however, afforded the settlers good knapping material. Also, between Guildford and Dorking further masking is effected by the Netley Heath deposits which overlie the chalk. North of the chalk outcrop in the Farnham region are the Caesar's Camp gravels which overlie Eocene sands. The mesolithic settlers at Heath Brow and other sites, obtained some excellent flaking material from these ancient gravels.

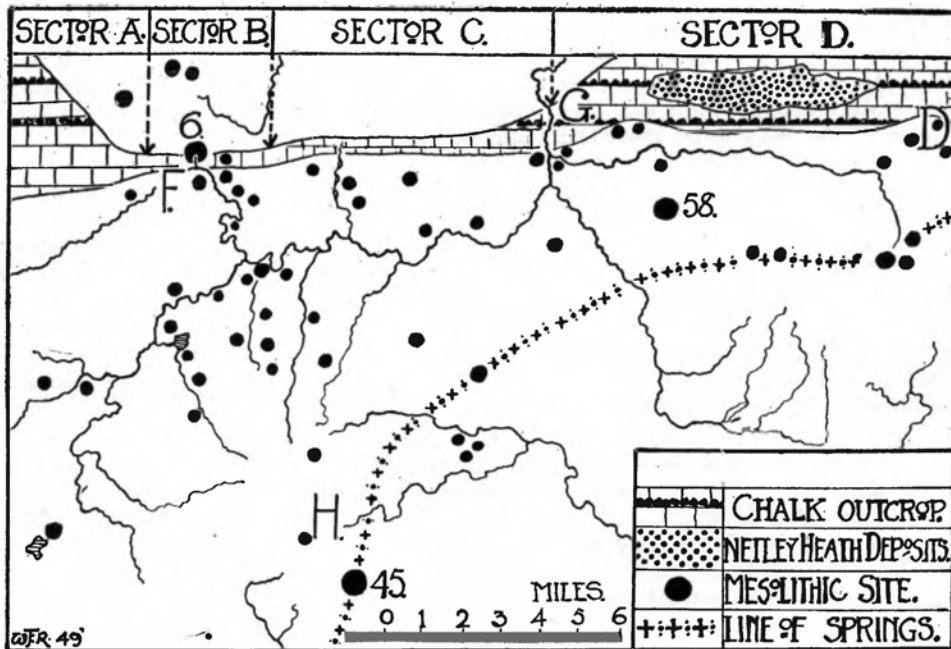


Fig. 1.—MAP OF WEST SURREY

Showing relation of intensity of settlement to the chalk outcrop, rivers and springs. The positions of Farnham, Guildford, Dorking and Haslemere are indicated by F, G, D and H; the Farnham Pit-Dwellings, Blackdown and Blackheath sites are indicated by 6, 45 and 58 respectively. The line of springs coincides with the junction of the Hythe Beds and Atherfield Clay.

The importance of the altitude of the scarp and degree of slope of the chalk outcrop as factors in affecting the accessibility of its flint, has already been referred to. The relation of these factors to the intensity of settlement is made clearer by a brief regional survey of the outcrop which varies in certain features throughout its length. For this purpose the chalk outcrop, which in West Surrey is some twenty odd miles in length, may, for convenience, be divided into the four following sectors:—

- (a) Hampshire - Surrey border Sector.
- (b) Farnham Sector.
- (c) Hog's Back Sector.
- (d) Wey-Mole Sector.

The upper chalk beds which are rich in flint are present in each of these sectors, but it will be seen that the degree of accessibility to the flint varied considerably. See Map, Fig. 1.

CHALK OUTCROP REGIONS

(a) Hampshire - Surrey Border (three miles)

This lies directly west of Farnham and here the chalk outcrop widens considerably to the westward, reaching one and a half miles in width at Crondall. Clay deposits with flints mask the extensive areas of the chalk. Nodules of this flint, which is degenerate in quality and has a very thick cortex, are littered all over the tilled surface. The writer found raw material of this character in chipping floors on a Kingsley site lying southward of this sector. The strip of Gault outcrop, which flanks the southern edge of the chalk, widens considerably to the westward, and this feature may have been a deterring factor with regard to obtaining flint supplies in this region. An important group of sites lies immediately south of this sector in the Bordon - Kingsley district, but possibly these sites depended on the Alton chalk for good flint. This sector is not well watered; the Wey flows eastward south of it.

(b) Farnham Sector. Crondall Lane to Runfold (2½ miles).

In this sector the chalk outcrop is remarkably narrow and stands at about 300ft. O.D. Under Farnham Castle it is at minimum width, and except for a miniature Hog's Back, on which is now aligned the Park avenue, it presents no very conspicuous feature. Throughout the Farnham valley, immediately south of this sector, there is ample evidence of an intense mesolithic occupation, despite the fact that the area is built over. This occupation was undoubtedly influenced by easy accessibility to the flint outcrop and nearness of the Wey stream.

Here the chalk beds are much faulted, and on the east side of Farnham Park the outcrop is completely obscured by the Old Blackwater gravels. East of the gravel spread the chalk emerges in a humpy prominence at Badshot. This boss of chalk is 300ft. above sea level and its surface is littered with flint. The writer considers that this area was the most important source of flint in the whole length of the West Surrey outcrop, and the nearby spring aided its exploitation in mesolithic times.

(c) Hog's Back Sector. Runfold to Guildford (eight miles).

This sector is about eight miles in length. The chalk ridge rises to the eastward to about 505ft. above sea level. Throughout the line of the exposure the beds are tilted to the north which tends to expose a maximum of flint. In the

Old Victory Inn chalk pit there is a maximum tilt of 55 degrees. Water supplies along the outcrop and its flanks are scanty. There are springs at Wanborough on the north of this sector. (8)

(d) *The Wey-Mole Sector* (eight miles)

The chalk outcrop between the Wey gap and that of the Mole is a very conspicuous feature; its prominent escarpment rises gradually to the east reaching 733ft. above sea level in Hackhurst Downs. Eastward from Merrow the upper chalk beds are obscured by the Netley Heath deposits. (9) Traces of mesolithic sites along the Lower Greensand fringe indicate that flint was derived from the outcrop, but apparently not so extensively as in the Farnham or Hog's Back sectors. Except for the two rivers, water supplies are restricted. The outcrop continues eastward of Dorking.

CONCLUSIONS

Accessible flint, proximity to the living space (the greensand area) and supplies of good water were the three important factors which influenced settlement, and comparing the physical features of the four outcrop sectors, as detailed in the foregoing section, with special reference to these factors we see that:—

Sector *a* offered some flint of inferior quality, namely, the flint occurring in the clay overlay which obscures the outcrop to a great extent; it was not well watered, and was separated from the greensand by a fairly wide clay outcrop.

Sector *b* offered unlimited flint which could be gathered easily, and it was exceptionally well watered; also it opened immediately on to the greensand by way of the Waverley river corridor.

Sector *c* presented good flint supplies throughout its length, and it was contiguous to the hunting grounds, but it was not rich in water supplies.

Sector *d* was much obscured by deposits and had steep scarps. Excepting important waterways at its extremities it commanded moderate water supplies.

In conclusion, reference to map, Fig. 1, will show that intensity of settlement is greatest on the greensand immediately south of Sector *b* where the optimum combination of the three salient factors obtained.

(2) THE TOPOGRAPHY OF WEST SURREY AND ITS INFLUENCE ON SETTLEMENT

The influence of topography on mesolithic settlement, although secondary to that of the geological factor, was considerable. While the flint-bearing outcrop contributed valuable material for the implements so essential to existence, the varied topography of the region provided the nomads with an easy terrain for a living area. Springs assured generous supplies of water, and when they were contiguous to the flint outcrop, they became extremely important as centres of settlement. Streams held supplies of fish for the catching and the lands they watered became the haunts of game, and consequently fruitful hunting grounds. The larger streams, too, were probably convenient ways of transit through a trackless country. They were of greater volume in mesolithic times than now, and dug-out canoes may have been used. And all over the greensand tract stretched an undulating terrain relieved, here and there, by hills which sometimes

(8) Lasham recorded the presence of much flaked flint around these springs. *S.A.C.*, vol. XI, 1893.

(9) The Netley Heath deposits are gravels. See Memoir 285, Geological Survey.

served as sites of some strategic value. Hills such as Leith Hill, Crooksbury and Blackdown; tracts of water, the ancestors of some of the ponds north of the Hindhead foothills; rivers such as the Wey, Frensham Wey and Mole; springs such as the Bourne Mill stream-head, Vanmoor and Blackdown—all blended into a complexity of topographical features, each of which, in some measure, influenced the mesolithic nomad to settle for a season, or rest for a time while on a foray.

(3) LIFE ON THE GREENSAND

The mesolithic people lived on the greensand in the strict sense that they derived their entire sustenance from the resources of their living-space by hunting, fishing and gathering vegetable food. The countryside fed them and, since there was no agriculture, existence depended directly, and undoubtedly at times precariously, upon successful continuous foraging which could only be conducted over land sufficiently fertile to support game and produce edible foods in an appreciable quantity. Unsuccessful foraging ended, inevitably and ruthlessly, in starvation and extinction; hence there could be no tarrying in a sterile region.

Several thousand years have elapsed since the food-gatherers scoured the greensand area which, in contour and surface pattern, has probably changed but little, except as regards its vegetative covering, the transformation effected by agricultural developments, and afforestation. With some conjectural aid we may recall the outlines of the mesolithic landscape—the bare chalk escarpment with scrub on its lower slopes enriched by down-wash soil—the rivers and streams, larger than now, flowing through reed-flats where meadows now dominate—barren, sandy wastes now the heathlands, miniature steppes, relieved, here and there, by patches of scrub rising on the hill slopes to meet the skyline. What supplies could such a terrain offer the mesolithic nomads?

Unfortunately, in the floors of the mesolithic camping sites, although the flint that was used in them has persisted, no bones have been preserved; hence we have no direct evidence of the animal food then available on the greensand. But the fact that the nomads *did* hunt through the West Surrey terrain postulates the contemporary presence of game. The books tell us that there were red deer, aurochs and wild pig; also, presumably, there were the smaller mammals such as the otter, badger, and voles, although the rabbit had not yet arrived. Fish, undoubtedly, figured largely in the mesolithic diet and, perhaps, the small flint points, which the nomads prepared, had something to do with fishing. The larger ponds could have provided fish in profusion, and eels particularly. And the probability that land mollusca was collected cannot altogether be dismissed.

Today, along the northern margin of the Hindhead foot-hills, there are some insignificant ponds such as the Moat at Thursley which, judged by their marshy surroundings, appear to be receding. These ponds are the legacies of post-glacial thaw waters, and, in mesolithic times, were much larger than now. Most probably they were seasonal haunts of wild fowl which, in flesh and eggs, would attract the attention of hunters. Thus there must have been great activity where streams and springs attracted game. Sharing in that (10) activity, and in the food accruing therefrom, was the dog, although we have no local archæological evidence to support the assumption.

We have no knowledge of the vegetable foods available in that period, but fruits such as the blackberry and hazel must have been gathered in their season. The discovery of carbonised hazel nut shells (11) in the Farnham dwelling-pit hearths is in itself sufficient testimony to effective mesolithic foraging, and the presence of oak wood charcoal in the same context suggests that acorns might well have been, in their season, a basic food. Yet despite the many gaps in our knowledge of the variety of animal and vegetable food, it would seem that the settlers maintained their virility amidst austere circumstances.

(10) Bones of dogs have been recorded from mesolithic sites on the Continent.

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