

V. THE INVESTIGATION OF MESOLITHIC CHIPPING FLOORS BY THE TRANSECT METHOD

Fortunately for the student of the mesolithic flint industry, chipping floors of the period have been preserved intact on the heathlands of the greensand where they occur in wind-blown deposits. A discussion of these deposits and their important climatic implications will be found in Volume 50 (43) of our Collections. Briefly, it may be stated here that they are a geological formation (44), indicative of dry climatic conditions, which prevailed before the Atlantic (45) climatic phase set in as a consequence of the separation of this country from the Continent.

Since the chipping floors are sealed in by the wind-blown sand, we infer that the dry climatic conditions referred to, were contemporary with mesolithic occupation. If this inference is correct, then it would appear that the mesolithic occupation was much earlier than is usually accepted. However, further research, undertaken by geologist and prehistorian in co-operation, should throw some light on this interesting problem.

The carstone *dreikanter*, or wind-faceted ironstone pebble, figures in the study of wind-blown sand deposits; it is common all over the greensand where ironstone beds occur naturally and owe their polished facets to the same wind action which accumulated the deposits. It is necessary to mention the *dreikanter* because of its appearance in mesolithic chipping floors, or more correctly, in the sand deposits in which the floors are found.

Sometimes the floors are deep-seated in the deposits, or they may lie near, or at, the surface. Except in the latter instance it is not easy to locate a floor; flakes on the surface usually indicate an upper level floor, and the deep-seated floors are usually discovered by chance, such as a rabbit "scrape" or an exposed section. When located the most satisfactory method of investigation is by the transect method, which is described in detail in Volume 50 of Collections, page 3. Briefly, a superficial unit is decided upon and the area transected; the unit depends on the depth of the deposit; each unit is dug out and the flints retained after the sand has been returned. Thus a scale plan of the site is developed and the distribution of the implements determined. In addition, the industrial activity of the occupants of the site may be inferred from the implement types recovered. With transect digging it is possible to obtain maximum data. Indiscriminate digging for microliths or "nice things," as one vandal once put it, results in "hogging" the site.

Transect digging takes time, and that fact explains the comparative brevity of the following account.

TRANSECT DIGGING

KETTLEBURY I. (Site 20).

Although referred to as Kettlebury, this site lies about 1,000 yards west of the hill which bears that name locally; it is south of Gold Hill and its exact position may be ascertained on O.S. Surrey, sheet XXXVII, N.E.; $5\frac{1}{2}$ in. from left inner margin and $\frac{5}{8}$ in. from bottom inner margin. The site lies above the 300 contour on a steep hillside facing south, and immediately below it is a small stream.

(43) Rankine, *Mesolithic Chipping Floors in Wind-blown Deposits of West Surrey, S.A.C.*, vol. L (1949).

(44) Edmunds and Dines, *Geological Survey, Memoir 285* (1929), p. 144.

(45) Stamp, *Britain's Structure and Scenery*, Collins, 1946, p. 157, 169.

This site was investigated in the summer and autumn of 1936 by the courtesy of the late Major A. J. West and the sanction of the War Office. In the previous year the area had been swept by a devastating fire which destroyed the heather and a plantation of young conifers. The planting of these trees had brought flakes to the surface. A series of trial holes was opened and a floor was located.

The flints were found thinly dispersed throughout a blown-sand deposit varying from 1ft. to 3ft. in depth; below the deposit is the Lower Greensand. Small wind-faceted carstone pebbles occur in the deposit and larger ones at its base where, also, a hard "pan" (46) is found.

The objects of the investigation were:—

- (1) to determine the relation of the chipping floor to the deposit containing it;
- (2) to plot a distribution plan of noteworthy finds; and
- (3) to determine the industrial significance of the implements found, and so discover the activity of the folk-group who used the site.

With regard to (1) little can be added to our experience in floors in other deposits; the floor was not on one level and the flints occurred irregularly as regards depth, but, generally, were deep-seated.

Fig. 14 represents the distribution of the finds in the floor. A transect unit of 2ft. by 2ft. was adopted. Implements, cores, large and small flakes, and fire-injured flints were recorded from each transect unit, and every piece taken from the sieve was counted. In this way the intensity of flaking, and the hearth areas were determined.

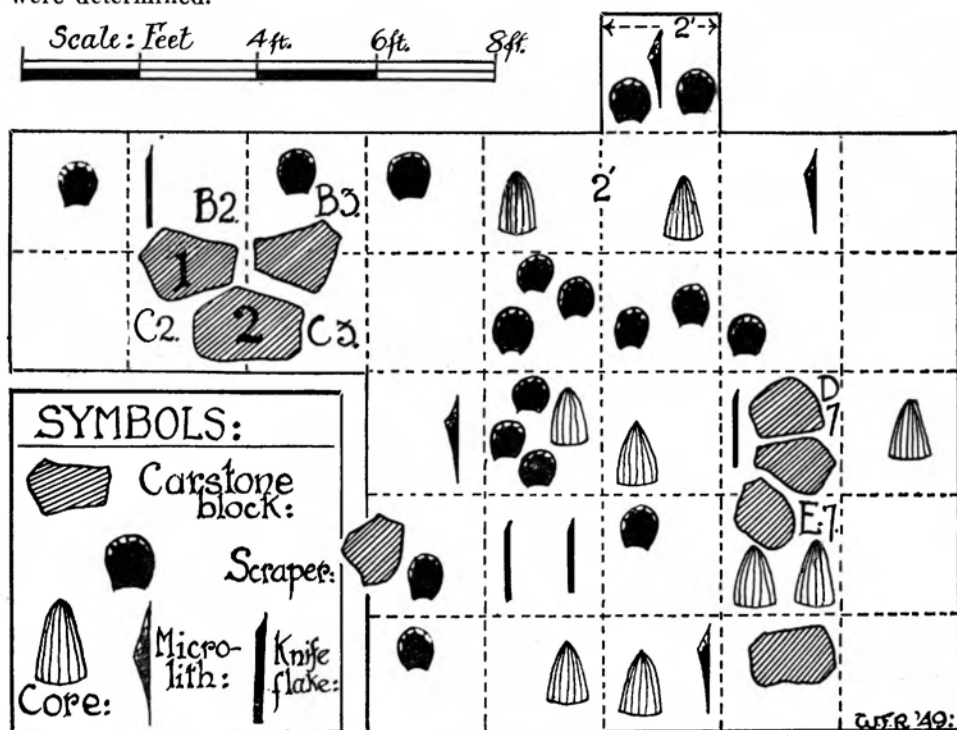


Fig. 14.—TRANSECT PLAN OF KETTLEBURY I SITE

Showing distribution of Cores, Microliths, Scrapers, Knife Blades and Carstone Blocks. The Carstones only have any relation to the scale. Transects B2, B3, C2, C3, D7, and E7 are specified only for purpose of reference to Carstones.

(46) Deposit of iron salts caused by water percolating from the soil surface.

The Finds

These included 381 pieces of flint. Among them were:—18 convex scrapers; 4 good knife flakes; 4 microliths; 8 narrow-blade cores; 30 large flakes, mostly utilised; core trimmings; and 315 smaller flakes among which were numerous microlith primaries and 2 basal rejects; 30 pieces were fire-injured.

Of the four microliths, two had broken points, three were Clark's type A, and the fourth was type C.

The distribution plan shows objects other than flint; they are blocks of carstone which occurred in two groups. One group, found in transects B 2, 3 and C 2, 3, occurred at a depth of 18in.; there were three blocks—number 1 measured 12in. by 6in. by 3in., and number 2 was 12in. by 9in. by 3in., and *below* the latter fire-injured flakes were found. There was much flint debris around this group of carstones. Another group was found in transects D7 and E7, and here again fired flint occurred *below* the blocks. The greatest concentration of flint debris occurred around this group.

A similar arrangement of carstone groups, with flint flakes below them, was found in a section of blown-sand deposit containing a mesolithic chipping floor on the summit of Crooksbury Hill. Clearly these blocks were placed in position by human agency and, apparently, were arranged on the ancient land surface.

The flint finds throw some light on the industry of the folk who used the site. Scrapers are dominant. The eight narrow-blade cores were well flaked and there were many microlith primaries, but since only four microliths and two basal rejects were recovered it would appear that microlith making was not being carried on intensively. Kettlebury I was evidently a hunters' camp and was not occupied for very long.

KETTLEBURY II. (Site 20)

This site was located, after much trialling, some 200 yards eastward of Site I, just above the 300 contour. The deposit was identical with that encountered in the previous dig; it contained many small, wind-faceted carstone pebbles. The implement yield was completely different from the types found in Site I.

Some 50 square feet of the surface was dug, but it was not possible, unfortunately, to complete the investigation. About 1,600 pieces of flint were counted and among these were:—41 microliths; 37 bulbar rejects; 13 narrow-blade cores; 3 convex scrapers; 1 obliquely truncated blade; 2 blunted points (microlith points with bulb intact); 270 large flakes; and 1,190 small pieces, including many microlith primaries. About 200 pieces were fire-injured, approximately 12% of the total.

Compared with the implements recovered from Site I this record is instructive; it clearly indicates intensive microlith production. The thirteen microlith cores are significant. The close agreement of the microlith and basal rejects counts is noteworthy, and the presence of specialised microlith forms—triangles and Horsham points—is also significant. Again, the microliths were perfect while the four points obtained from Site I included two broken specimens. Site II was, without doubt, a hunting camp, and it is remarkable that 200 yards separated two folk-groups engaged in different ways; on both sites the flints were unpatinated, from which it may be inferred that they were occupied about the same time.

Groups of carstones with flint flakes below them were found at a depth of two feet.

LION'S MOUTH I. (Site 18)

This site lies in a saucer-like depression between two ridges which run north from Kettlebury Hill. It is one mile north-east of Kettlebury I; its map reference is O.S. Surrey, XXXVII, N.E.; 8½in. from left inner margin and 6in. from bottom inner margin. It is just above the 200 contour.

This very limited site was located in 1936 by L. S. V. Venables, who cut the first transects, and the investigation was completed by the writer later. An area of 90 square feet was examined—15 cuts each 3ft. by 2ft. The wind-blown sand deposit was about 18in. deep, and rested on a hard, dark brown pan. The flints were dispersed in the upper level of the deposit which was partially water-logged. Work was carried out by permission of the War Office. Surface conditions, particularly gorse scrub, limited exploration.

Approximately 700 pieces of flint were recovered, and of these about 25 were fire-injured. Among the finds were:—12 microliths; 27 bulbar rejects; 6 narrow-blade cores; 6 utilised blades, including one saw and one notched blade; several microlith primaries, and core trimmings.

The microlith group contained 2 A's, 1 C, 4 D's, 1 F and 4 unclassified, broken specimens. It was possible to re-assemble one of the triangles with its basal reject; also a rejuvenating flake fitted a core which had been much reduced after the flake was removed.

The finds, although limited, are sufficient to indicate intensive microlith production, as at Kettlebury II, and that the hearth was not extensive. The scraper does not appear, but the Horsham point is present; the excess of basal rejects over microliths is significant.

LION'S MOUTH II. (Site 19).

This small site lies 200 yards north of the preceding one. Owing to thick scrub only seven cuts, again 3ft. by 2ft., were possible, but the results are instructive.

The finding of a crescentic microlith (D2) on a rabbit 'scrape' led to the investigation of this floor. The deposit, blown-sand, was about 2ft. deep and had two pans—one a brown layer about 2½in. thick at 9in. down, and another at about 18in.; some flints occurred in the lower pan which was very dark in colour and were stained brown.

Nearly 500 flints were obtained and of these about 100 were fire-injured. Among the finds were:—8 microliths; 6 bulbar rejects; and 1 narrow-blade core. The microlith group contained 4 A's, 1 D1, 1 D2, and 2 F's. Industrially this site resembles the preceding site and Kettlebury II. All three were hunters' rest camps and, apparently, microliths were used in hunting. These finds gave the writer the impression that the whole area was rich in sites; however, when, in 1940, the valley was turned into a huge net-work of bunkers to frustrate air-landings one, and only one, of these many bunkers revealed flint!

FRENHAM GREAT POND, North. (Site 25)

The transect digging of this site is described in detail in Volume 50 of Collections. The finds are given here for the sake of completeness and comparison.

Some 1,400 pieces of flint were found; of these 12½% were fire-injured. They included:—16 microliths (all type A); 7 knife flakes; 1 serrated flake; 4 end scrapers; 3 convex scrapers; 1 tranchet sharpening flake; and 35 narrow-blade cores. Here again microlith making is indicated by the numerous cores; scrapers point to preparation of skins, and the tranchet axe was in use—another hunters' bivouac.

FRENHAM GREAT POND, South. (Site 26)

This site was transected in 1948 by permission of the Hambledon Rural District Council; its map reference is O.S., Surrey, XXXVII, N.W.; 6in. from the east inner margin and 2in. from the bottom inner margin. The blown-sand deposit was shallow, about 1ft. in depth, and rested on thin Bargate gravel. About 1,000 pieces of flint were obtained and about 200 of these were fire-injured. There were 8 narrow-blade cores; numerous microlith primaries; and 10 microliths, all type A. There were 5 serrated flakes; 11 scrapers; 2 core gravers; and 1 truncated blade. A fragment of a wide blade of Portland chert came from this floor. (See Appendix V, 2).

The chief industrial features of the finds resemble those of the preceding site. The two sites are half a mile apart.

In all these floors the flints were unpatinated.

TROTTSFORD

This site is in the Sleaford group, just outside the Surrey border; it is on heathland. Repeated triallings in 1945 near a scatter of flakes on a path led finally to the finding of a limited chipping floor 2ft. deep in blown sand. An area three yards by four yards was transected in units of a square yard, with the object of ascertaining how the flints were disposed and also the industrial character of the implements.

The finds were not numerous, but have some value as a comparative study.

Some 200 pieces of flint were collected; the majority were small, and some were fire-injured. Among the finds were:—6 conical narrow-blade cores; 2 microliths (types A and C, both broken); 2 basal rejects; 1 intermediate form, namely a microlith not separated from the blade; and numerous microlith primaries. There were numbers of long blades remarkable for their thinness; one had been converted into a backed knife and was not thicker than one sixteenth of an inch. The usual core trimmings were present and two end scrapers were found together. Some raw material with exceptionally thick cortex occurred; this evidently was brought from the clay with flints overlying the chalk to the north of the site.

The restricted extent of the floor, and the flint assembly, suggests that this site was another hunters' bivouac. The presence of long blades is an unusual feature, but no blade core was found. The occurrence of end scrapers is noteworthy, but the scarcity of microliths is puzzling in view of the well flaked narrow-blade cores, and the numbers of microlith primaries.

The deposit is of interest: its maximum depth is 2ft. The majority of the flints were found in the lower level and were black; a few small flakes were dispersed in the upper zone and these were patinated. A compact pan was encountered at about 9in. Some wind faceted carstones were found in the blown sand.

In 1948 five acres of the Trottsford heathland was ploughed, and a system of bivouacs was revealed. The chipping floors were in a group and were about fifty yards apart.

CONCLUSION

The investigation of mesolithic chipping floors in blown sand deposits by the transect method, offers a wide field of important research which can add materially to our knowledge of mesolithic activity on the West Surrey greensand. Many sites await discovery.

VI. APPENDICES

APPENDIX I

THE PRODUCTION OF MICROLITH PRIMARIES AND SOME FLAKING STATISTICS

The production of microlith primary blades was a basic process in the fabrication of microliths. The conversion of these blades into microliths is discussed in Section III, B3 (d).

These primaries occur abundantly in most chipping floors because great numbers of them were not converted into microliths. On an average the lengths of these blades lie between 1in. and 2in.; the average microlith rarely exceeds 2in. in length. The flaking of microlith primaries was a specialised operation; in this respect the following statistics are of interest in relation to the average lengths of microliths which lie between 1.25in. and 1.5in.

Group I. (A). Analysis of length measurements of a non-selected group of 60 microlith blades excavated from Heath Brow (Site 3).