

MESOLITHIC FACIES IN THE TRANSPONTINE FRINGES

BY

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I. INTRODUCTION

1. FOREWORD

Recently I sought in an essay to marshal prehistoric finds of Mesolithic facies in the drainage of the Thames and its left bank tributaries in Middlesex and London.¹ Now I aim at assembling comparable evidence from the transpontine side of the river. The present review, however, takes in a lesser length of the Thames from west to east. Surrey and places formerly within its administration provide the basic material considered. For this alone, these notes may reasonably be laid before this Society. This is done without any thought of superseding what some of its members have so ably written on Mesolithic matters, but rather of supplementing it and linking the following with their observations. To me this appears fitting in that Surrey looms so large in the Mesolithic annals of Britain. Moreover, among the names of those who have contributed most to the knowledge of the Mesolithic Age in England, that of a Surrey archaeologist is outstanding. For, let it be said at the outset that to the late W. F. Rankine, of Badshot Lea and Farnham, a great debt of gratitude is due, because until his death in 1961 at an advanced age he laboured on problems of Middle Stone Age typology and distribution. Among his most important communications have been those² shewing the place of many Surrey Mesolithic relics of industry and settlement in the scheme of prehistoric man's early post-glacial migrations towards the west and south-west.

2. THE PENETRATION OF MESOLITHIC STRAINS IN THE LONDON AREA

Alluvial beds bordering the tributary rivers on the left bank of the Thames constitute the type of ground which has produced artifacts of Mesolithic facies in stratified conditions. Several assemblages have been dated and provide standards for comparison and correlation. The first were the prolific flint industries discovered by the late S. Hazzledine Warren in the fens of the valley of the Lea at Broxbourne, Herts, under peat determined by its pollen-content to be of late Boreal Age.³ This site stood as the exemplar of Maglemosean flint-work in Britain until the spectacular excavations

¹ Lacaille, A. D., 'Mesolithic Facies in Middlesex and London,' in *T. London and Middx. A.S.*, XX, Pt. iii (1961), 101-50.

² Rankine, W. F., *The Mesolithic of Southern Britain*. Research Paper No. 4, Surrey A.S. (1956).

³ Warren, S. Hazzledine, Clark, J. G. D., Godwin, H. and M. E. and Macfadyen, W. A., 'An Early Mesolithic site at Broxbourne sealed under Boreal Peat,' in *J.R.A.I.*, LXIV (1934), 101-28.

begun by Mr. John Moore in 1942 and continued so admirably by Professor J. G. D. Clark and his team of students between 1949 and 1951 at Star Carr, Seamer, Yorks.⁴ These investigations revealed how long had been the human occupation and how intensive the working of stone, bone, antler and wood in Baltic early-Mesolithic style.

The principal groups of artifacts that benefited from the dating of Warren's finds, and led to the placing of others as of Mesolithic Age, have been those produced in the flint industries found on flood-plain gravel under peat in the valley of the Colne, near Iver and Denham, Bucks.⁵ Supported too by typology, these products, which are so evidently of Maglemosean aspect, have also been assigned to the Boreal climatic phase. With Warren's they have allowed of the proper ascription of certain discoveries made long ago in the London area, but dismissed for want of dating criteria. In this respect one has in mind particularly those flint implements found in appropriate stratigraphy with floral and faunal remains at the Admiralty, Westminster, and recorded by W. J. Lewis Abbott,⁶ and a small series taken by J. E. Greenhill from gravel under peat beside the Hackney Brook.⁷

Many other stone artifacts found in the London area on the left bank have only typology to suggest the period of man's cultural development to which they belong. Nevertheless, they are useful indicators for, having considered them in their proper light, one realizes not only how widespread was the Mesolithic facies in that part of the Thames basin, but also how long so many of its forms persisted.

Excavations, finds in commercial and utilitarian diggings, researches and inspection of collections shew that it is the tradition of the Baltic Maglemosean culture that was strong along the Thames and in the left bank tributary valleys. This also appears from the material dredged from the bed of the main river or taken at low tide from its shores, and now preserved in some London museums.

Of the artifacts gleaned from the surface at low or high elevations on the left bank of the Thames, none is distinctive enough to be confidently matched with any implements of Mesolithic make or tradition which have been picked from the ground in other localities. Thus, no unambiguous microliths and allied forms can so far be adduced from places in the open in Middlesex and London. Nor can

⁴ Clark, J. G. D., *Excavations at Star Carr*, Cambridge (1954).

⁵ Lacaille, A. D., 'Mesolithic Industries beside Colne Waters in Iver and Denham, Buckinghamshire,' in *Rec. of Bucks.*, XVII (1963), 143-81.

⁶ Abbott, W. J. Lewis, 'The Section exposed in the Foundations of the New Admiralty Offices,' in *P. Geol. Assoc.*, XII (1892), 346-56; *idem*, 'Implements from Cromer Forest Bed and the Admiralty Section,' in *Proc. Prehist. Soc. East Anglia*, III, Pt. i (1918-9) [110-14], 114; Lacaille, *op. cit.* (1961), 125-8.

⁷ Greenhill, J. E., 'The Implementiferous Gravels of North-East London,' in *P. Geol. Assoc.*, VIII (1883-4) [1885], 336-43; *idem*, 'Prehistoric Hackney,' Paper i (1881); *ibid.*, Paper ii (1883); typescript copies of lectures to the Hackney Microscopical and Natural History Society, Hackney Central Library, P. 89. G.; Lacaille, *op. cit.* (1961), 123-5.

it be shewn that in this region the producing Mesolithic industries had inherited strains from the natively developed Upper Palæolithic, from which, nevertheless, some relics do look as if they might have issued. Indeed, I have handled flint and antler artifacts from Thames-side that on typology could have come from late Old Stone Age sites. It seems then that there opens quite a field of inquiry and scope for following up a number of possible clues.

Four principal points emerge from the foregoing. First, the objects of Mesolithic type so far recorded in Middlesex, south-east Bucks, south Herts and London have all been found in some riverine association. Second, the facies of the artifacts is that of well-developed Maglemosean industry; and third, the character of the equipment thus represented indicates that their users' subsistence depended on the plants and animals a riparian and fenland environment provided. This is as one would expect from such a region in early post-glacial times, when the River Thames coursed within unrestricted banks, behind which locally there were marshes and moors. Similar conditions obtained in the minor valleys for several miles upstream from the confluence of the tributaries with the main river. Fourth, the significant relics comprise: 1. *Stone: tranche* axe- and adze-like tools; generally flint products of developed and comprehensive flaking industries such as blades and tools made thereon; steeply edge-blunted blade-tools, often made by the microburin technique; 2. *Antler and bone*: axe- and adze-like tools; plain and ornamented holders for stone or bone edge-tools; hammers.

Whereas no truly representative groups of Maglemosean facies have actually been found in stratified conditions in the area now considered, many artifacts made in the Maglemosean manner do come from it. Like their contemporaries, those who used such tools on the right bank had some connexion with the Thames. Most relics of their industry now in museums and private collections have been dredged from the bed or were recovered from the tidal band of the river. Both flint and bony substances are represented in these assemblages. Among them are the most typologically significant of all the oldest finds of Maglemosean aspect in the London basin. For years cited as patterns, they are the lower parts of two barbed bone points, one each from Wandsworth and Battersea.⁸ Again, some implements, although without details of discovery, are so characteristic and in such condition as to indicate their period. Others made in the Maglemosean tradition demonstrate the strength and long survival of industrial methods developed in early post-glacial times in the Baltic basin and eventually introduced into this region.

3. THE BACKGROUND

The stratigraphical records, which demonstrate the association of artifacts of Maglemosean type with fens and marshes on the left

⁸ Westerby, Erik, *Ymer* (1931), 41-58; Clark, J. G. D., *The Mesolithic Age in Britain*, Cambridge (1932), 18 and 123; Fig. 2, Nos. 6 and 7; *idem*, *The Mesolithic Settlement in Northern Europe*, Cambridge (1936), 118, Fig. 42, Nos. 5 and 3; *ibid.*, 127, 236-7 and 245.

bank in the London area, lead one eastward to the Baltic lands. Here, as in the lower Thames, similar conditions obtained at the time of the rise and spread of the Maglemosean culture. On this aspect it would be tedious to repeat what has been published already. Suffice it to say here, for a proper understanding of Baltic Mesolithic strains in the territory under present consideration, that some alluvial tracts in the lower reaches of certain tributaries have not been seriously affected by modern works. These still support moors, aquatic vegetation and small woods. Such areas preserve much of an environment that would have been familiar to Maglemosean man. For in such surroundings his industries evolved from late eastern European Upper Palaeolithic elements in the Baltic region around the Ancylus Lake. This great fresh-water body received the discharge of the diminishing ice and occupied the Baltic trough. Outside southern Scandinavia a complementary process caused the bed of the North Sea to rise gradually, extending the European plain and affording land-bridges between the Continent and Britain. It also vastly enlarged the hunting- and fishing-grounds of which migrant Maglemosean bands availed themselves, eventually reaching what are now our eastern and south-eastern counties. These movements of people continued until the sea once more regained the mastery. This it did rapidly with the result that the connexions used by the Maglemoseans were severed. North-western Europe thus acquired much of its present outlines, and our post-glacial island history began.

Analyses of the pollen enclosed in the peat that in the Baltic area and in parts of England entombs Maglemosean relics indicate that these can be assigned partly to the late Pre-Boreal, as at Star Carr, Yorks,⁹ and Thatcham, Berks,¹⁰ but mainly to the Boreal climatic phase, e.g. at Broxbourne, Herts,¹¹ and at Sandstone, Iver, Bucks.¹² In terms of years this means that the Maglemosean culture developed between 8000 and 5000 B.C. The second date is also approximately applicable to the marine expansion which towards the end of the Boreal climatic phase broke down the sill enclosing the Ancylus Lake, quickly drowned the grounds reclaimed previously from the North Sea, transgressed our shores and distended the estuaries.

The foregoing would most certainly indicate the contemporaneity of the Maglemosean industries in the Baltic area and some of their equivalents in the North Sea drainage of England. Still, it is not only on pollen-statistics that this can be asserted. Where investigations have been conducted in the London region, the sequence of

⁹ Clark, *op. cit.* (1954), 66-9.

¹⁰ Wymer, John, 'Excavations on the Mesolithic Site at Thatcham, Berks - 1958,' in *Berks. A.J.*, LVII (1959), 1-33; *idem*, 'Excavations at the Maglemosean Sites at Thatcham, Berkshire, England,' *P.P.S.*, XXVIII (1962), 329-54. With a report on the animal bones by King, Judith E., *ibid.*, 355-61. Also 'The Stratigraphy of the Mesolithic Sites III and V at Thatcham, Berkshire, England,' by Churchill, D. M., *ibid.*, 362-70.

¹¹ Warren, Clark, Godwin, Godwin and Macfadyen, *op. cit.*, 124-7.

¹² Lacaille, *op. cit.* (1963), 152-4.

layers above the late Pleistocene flood-plain gravel can also be linked with the marine and terrestrial phenomena and climatic changes that followed the melting of the ice in the north.

With the waxing sea, the damp, oceanic and warm conditions of the Atlantic climatic phase were induced. Thus, the Mixed-Oak-Forest arose and spread to the detriment of pine, birch and hazel that had predominated when the continental and relatively dry Boreal climate ruled.

The rapid and great submergence that occurred at the end of the Boreal climatic phase and continued into the succeeding Atlantic prevented further important continental Mesolithic cultural strains from entering Britain. The Maglemosean folk, however, gradually adapted themselves to an environment changing from riparian and palustrine to a longshore one in the Baltic area. So their contemporaries in the Thames basin and elsewhere in England also developed their own industries, modifying old and producing new forms in response to the calls of altered surroundings. Basing himself on the findings of palæobotanists and on the post-glacial molluscan evidence in Scandinavia, and relating the data to his archaeological observations, Clark has sub-divided the Baltic Mesolithic cultures in terms of the natural chronology, going back ultimately to the last great advance of the ice that may be correlated with Würm III of the Alpine scheme.¹³ Hence, the Maglemosean industries of the Pre-Boreal and Boreal climatic phases in the area of their growth have been referred to Forest Culture Period II, and their kitchen-midden Ertebølle successors developed along maritime tracts during the Atlantic climatic phase after 5000 B.C. to Forest Culture Period III.

II. ARCHÆOLOGY

1. DREDGING OF THE THAMES

(a) *Historical*

Since Mesolithic and so many earlier and later objects have been brought to light by the dredging of the Thames during the last century, it is well to appreciate something of what this means. The operations of course lowered the bed of the river, and to deepen and widen the navigation channel broached its tidal band. In so doing they drove through various sediments with their palæontological and archaeological contents, all becoming mixed as spoil. Naturally, this must have included remnant prehistoric floors and sundry artifacts, Mesolithic among them, from gravel ridges and fenny banks where hunting, fowling and fishing stone- and bone-working bands had squatted. This refuse of the nineteenth-century engineer's clearance was disposed of in various ways, but much also came to be strewn along the side of the enlarged fairway. Thus the sharp-eyed collector was provided with material locally rich in animal remains and industrial relics of the past. Water-action, however, comprising

¹³ Clark, *op. cit.* (1936), 25, 31 and 220.

normal flow, tide and flood, combined with abrasive matters, and a mineral or vegetable environment, has affected many antiquities from the Thames, e.g. as evidenced at Putney (below, pp. 7-11). As a result, stone and bone artifacts from along the river vary in condition and coloration. Hence, it will be seen once more why, in the absence of stratigraphy or other reliable information, typology is resorted to even if not always a safe guide to the placing of objects.

Again, from sites beside the Thames there have come a few artifacts from deposits along the bank broken into by utilitarian works or commercial excavations. Therefore, unless the finder of relics in these conditions was on the spot when the artifacts were exposed, his discoveries are hardly in better case than the vestiges from the dredgings. Nevertheless, whatever their age, these specimens betoken the riverine connexion of a food-collecting economy based on the wild life peculiar to the environment. The coping with this called for a specialized equipment.

Owing to the absence of most indications normally required for a proper assessment of prehistoric products, only a brief review need be made of the implements of Mesolithic facies from places on the right bank of the Thames within, and adjacent to, the Greater London area. We shall therefore consider the forms believed to be most characteristic typologically and technologically. It is hoped that the accompanying illustrations and the comments thereon may lead to researches in conditions like those recorded at Thatcham, Berks, and, if not so spectacularly, as clearly as at Broxbourne, Herts, and Sandstone, Iver, Bucks.

(b) *Stone Tools*

(i) *Tranchets and Derivatives.* Since this summary depends so much on form and workmanship, reference must first be made to the most typical stone tool devised by the Maglemosean hunters and fishers. This is the *tranchet* axe or adze with its transversely flaked cutting-edge, an implement not thought at this juncture to be directly related to the few flaked core-tools exceptionally produced in some Upper Palæolithic industries. Notwithstanding, although no exact intermediate match can be cited, the ancestry of the *tranchet* very likely lies in the Lower Palæolithic cleaver with its bezelled working-edge.¹⁴ It can be said therefore that *tranchets* were really the first boldly flaked core-tools to be made widely and in large numbers since bifaces bulked in prehistoric man's equipment.

The dredging of the navigation channel of the Thames has brought to light many *tranchets* and allied forms, nearly all fashioned in flint rods. Several have also been recovered from the mud and gravel of the tidal strip. These tools from the right bank do not differ from those found on the opposite side between, say, Teddington and Westminster. If arranged according to their workmanship and sections, quite an evolutionary series can be marshalled. This shews

¹⁴ Lacaille, 'On Palæolithic Choppers and Cleavers (Notes suggested by some Buckinghamshire examples),' in *Rec. of Bucks.*, XVI (1960) [330-40], 339.

the passage from the rather boldly flake-scarred Mesolithic form to the Neolithic and later so-called Thames pick,¹⁵ usually a longer, narrower, more shapely and finely-worked tool than the prototype. Finally, an occasional specimen, while recalling the old *tranchet*, is cruder, like some examples found on the surface of high grounds which represent the last phases of flint-riving in the region of the Chalk.¹⁶

The *tranchets* from the right bank drawn for this communication are evidently based on Maglemosean types. The simpler kinds are identical as to their flake-scars and elliptical section with the original Baltic tools. They are therefore very likely of Mesolithic age. On these the characteristic terminal working bezel was achieved by the removal of a lateral flake at the end of the implement in the making. The Surrey bank of the Thames can be credited also with some waste sharpening-flakes from the preparation or re-conditioning of *tranchet* cutting tools. This is in keeping with left bank finds along the main river as well as its tributaries in Middlesex, Hertfordshire and Buckinghamshire.

Among the objects dredged or recovered from the bed or tidal shores of the Thames, the following, represented in Fig. 1, are considered in downstream order. A small, neat, albeit boldly flaked *tranchet*, typically sharpened, and made in a rod of olive-hued flint, from the lock and weir at Richmond, No. 1, is interesting for the two different sections it presents—the upper triangular and the lower elliptical. This tool is thought to approach closely to the true Maglemosean and therefore older form. From Kew, Nos. 2 and 3 of grey flint, olive-stained, retain small patches of cortex among profuse flake-scars. The first is quite simple, but its larger partner bears a characteristic *tranchet* scar at each end and is markedly curved over its length. This feature points to its being an adze rather than an axe, for use as which No. 2 seems better suited.

Remarkable for its massiveness, bold working and sharpness, No. 4, of grey and greenish-beige flint, from Putney, has more than size to make it significant. For, besides the patches of crust spared by the knapper, some limy matter clings to a few flake-beds. Mr. W. Solomon, of the Wellcome Laboratories of Tropical Medicine, having analysed a scraping, which the geologists know as race, informs me that it consists mainly of calcium carbonate, with a small proportion of iron and perhaps some phosphate. This deposit has already been noticed on artifacts of Mesolithic appearance brought up from the bottom of the river. One was a heavy adze-like tool of red deer antler believed to have been found at Kew Bridge. A sample of the adhering race gave a pollen-count suggestively compatible with a Late Boreal dating.¹⁷ Having this in mind I sent some grammes of the deposit on the *tranchet* from Putney to Dr. S. B. Chapman, Nature Conservancy, Furzebrook Research Station, Wareham. His analysis reveals the statistics on page 9.¹⁸

¹⁵ Vulliamy, C. E., *Archæology in Middlesex and London* (1930), Chap. iv.

¹⁶ Lacaille, *op. cit.* (1961), 130–2.

¹⁷ *Ibid.*, 133.

¹⁸ Dated Furzebrook Research Station, Wareham, Dorset, 16 October 1964.

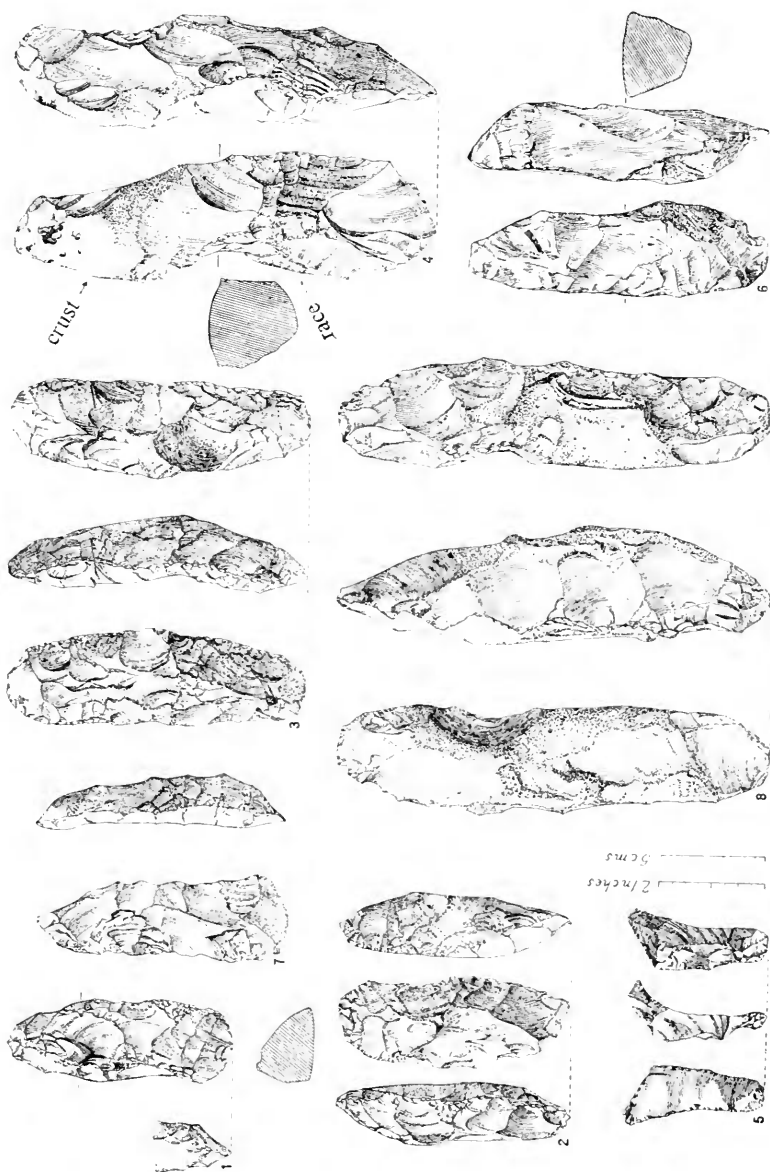


FIG. 1.—FLINT ARTIFACTS FROM THE THAMES.

Tranchets and picks: 1, Richmond (L.M. No. 49.107/65); 2 and 3, Kew (G.P.M. Nos. 2144 and 1746); 4, Putney (H.M. No. 889); 6, Wandsworth (R.B.M. No. 173/47, drawing supplied by J. Wymer); 7, Battersea (L.M. No. A.7); 8, Cross Ness (H.M. No. 889). Trimming-flake: 5, Barn Elms (S.L.P.).

(L.M., London Museum; G.P.M., Gunnersbury Park Museum; H.M., Horniman Museum; R.B.M., Reading Borough Museum; S.L.P., Susan L. Palmer Collection. The same abbreviations serve where relevant in the following illustrations of artifacts.)

				Grains Counted	Percentage Total of Tree Pollen
<i>Pinus</i> (Pine)	...	...	...	7	5
<i>Betula</i> (Birch)	...	...	...	2	1
<i>Quercus</i> (Oak)	...	...	...	51	34
<i>Ulmus</i> (Elm)	...	...	...	4	3
<i>Tilia</i> (Lime)	...	...	...	5	3
<i>Alnus</i> (Alder)	...	...	...	78	52
<i>Salix</i> (Willow)	...	...	...	3	2
<i>Fagus</i> (Beech)	...	...	...	1	1
<i>Fraxinus</i> (Ash)	...	...	...	1	1
<i>Corylus</i> (Hazel)	...	...	...	11	7
<i>Gramineae</i> (Grasses)	...	...	...	36	24
<i>Cyperaceae</i> (Sedges)	...	...	...	2	—
<i>Filicales</i> (Ferns)	...	...	...	6	—
<i>Typha</i> (Bull-Rush)	...	...	...	3	—
<i>Hedera</i> (Ivy)	...	...	...	1	—
<i>Chenopodiaceae</i> (Goose-foot, etc.)	...	...	...	1	—
<i>Myriophyllum</i> (Water-milfoil)	...	...	...	4	—
<i>Plantago</i> (Rat's Tail)	...	...	...	1	—

Dr. Chapman thinks that this result places the sample somewhere in Zone VII of the post-glacial climatic sequence, without being able to refer the figures to a full pollen diagram from the locality. Although having no more to go on at this juncture, we can yet infer something cogent from the count, and it is confidently expected that this will be placed with further research. It is believed that the high percentage of Alder (*Alnus*) and Oak (*Quercus*) with a tinge of Lime (*Tilia*) and a trace of Beech (*Fagus*) indicate that the Atlantic climatic phase was advanced when the limy encrustation was forming on the *tranchet* from Putney. Now, if a Late Boreal dating is acceptable for the race taken from the antler tool from Kew Bridge mentioned above, then the deposition of this material must have been continuous. Hence, the tool under discussion from Putney (Fig. 1, No. 4) may well be the product of an industry earlier than Atlantic but certainly not later. Should it, however, eventually prove to be assignable to this climatic phase, then it would be reasonable to correlate the tool with the classic late Mesolithic industry from Lower Halstow, Kent, so carefully studied by Mr. J. P. T. Burchell, F.S.A.¹⁹ This has been held to represent an insular counterpart in south-eastern England of the Ertebølle or Forest Culture III of the Baltic area. Here it grew on Maglemosean elements along the shores of the Litorina Sea, the expanding water body of increasing salinity which was the predecessor of the Baltic

¹⁹ Burchell, J. P. T., 'The Shell Mound Industry of Denmark as represented at Lower Halstow, Kent,' in *Proc. Prehistoric Soc. East Anglia*, V, Pt. i (1925), 73-8; *idem*, 'Further Report on the Epi-Palæolithic Factory Site at Lower Halstow, Kent,' *ibid.*, V, Pt. ii (1927), 217-23; *idem*, 'The Final Account of the Investigations carried out at Lower Halstow, Kent,' *ibid.*, V, Pt. iii (1928), 288-96.

Sea. As stated in a previous section, this corresponded to the marine transgression of our shores which began towards the end of the Boreal climatic phase, and attained its maximum in the succeeding Atlantic (above, p. 5).

The trimming-flake, Fig. 1, No. 5, from Barn Elms, where it was recovered from the stony mud by Mrs. Susann L. Palmer, of Fulham, was evidently removed in the course of manufacture from a large core-tool, axe, adze or chopper of the *tranchet* class. Of dark, banded, bluish-grey flint, slightly lustrous, perfectly sharp and rather narrow, in this last respect it compares with some sharpening-flakes detached from Mesolithic *tranchets* found in stratigraphy by Mr. John Wymer, F.S.A., beside the Kennet at Thatcham, Berks.²⁰ To this gentleman I am obliged for the drawing of a flint *tranchet* from the Thames at Wandsworth, No. 6. He has pointed out to me that this item in the Thames Conservancy Board Loan Collection, housed in the Borough Museum, Reading, is probably much reduced from the original. Stained ochreous, it bears some limy deposit of the kind already noticed.

Wandsworth, however, is not alone in having produced a *tranchet* besides a barbed fragment of fishing-gear cut in antler. Because, in the neighbourhood, the same reach of the Thames at Battersea, in addition to a materially and typologically resemblant stag-horn weapon, has yielded a *tranchet* adze, No. 7. This is figured to shew the finer flaking of a probably later tool. Owing to its pronounced longitudinal bodily curving it compares with the specimen from Richmond, Fig. 1, No. 1. With this our selection in downstream order closes, but I understand that there are *tranchets* from Lambeth in the stores of the London Museum. These could be interesting for a possible connexion with the marshes formerly bordering the Thames here (below, pp. 17-9).

For purposes of comparison with the artifacts noticed above, another supposedly later tool than Mesolithic is illustrated, Fig. 1, No. 8. Flaked like them to sharp edges in a thick grey flint rod, and also from the right bank of the Thames, this quite fresh-looking piece is actually of Kentish discovery, since it is from Cross Ness, in Erith parish. Old Marsh Farm, beside its finding-place, is a name sufficiently evocative of possibilities for researches in the riparian Mesolithic field, even without mentioning the nearby Erith and Plumstead marshes. On such tracts comments are made in the sequel. Reverting to this impressive implement from outside our set limits, the student will at sight recognize that the workmanship is not that expressed on true Mesolithic tools. Thus, the *tranchet* scar is wanting, and the specimen resembles the so-called picks found over the South Downs, particularly, I think, in formerly wooded areas. Nevertheless, like the artifact examined additionally and similar instruments dredged from the Thames, these are made in the Maglemosean tradition, but modified to answer needs dictated by the environment and growth of heavier timber.

²⁰ Wymer, *op. cit.* (1959), 17 and Fig. 7, No. 57, on p. 18; *idem* (1962), 344-6 and Fig. 9, particularly No. 173.

(ii) *Flake- and Blade-Implements*. Among those who have mentioned stone artifacts based on pieces, flakes and blades from the Thames, the late G. F. Lawrence cites pygmies from Eel Pie Island.²¹ He may have meant microliths or simply untreated small flakes and blades. At any rate, such implements made on these among the groups he passed to the London Museum do not convincingly point to Mesolithic make. W. F. Rankine, however, explicitly states that microliths have been found at Putney,²² but none of these can I trace.

Nevertheless, I have examined a number of artifacts found on the tidal foreshore along the right bank of the Thames, but only a few approach the forms that come within my scope. One is the trimming- or rejuvenation-flake picked up by Mrs. Palmer at Barn Elms (Fig. 1, No. 5). Very likely of Mesolithic age, it seems less difficult to place culturally than some flint and chert artifacts which the same inquirer has found in the mud and gravel between the tides just above Putney Bridge and at Battersea Park. From the first-named spot I have in mind a few scrapers with working edges achieved by retouching steep slices or pieces of pebbles, now much abraded and lustrous from the action of water and sand (Fig. 2, Nos. 1 and 3). On the score of shape they compare with Mesolithic round scrapers, the flat sort like these being common at coastal sites. Many parallels can be brought forward from important Mesolithic stations on the Continent, including Azilian and the Sauveterrian type-site in south-western France. Here also, but to Upper Palaeolithic industries, we turn for counterparts of a thick, utilized corticated flake or piece, rhomboidal in section, from Putney Bridge (No. 2). Likewise, for fellows of a lustrous but unblemished, high and delicately fluted carinated scraper from the shore fronting Battersea Park (No. 4), we recall the classic Aurignacian *grattoir de Tarté*.²³

The problem of these specimens is the more obscure in that the apparently earlier-looking object picked up on the shore at Battersea is virtually unscathed, whereas those of later aspect are worn of edge, smoothed and as attrite as many *tranchet* axes and adzes of unambiguous Mesolithic workmanship. At the same time, owing no doubt to their lie, several companions of the abraded tools from Putney are unaffected by natural agencies. For the artifacts just discussed, and many of the smaller flint implements found in similar circumstances beside the river, exhibit characteristic jet-black, deep, dark green, or chocolate-hued staining. Already observed on certain flints from along the Thames, this feature was studied early this century by Mr. B. C. Pocklinghorne.²⁴ He considered it was due to their having lain in beds of vegetable origin, such as peat, with a high content of organic salts of iron. Many dulled artifacts retain much of the original crust of the pebbles and cobbles

²¹ Lawrence, G. F., 'Antiquities from the Middle Thames,' in *Arch. J.*, LXXXVI (1929) [1930, 69-98], 74. ²² Rankine, *op. cit.* (1956), 22.

²³ Déchelette, J., *Manuel d'Archéologie Préhistorique*, Paris (1924), I, 120-1, and 121, Fig. 39. With bibliography.

²⁴ Johnson, Walter, and Wright, William, *Neolithic Man in North-East Surrey*, London (1903), 184. With a chapter on flint by Pocklinghorne, B. C.

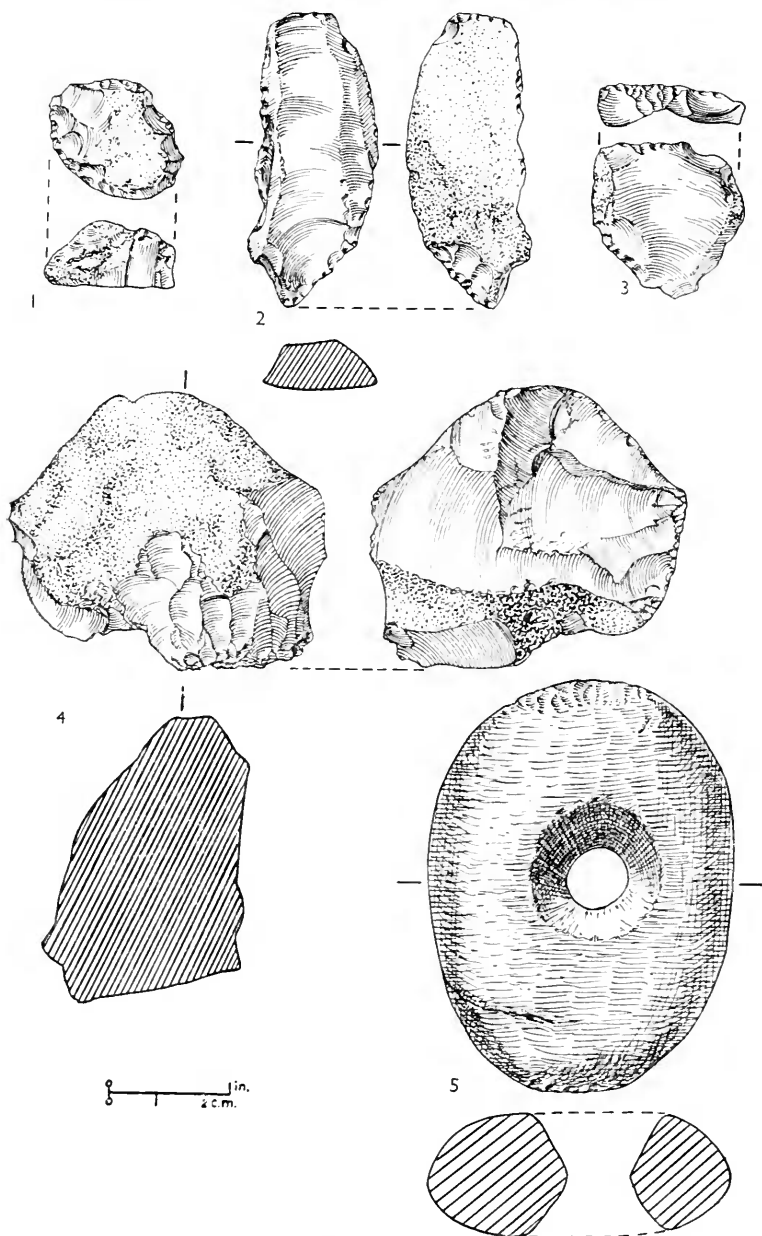


FIG. 2.—STONE IMPLEMENTS FROM THE THAMES.

Scrapers, flint: 1 and 3, Putney; 2, Putney Bridge; 4, Battersea Park. Perforated pebble, quartzite: 5, opposite Hammersmith.

(1-4, S.L.P.; 5, L.M., No. A. 22610.)

favoured as raw material. Of the unaffected specimens some are light grey, others of the banded and mottled brown flint tending to reddish and orange so much used in this part of the Thames basin by Mesolithic folk. Here it is recalled that Rankine commented on the find in 1909 of a heavy *tranchet* made in such flint, 12 feet down (3.65 m.) in Merton Road (the lower reaches of the Wandle River), Wandsworth.²⁵ With more information we could perhaps have placed this object in its appropriate section.

Finally, there have to be noticed from the mud of the tidal foreshore of the Thames two flakes of material obligingly identified for me by Dr. P. A. Sabine, Chief Petrographer at the Geological Survey and Museum, South Kensington.²⁶ Both were retrieved by Mrs. Palmer; one, brown, from Barnes, suspected to be of argillaceous limestone; the other, grey, a fairly coarse calcareous chert with a softish calcite vein. Rankine had much to say on the use of such erratic rocks that are represented in some of the Surrey Mesolithic industries.²⁷ However, at this juncture I am not prepared to see in these two small objects from Thames-side anything but the possible experimental riving of unusual material by ancient man.

(c) *Antler and Bone Artifacts*

The antler and bone implements that are familiar as antiquities dredged from the Thames along left bank localities range geographically from Twickenham to Westminster and chronologically from the Mesolithic to the Bronze Age. Relics of this order have also been brought to light in the same way on the Surrey side, but are less numerous. This, however, may only be fortuitous when the distribution of the stone artifacts is taken into account.

Whereas nothing like the chevron-ornamented bone from Hammersmith²⁸ can be reported from the right bank, yet there came from this two of the best-known prehistoric artifacts made in bony substances. These are the classic lower halves of antler points found at Wandsworth (Fig. 3, No. 1), and Battersea (No. 2) places from which *tranchets* have been noted (above, p. 10). Illustrations of these two fragments of fishing- or fowling-gear can now be placed alongside other specimens fashioned in antler, bone or stone, which are just as characteristic of Mesolithic industries developed in Baltic lands during early post-glacial times. Whether or not these pieces of tackle from Thames-side were broken and lost in the course of an unlucky fish-spearing episode is a matter of conjecture. Appropriately mounted, the implements may have been used from the bank, an islet or gravel ridge in the main stream or pools in the undrained marshes along its unconfined and irregular margins.

Enough remains of the single row of barbs arming both points to

²⁵ Rankine, *op. cit.* (1956), 55.

²⁶ Letter, dated Geological Survey and Museum, 1 April 1965.

²⁷ Rankine, *op. cit.* (1956), 54-61.

²⁸ Lawrence, *op. cit.*, 81; Smith, Reginald A., 'Examples of Mesolithic Art,' in *B.M.Q.*, No. 121, VIII, No. 4 (1934), 144-5 and Pl. xlv; Lacaille, *op. cit.* (1961), 137 and Fig. 8, No. 1.

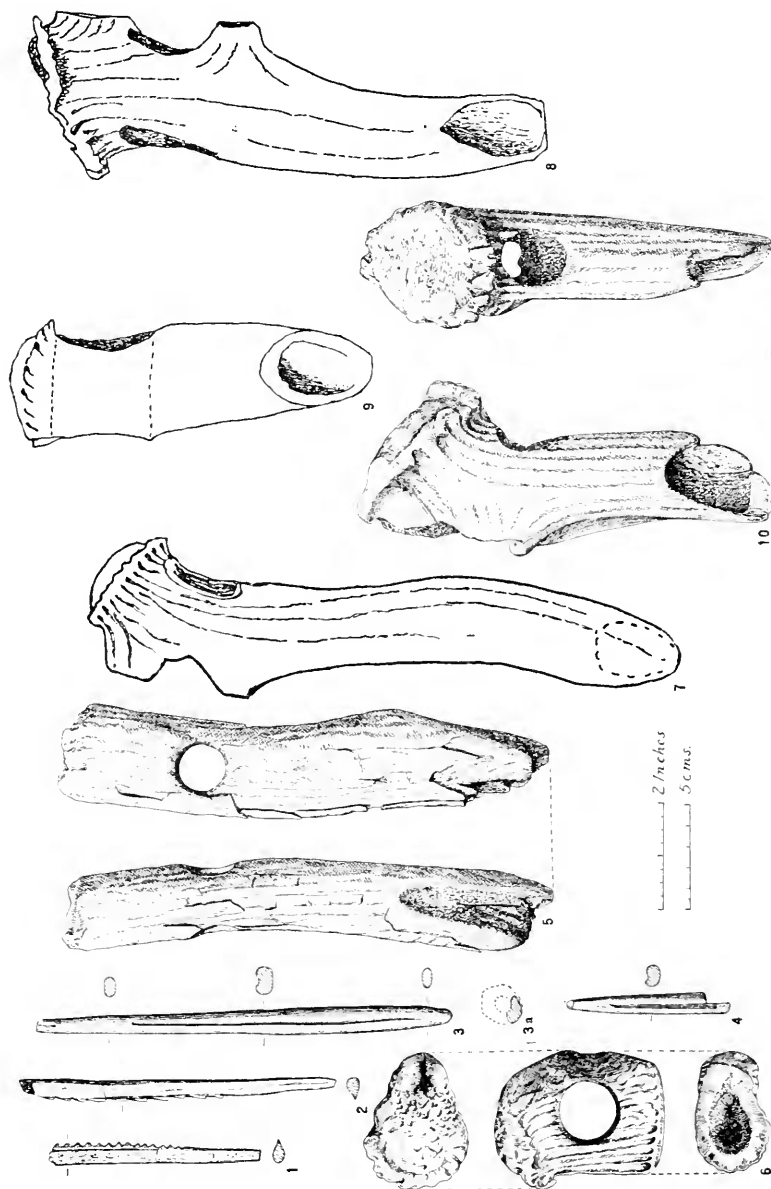


FIG. 3.—ANTLER AND BONE ARTIFACTS FROM THE THAMES.

Lower halves of barbed points: 1, Wandsworth (after Clark, 1932, 1936); 2, Battersea (after Clark, 1932, 1936). Plain point: 3, Battersea. Upper end of point: 4, Mottlake. Mattock-heads: 5, Mottlake; 7-9, County Hall Extension, Lambeth; 10, Bankside, Southwark. Tool: 6, Mottlake.

(1 and 2, L.M., Nos. A.4907 and A.19788; 3, L.M., No. A.11729; 4-6, Anthony Marshall Collection; 7-10, L.M., Nos. A.27513, A.27514, A.26935, 38, 187.)

indicate certainly that they are of true Maglemosean forms. That from Wandsworth is typified at Istaby, southern Sweden, and listed as form 3 by Clark,²⁹ and the implement of his form 6 from Battersea at Kunda, Esthonia.³⁰ Well-distributed outside the area of its free production in the Baltic basin, the shape has been encountered in Belgium and north-eastern France. The finest and largest specimen was that dramatically exposed when a lump of peat was cleft after being brought up by a trawler in 1932 between the Leman and Ower Sands off the Norfolk coast.³¹ Determined by pollen-analysis to be of Boreal age,³² the enclosing mass of the kind frequently dredged from the North Sea bed testified to the reality of the fenland hunting-grounds and the routes afforded by the post-glacial emergence. At Star Carr, Yorks, the same style of barbing was much favoured,³³ and in this county, too, similar points have been found at Skipsea, Withow and Hornsea.³⁴ Nearer us, Royston on the borders of Hertfordshire and Cambridgeshire is credited with an example.³⁵

The roll of bony points can now be augmented by two, also from the Surrey side of the Thames. One, hitherto unpublished as an item in the collections of the London Museum, is a large, deep reddish-brown, unbarbed bone specimen of elliptical section from Battersea (No. 3). No less than 8 in. (20.5 cm.) long, split and rubbed to shape in a tibia of a red deer, but leaving as a shallow longitudinal grooving part of the narrow channel (No. 3a), at $2\frac{5}{8}$ in. (6.1 cm.), from the lower end, it is a companion to the denticulated fragment from here (No. 2). Like this, it thins and narrows down for attachment to a shaft. Very probably of identical type, the other, also noticed for the first time, consists of an upper end found by Mr. Anthony Marshall, of Barnes, beside the Thames at Mortlake (No. 4). Being quite mineralized, black and smooth, it looks older than the plain point from Battersea (No. 3), but owing to its now stone-like consistence I cannot say if the material is bone or antler. As pieces of prehistoric, barbless, bone fishing-tackle from the Thames basin, these two are not alone. For Mr. Wymer found complete and fragmentary Mesolithic specimens in stratigraphy at Thatcham in the Kennet valley, Berks,³⁶ the largest, practically entire,³⁷ being 25 mm. short of the plain point from Battersea. On the strength of pollen-analyses one from his Site I was suggestively assignable to late Boreal times (Zone VI),³⁸ and another from Site II

²⁹ Clark, *op. cit.* (1936), 115-7.

³⁰ *Ibid.*

³¹ Clark, *op. cit.* (1932), 115.

³² *Idem* (1936), 131.

³³ *Idem* (1954), 123-36.

³⁴ Armstrong, A. L., 'Two East Yorkshire Bone Harpoons,' *Man* (1922), No. 75; *idem*, 'Further evidences of Maglemose culture in East Yorkshire,' *Man* (1923), No. 83.

³⁵ Preserved in British Museum, No. 1927, 12, 12, 1; Westerby, *loc. cit. supra*, reference No. 8.

³⁶ Wymer, *op. cit.* (1959), 19-20, also Pl. iii facing p. 17, and Fig. 8 on p. 20; *idem* (1962), 351-3, and examples Fig. 13 on p. 352.

³⁷ *Ibid.*, 351-2 and Fig. 13, No. 9.

³⁸ Dimpleby, G. W., *in* Wymer, *op. cit.* (1959), 28.

to early Atlantic (Zone VIIa),³⁹ while our No. 3 in Fig. 3 would be of Boreal age, though the exact zone could not be determined.⁴⁰ Clark does not include in his list implements quite of this section. Still, it may be permissible to rank all these plain points with his circular form 1.⁴¹

The Baltic Mesolithic facies manifest in the barbed and plain points is as marked in adze-like, axe-like and other implements made in stag-horn yielded by, or found beside, the Thames. Objects of this kind with a working-edge achieved by rubbing or grinding on stone have been called hoes. This, however, seems to be a misnomer, for some of the tools are certainly Mesolithic and therefore anterior to the beginnings of soil cultivation in north-western Europe. But because the strongest case has been made to shew that such implements were used as mattocks to remove fat from the carcasses of large animals,⁴² we must be content meantime so to regard them. Several are wrought in the antler of animals of the large kind that roamed over continental forests, and bigger therefore than their present-day successors in Britain. Few of these prehistoric relics, averaging over 20 cm. in length, are in really good state. Splitting and flaking, which affect many, are due doubtless to failure to take measures to safeguard them from decay after discovery, rather than to their age.

It has been pointed out how rare in Maglemosean (Forest Culture Period II) contexts in the Baltic lands are antler tools with the working-edge disposed axe-wise, that is to say, parallel to the horizontal axis of the hole for the haft.⁴³ The reverse is true for the Ertebølle (Forest Culture Period III) industries wherein the axe-like working-edge predominates to the virtual exclusion of the adze-like setting of the other and earlier arrangement.⁴⁴ Dating, however, is always more a matter of guess-work without details of discovery, particularly since the condition of these relics varies. For instance, heavy mineralized tools and some that scale to the touch may have quite fresh-looking counterparts.

Unable to find among bony tools from the right bank of the Thames any satisfactory example of an adze-like edge set at right angles to the perforation, and therefore to the once infixed haft, I illustrate bezelled specimens meant to be used in the manner of axes. Owing to the difference in their condition alone, they seem to be separated by great disparity in age, some being apparently of Mesolithic, others of much later prehistoric execution.

A few, certainly, were found in conditions betokening considerable antiquity. One is a mattock from Mortlake opposite the spot where Mr. Marshall picked up the bone point, Fig. 3, No. 4. In 1949, close

³⁹ Dimbleby, *loc. cit. supra*.

⁴⁰ Churchill in Wymer, *op. cit.* (1962), 366-9.

⁴¹ Clark, *op. cit.* (1936), Fig. 41 on p. 116 and 117.

⁴² *Idem*, 'Whales as an economic factor in Prehistoric Europe,' in *Antiquity*, XXI (1947), 84-104.

⁴³ *Idem* (1936), 112.

⁴⁴ *Ibid.*, 112 and 149-50.

to the Ship public-house, this observer detected the implement, No. 5, in the lower part of the bank brought down by workmen who were rebuilding a retaining wall fifty yards from mean tide-mark. Fashioned in the beam of a shed antler, by the set of its working-edge the tool answers Ertebølle rather than Maglemosean standards, and its mineralized, flaky condition certainly upholds the opinion of a Mesolithic dating. From its original coloration and consistence, the material is altered to very deep peat-brown, to stony hardness, and to a greater weight than when it left the hands of the artisan. His work comprised the severing of the antler between two tines, making a cylindrical hole, 1 in. (25 mm.) in diameter, for a haft, and the grinding of two bezels, one only being well defined.

In front of the finding-place of the last object Mr. Marshall took from the mud a short antler tool, No. 6. With a perfectly circular perforation, rich brown and virtually unaltered, it retains the crown which is pitted as if from use as a hafted hammer. The other end has been cut cleanly and smoothed down to a convex outline, leaving intact the cancellous structure.

Besides these, however, Mortlake has given prehistoric bony artifacts, for G. F. Lawrence mentions a few that he attributes to Neolithic, early Bronze and even Iron Age craft.⁴⁵ Other places along the right bank noted by him for bone and antler implements are: Barnes, east of the railway bridge; Barn Elms; Putney Bridge; and a spot below Wandsworth Bridge. Most of these, it will be observed, have also produced stone implements of Mesolithic form.

Finds of worked bone and antler have proved fewer farther downstream. Some may have been associated with the marshes formerly bordering the Thames, and are commented upon in the following section. Among a variety of relics from the site of the County Hall extension in north Lambeth, which were obtained by the London Museum in 1924 and 1925, there are three perforated antler tools (Nos. 7, 8 and 9). All retain the burr and are rubbed down to a blunt, narrow axe-like edge. In each, the hole for the haft is oval, not round as in the other examples. Though certainly made in the Mesolithic tradition, these objects are stated in the London Museum records to be of the 'early Iron period' and to come from among piles.⁴⁶ Nevertheless, as two (Nos. 7 and 8) are said to be from the gravel of the river-side, they may very well be much older. When acquired, the second still held in the socket a fragment of a stick, but this has disappeared. The illustrations of the three are from accurate sketches by Miss Jean Macdonald, London Museum, and kindly placed by her at my disposal.

2. RIVERSIDE SETTINGS

(a) *The Marshes*

The *tranchets* and other artifacts dredged and otherwise recovered from the bed of our main river, or found near it, demonstrate man's

⁴⁵ Lawrence, *op. cit.*, *passim*.

⁴⁶ From the registers of the London Museum: information kindly sent by Miss Jean Macdonald with letter dated Kensington Palace, 24 November 1964.

activity during and after the Mesolithic Age along the Thames and that the main valley was an arterial route into the interior. Besides the sojourns and movements of human bands towards the west and south-west, which are abundantly attested by the relics from the side of the Thames and its tributaries, from the heaths and high grounds of Surrey and Sussex, the brief stops by hunters and fishers, possibly by migrants also in their penetration inland, are indicated by various artifacts found at short distances from the rivers. Further material evidence and suggestions can now be added to what these discoveries tell.

Within the confines set by these notes much has been effaced of the kind of terrain favoured by Mesolithic folk. However, a consideration of certain topographic aspects may help to explain some past finds of their relics and suggest the way to fresh discoveries. First we have to remember that in this extent, fields and market-gardens were more numerous along the right bank than in the equivalent band on the left. Indeed, eighteenth-century maps⁴⁷ shew that from, say, Lambeth Palace eastward to the old borders of Surrey and Kent at Rotherhithe quite a wide strip was cultivated. Significant to this study is the fact that so many of the tilled areas were divided by natural and artificial water-courses. The latter were fed from the former, which are still visible or now bricked over and therefore to be counted among our lost rivers. As well as irrigating and delimiting, the various channels drained much of what had been post-glacial fens.

In the remote past the marshy grounds along the Thames must have been dotted with pools and traversed by sluggish streams, and they would be studded locally with clumps like islets and heaped with driftwood, banks of gravel and alluvium. They would support a characteristic flora of grasses, sedges, rushes and other bog plants, shrubs and small trees. For centuries they were the resorts of hunters, fowlers and fishers. Even if these marshy tracts, whether reclaimed or not in historic times, have been obliterated by buildings, streets and railways, some are commemorated in local toponymy. Thus, as the names Thorney and Chelsea recall islands and ridges near and in the River Thames in Westminster and Middlesex, so do Battersea and Bermondsey on the Surrey side. Similarly, the Upper and Lower Marsh and the Cut near Waterloo Station accord with the descriptions applied on old maps to features extant when charted or believed by the cartographers to have existed.

The relevance of these remarks becomes plain when it is remembered that the first-known bands of post-glacial times to forage for subsistence in the Thames basin were equipped much like the Maglemoseans of the Baltic area, whose lithic kit at least is matched from the surface of flood-plain gravel overlaid by alluvium in the valleys of the Colne in Buckinghamshire, Hertfordshire and Middlesex, the Kennet in Berkshire, and the Lea in Hertfordshire,

⁴⁷ In particular, the detailed plan from John Rocque's survey begun in 1737 and finished ten years later: published in 1749 by John Pine and John Tinney.

as well as by the finds made in other conditions. From this it may be inferred that there must have been Mesolithic and later prehistoric relics in the Thames-side tracts of the kind described above. These, however changed to-day, in the main are shewn basically as of the flood-plain with alluvium on the inch-to-the-mile maps of the Geological Survey,⁴⁸ and corresponding of course to similarly charted beds along the left bank.⁴⁹

In regard to the south side of the Thames one thinks particularly of the vanished marshes of Lambeth, Southwark and Rotherhithe. From the neighbourhood of the first and second implements have been recorded: the third is now cut up by the great Surrey Docks and their intercommunicating locks. Considering, therefore, these ancient boggy haunts of food-collecting folk, opposite what are now Westminster and London, it is suggested that the still unreclaimed marshes farther down the right bank of the Thames offer a potential field for archæological inquiry. Were this examined it might prove as informative as the swampy ground near the mouth of the River Medway that gave a Mesolithic industry of Late Atlantic age to Mr. Burchell.⁵⁰

(b) *Southwark*

By a fortunate coincidence I am able to figure at once: (a) a heavily mineralized perforated mattock of red deer antler found in 1926 at a site on the marsh in Southwark; (b) sections lately exposed here by Dr. Francis Celoria's archæological diggings in Hopton Street and Mr. G. J. Dawson's in Emerson Place.⁵¹ Together these lend support to what has been advanced above. The implement (Fig. 3, No. 10) now preserved in the London Museum, was found by a Dr. J. S. Davies, 15 ft. (4.60 m.) from the surface, far from the Thames on Bankside at the depot of the former Metropolitan Gas Company,⁵² occupied to-day by the great power station of the Central Electricity Generating Board.

The implement has a singly bevelled and chisel-like working edge in line with the hole for a stick. Bored circularly through the stump of the bez tine, which was cut off without impairing the burr or crown, this perforation is aslant and tends to become elliptical in the beam of the antler. It was evidently contrived so that the infixed shaft should be at a marked angle to the main axis of the antler head. Disposed thus and made as described, the tool is nearer the Baltic Ertebølle standard (after, say, 5000 B.C.) than the earlier Maglemøsean. It is therefore in keeping with objects of the later Mesolithic facies from Thames-side.

⁴⁸ South London, Sh. 270.

⁴⁹ North London, Sh. 256.

⁵⁰ Burchell, *op. cit.* (1925, 1927, 1928).

⁵¹ Report by Dawson, G. J., in *Newsletter*, October/November 1964 (N.S. No. 2). Issued by the Thames Basin Archæological Observers' Group. 21-2.

⁵² Dr. J. Stanley Davies's letter to Dr. [Sir] R. E. Mortimer Wheeler, London Museum [38.187], dated 43 Tressillian Road, Brockley, S.E.4, 15 June 1938.

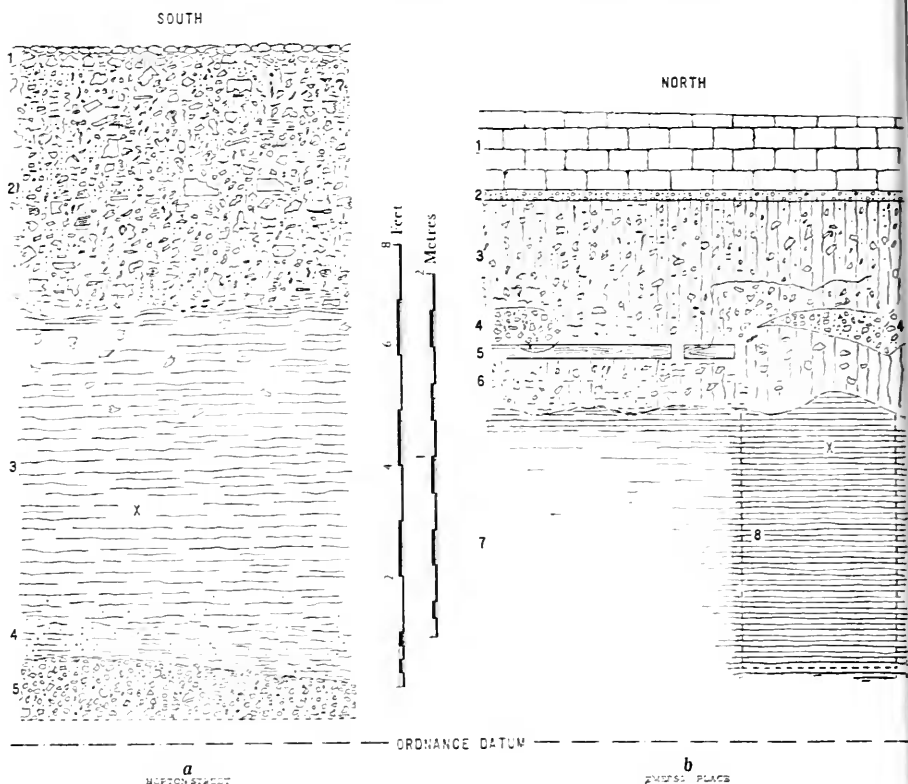


FIG. 4.—SECTIONS IN SOUTHWARK.

(a) HOPTON STREET. Based on annotated sketch by F. Celoria.

(b) EMERSON PLACE. Based on annotated sketch by G. F. Dawson.

(a) HOPTON STREET

- 1 Cobbles: surface level 12·54 ft. O.D.
- 2 Cobbles, mortar, rubbish, rubble, made-up ground, bricks, tiles, clay, sand and sherds: seventeenth to nineteenth century.
- 3 'Grey clay' with occasional seventeenth-century sherds.
- X Sample taken.
- 4 Clay sandier.
- 5 Gravel.

(b) EMERSON PLACE

- 1 Brick wall: surface level 11·37 ft. O.D.
- 2 Foundation of wall.
- 3 Black with rubble [Dawson 1].
- 4 Rubble [Dawson 1a (west); 2a (east)].
- 5 Sleepers beams of wooden building.
- 6 Black [Dawson 2].
- 7 Brown clay [Dawson 3].
- 8 Area A: (113 yards north of trench 2) undifferentiated brown clay.
- X Sample taken.

Diagrams (Fig. 4) based on Dr. Celoria's and Mr. Dawson's notes, shew the order revealed in the cuts at the places in Southwark between which the mattock was found. Substantially alike, the deposits comprise made-up ground, building and domestic refuse from the seventeenth to the nineteenth century, overlying marsh clay. This material is quite untouched down to the flood-plain gravel. Analysis confirms what could be expected, namely that the marsh clay contains no salt, since rain would dissolve and wash out any that it might have held. Scales of this clay cling to the antler tool, but insufficient and too thin for the palæobotanist's purpose. Instead, we must be satisfied with the pollen-counts awaited from the examination under the microscope of samples of Southwark marsh clay taken at 9 ft. (2.74 m.) from the present surface or 2 ft. 6 in. (0.76 m.) above the gravel in Hopton Street, and about 6 ft. (1.83 m.) down or 5 ft. (1.52 m.) above the gravel in Emerson Place.* Nevertheless, the smears of caked matter on the implement found at a great depth are evidence enough that this antler tool rested in marsh clay. With this and other data one can reasonably locate its lie in the deposit as very near the flood-plain gravel, the surface of which hereabouts is likely to be undulating.

(c) *Ham Fields*

(i) *Historical.* A large patch beside the Thames at Ham in north-east Surrey is just such a site of Mesolithic activity as must have been common in the territory fringing the river lower down. The place, shewn correctly on certain maps as Ham Fields,⁵³ has yielded a batch of industrial relics supposed or now believed to have been torn from a containing Holocene deposit. This is fortunate, since no representative group of Mesolithic artifacts has so far been found stratified in any of the other right bank localities mentioned here. Support for the inferences drawn from certain worked flints found at Ham emerges in the following paragraphs. Made long ago over a considerable period, these discoveries came from an area bounded on the west and north by the bow-shaped loop of the Thames, on the east by an imaginary line running half-mile north and south, and on the south by Beaufort Road.

Most of this area had been reclaimed, from marsh no doubt, at some remote date, and until not so long ago much of it was ploughed regularly. About the turn of the century the surface had been explored successfully for antiquities by Messrs. Walter Johnson and William Wright, who stated that the soil of the field where they had found flint implements was composed of sand and gravel of relatively late deposition.⁵⁴ Towards the west they came upon a

* Since these notes went to press, Dr. S. B. Chapman has told me that after three attempts to extract pollen from these samples, he has been unable to obtain a countable preparation. He concludes, therefore, that the pollen-content must be extremely low. Letter dated Furzebrook Research Station, 12 July 1966.

⁵³ E.g. *Bartholomew's Pocket Atlas and Guide to London*, Edinburgh (1922), Pl. 17.

⁵⁴ Johnson and Wright, *op. cit.*, 121.

depression from which they supposed prehistoric man obtained pebbles for making into tools. They picked up cores, small scrapers, knives, a hammer-stone and a tool that their description indicates was a *tranchet* axe or adze, a significant item when taken in conjunction with their definition of the other objects. Johnson and Wright thought that the implements were referable to late Neolithic workmanship, but, when other artifacts from here are considered, it seems that these searchers had very probably lit upon true Mesolithic products.

To-day the place could not be recognized by these inquirers. One of two large ponds, resulting after their time from the extensive winning by mechanical plant of gravel and sand from above and below the water level, is the resort of the Young Thames Navigators. South of this, the other has been filled. There now meets the eye a dreary expanse of weedy hummocks and tipped refuse, while to the east and south-east a housing-estate has arisen and tall buildings are under construction. All these replace the open tract and fields, the surface of which, following Johnson's and Wright's report, rewarded T. H. Knowles's examination about 1910 and the late J. G. Marsden's during the thirties of the present century.⁵⁵ The collecting of flint artifacts of Mesolithic aspect by these searchers has been recalled in recent works. The authors, however, have erroneously referred to the finding-place as Ham Common,⁵⁶ an area to the south-west which is really an extension of Richmond Great Park and will be duly mentioned, and which up till now has yielded little of prehistoric interest.

(ii) *The Site.* Mr. Marsden deduced that many of the artifacts found in a restricted area at Ham had lain in stratified conditions before being scattered on the surface. On the evidence advanced by him these particular relics are attributable to a Mesolithic industry. Because of this, Ham stands out alone among sites so far recorded along the Thames proper. Admittedly it is poorer than most apparently comparable finding-places on the banks of tributaries which have been brought to notice.

As it was my good fortune often to accompany Mr. Marsden at Ham and to add pieces of my own finding to his collection, so I can now confirm and make known his observations. In this I am helped because on his death his family passed on to me his diaries and the objects he had amassed. A number of these Mr. Marsden had already presented to the Horniman Museum, but, with the artifacts found afterwards by me at Ham, most of the relics are now preserved in the British Museum. Sets of Knowles's gleanings in the London Museum provide important corroborating examples.

⁵⁵ *Proc. Prehist. Soc. East Anglia*, VII, Pt. iii (1932-4), 429-30.

⁵⁶ E.g. Rankine, 'Mesolithic Research in Surrey. With a tribute to Wilfrid Hooper, LL.D., F.S.A.,' in *Surrey A.C.*, LII (1952) [1-10], 3; *idem* (1956), 21 and 22; Wainwright, G. J., *The Mesolithic Period in South and Western Britain*. Thesis for the Ph.D. degree submitted to the University of London Faculty of Arts, 1961, I, 153-4.

Much of the following under this sub-heading is based on Marsden's notes, and the diagram (Fig. 5) after his field-sketch gives an idea of the stratigraphy at Ham for about 700 yards (630 m.). (For the purpose of this communication the sequence is described according to Marsden and not in normal geological ascending order.) When

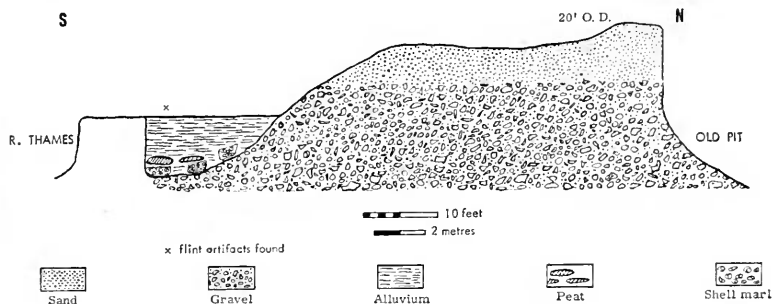


FIG. 5.—SECTION IN GRAVEL PIT AT HAM.

Based on annotated sketch by J. G. Marsden.

first seen the alluvium was exposed as a vertical section. Afterwards the deeper part became covered with callov tipped on to it from the gravel workings which broached and eventually removed a long ridge extending from a point near the Thames about quarter-mile south of Eel Pie Island almost to Beaufort Road. Loam, recorded as the main constituent of the alluvium, near its base contained a small bed of peaty matter and locally a thin layer of shelly marl at its junction with the flood-plain gravel. This was laid down in late Pleistocene times; therefore in terms of prehistory it is of Upper Palæolithic age. The maximum thickness of the alluvium was about 7 ft. (2.14 m.), thinning away entirely owing to the upward slope of the gravel upon which it was deposited. Above the gravel a bed of sand rose in places to about 10 ft. (3.05 m.) or 12 ft. (3.60 m.) higher than the alluvium.

(iii) *The Industry.* It was on the surface of the gravelly and sandy ridge, the composition of which had been noted by Johnson and Wright, that Marsden found gun-flints, metal buttons, blue-glass beads, scraps of Roman pottery and worked flints of different periods, some of the latest bearing different shades and thicknesses of surface change. Here, too, Knowles had collected numerous flint implements, including chisel-ended and barbed and tanged arrow-heads, chipped and polished axe-heads and flakes struck from them. None of these advanced types, however, was patinated, though a number of other objects exhibited various degrees of alteration.

Considerable interest and importance attach to the circumstance that some of the flint artifacts from Ham are altered. For at a meeting of the Prehistoric Society of East Anglia on 21 November 1934⁵⁷ Mr. Marsden exhibited specimens patinated from faintest

⁵⁷ *Proc. Prehist. Soc. East Anglia*, VII, Pt. iii (1932-4), 429-30.

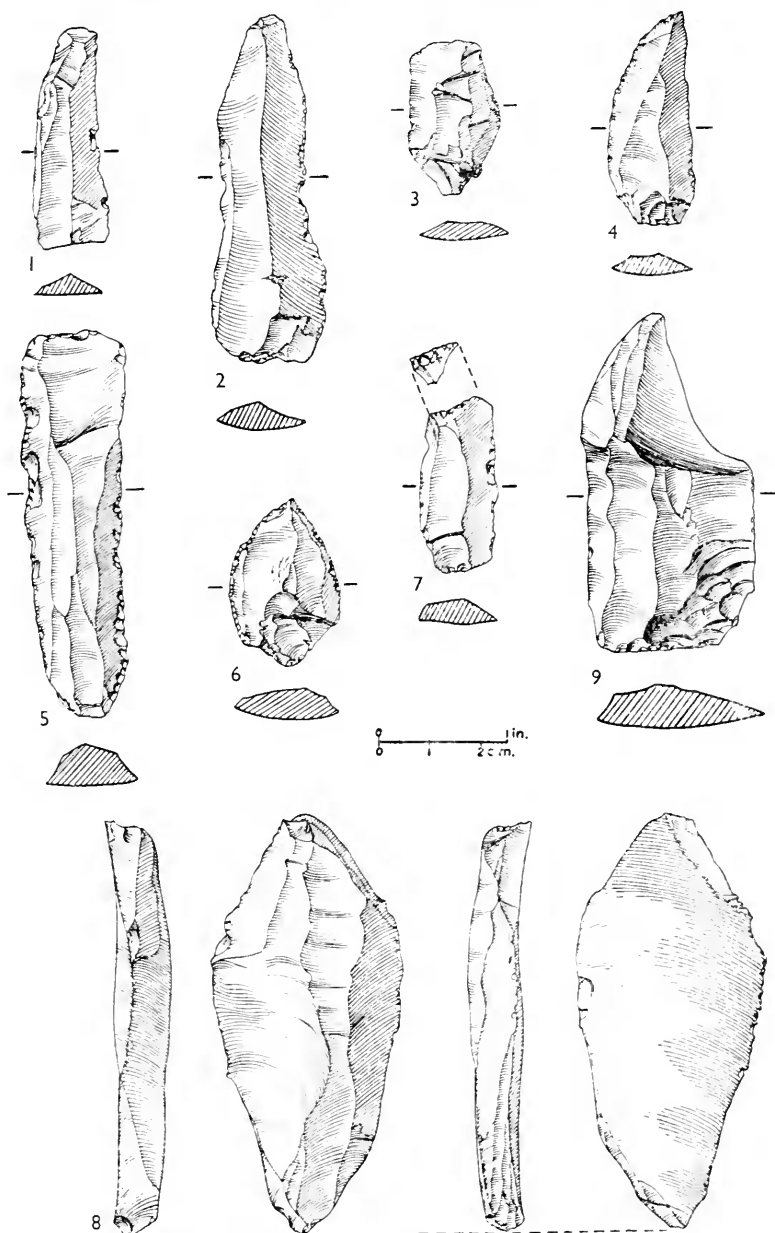


FIG. 6.—FLINT BLADE-IMPLEMENTS, ETC., FROM HAM FIELDS.

1-4, plain and utilized; 5 and 6, slightly trimmed; 7, end-scraper; 8, double end-graver; 9, core-trimming.

(1, 2 and 7, British Museum; 3, L.M. 176/211; 5, 6 and 8, L.M. 166, 60.176/208 and 193; 4 and 9, H.M. 36/190 and 36/200.)

blue to white. The group counted flakes, blades and cores, also tools made on all these, in fact types usual at Mesolithic sites turning out microliths, of which a dozen were shewn, besides micro-burins, graters, a small *tranchet* and core-trimmings. The display included specimens, peat-stained and encrusted with shell-marl, from the spot marked X on the diagram (Fig. 5). Exactly matching the patinated surface-finds, they had undoubtedly been brought up by the mechanical digger from the base of the alluvium. Since Marsden also dug out another patinated flake from the top of the gravel beneath 3 ft. (0.915 m.) of loam, it is likely that the process of patination occurred prior to the laying down of the alluvium.

Here are illustrated artifacts found at Ham and now housed in the museums named herein. The condition of the selected specimens argues for their having come from under the alluvium, and their aspect is in the main that of the output of a well-developed flaking industry based on Maglemosean. As usual, flakes and blades, plain and edge-worn from use as knives and scrapers, are the most numerous specimens, e.g. Fig. 6, Nos. 1, 2, 3 and 4. Besides signs of wear, some exhibit minimal trimming along margins, as No. 5, parallel-sided and more heavily patinated than its companions, and No. 6, leaf-shaped; while a few are simply dressed at the end as ordinary scrapers, e.g. No. 7. Being of common type, only these may be figured, especially since more significant tools can be illustrated from this site. Thus, a double graver (No. 8) is of great technological interest. So finely executed as to resemble the best in classic continental Upper Palæolithic contexts, this blade-implement is true to *bec-de-flûte* criteria by the backing of its plain, long, graver-facets. Such instruments suggest bone- or wood-working at Ham, though none of those who scoured the locality ever found any bone bearing an artisan's marks. However, the tools flaked in flint rods and cores uphold the supposition that the prehistoric squatters within the loop of the Thames at Ham coped with trees and branches of small section. *Tranchet* axes or adzes, e.g. the finely made tool, Fig. 7, No. 1, point decisively to this and to the cultural stage of their manufacturers. A sharpening-flake (No. 2) struck in the making of a *tranchet* is typical and confirmatory of the Maglemosean foundation of their industry. Exhibiting finer bifacial scarring, a reduced version of a flaked axe (No. 3) is probably cognate, since its condition accords with that of the other relics chosen for illustration from this station. A sharply-pointed implement, boldly and finely dressed on a thick flake (No. 4), is regarded as a pick. Resembling some short wedge-like implements seen in coastal Mesolithic assemblages, a patinated core, hump-backed, flat-faced and finely flaked all over, is a rare form (No. 5). It may be the head of a composite tool and meant to be inserted into a bone holder or sleeve.

As with all our sites producing assemblages of stone implements fully representative of Maglemosean economy and industrial tradition, there is a strong microlithic element in the finds from the ridge and adjoining field at Ham. Obviously, such blades as are

represented in Fig. 6, Nos. 1, 2, 4, 5 and 8, derive from large cores. Of these, however, no example can be figured, though the wide, thick, multi-faceted and bruised flake (Fig. 6, No. 9) is a trimming struck from a large one. No. 1, Fig. 8, detached in working down material, gave basic blades for microliths. The prismatic core (No. 2) is typical. For its narrow scars, fine flakes and blades, as well as finished microliths, demonstrate the high standard of Mesolithic flint-riving at Ham. An equally delicate core (No. 3) has

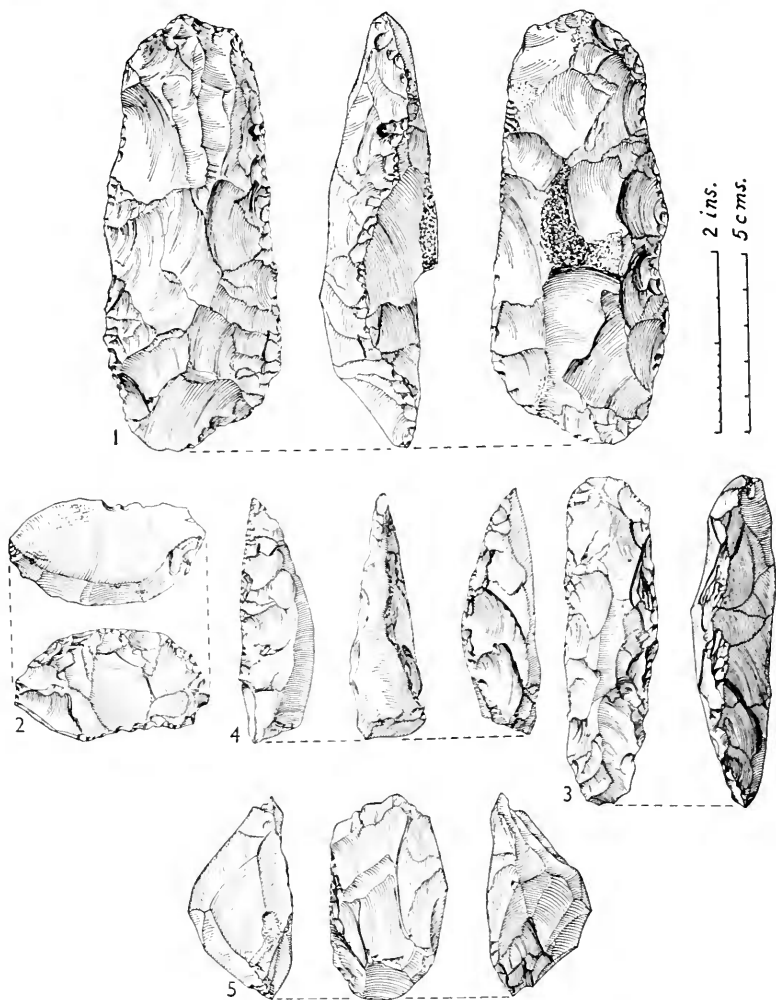


FIG. 7.—FLINT ARTIFACTS FROM HAM FIELDS.

1, *tranchet* axe; 2, sharpening-flake; 3, flaked axe; 4, pick; 5, core.

(1 and 2, H.M. 36-199, 36-191; 3, 4 and 5, L.M. 359, 396 and 60.176/159.)

been minutely trimmed by pressure along its wider edge to serve as a scraper of the type abundantly developed in Upper Palæolithic industries and surviving in those preserving their tradition.

Simple, untreated blades, as Nos. 4 and 5, and various non-geometric forms made on similar material are characteristic of a microlithic element commonly produced with heavier Maglemosean and descendant artifacts, as in such typical industries as those found at Broxbourne, Herts,⁵⁸ Iver and Denham in Bucks,⁵⁹ and at

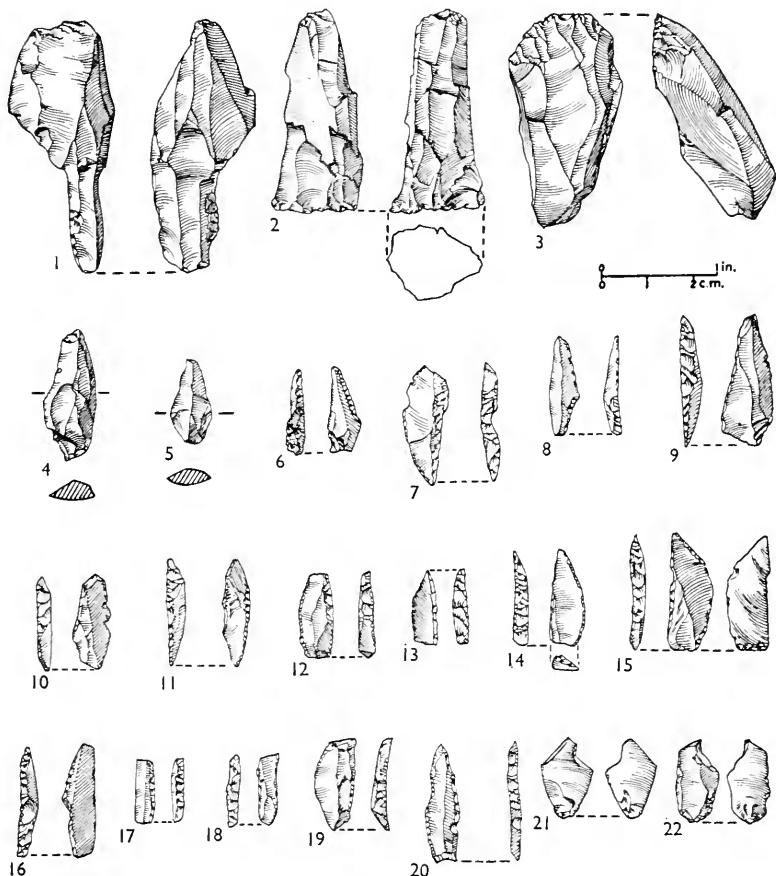


FIG. 8.—MICROLITHIC INDUSTRY FROM HAM FIELDS.

1-3, cores; 4 and 5, untreated blades; 6-20, various microlithic forms; 21 and 22, micro-burins.

(1, H.M. 36/189; 2, L.M. 160; 3, H.M. 36/186; 4-22, B.M.)

⁵⁸ Warren, Clark, Godwin, Godwin and Macfadyen, *op. cit.*, 110-2, 119 ff.

⁵⁹ Lacaille, *op. cit.* (1963), 160-1 and 171-5.

Thatcham, Berks.⁶⁰ On the whole the steeply edge-blunted microliths from Ham Fields are smaller and less shapely than the general run of specimens associated with *tranchets* under alluvial beds in the tributary valleys. However, blades obliquely dressed down part of one edge are present, the upper in No. 6 and the lower in Nos. 7, 8 and 9. No. 10, the largest in the group, is blunted down the whole of its straight and longest edge, giving it the look of a triangle. Examples treated straight down one edge are common, as Nos. 11-13; while No. 14 additionally shews working or wear along the opposite convexly curved edge and inverse retouch at the lower end. No. 15 is blunted along its straight margin and obliquely on the upper edge opposite and slightly on the same side near the narrow and retouched butt.

Rods abruptly blunted down one side are exemplified in the industry, No. 16 being complete, and Nos. 17 and 18 fragments of diminutive specimens of microlithic workmanship. A less delicate instance is provided by the partly treated blade of No. 19. An incipiently patinated hollow-based point (No. 20), its concave lower end trimmed from above, merits inclusion, since it is of a type understood to be restricted to south-east Britain.

As in so many industries of the Mesolithic complex, besides the simple method of making these steeply dressed implements, there was practised at Ham the specialized technique of dividing blades in the course of manufacturing microliths for fixing into, and so arming, the heads of bone or wooden fishing-spears. This is proved by some micro-burins, the peculiar waste resulting from preparative notching. The specimens Nos. 21 and 22 figured here, though from well-notched blades and positive enough, only exhibit feeble scars.

From the foregoing it can be inferred that the flints found sixty years ago by Johnson and Wright and described by them as carefully trimmed,⁶¹ as well as an implement we can reasonably regard as a *tranchet* core axe or adze,⁶² doubtless belonged to the same culture and industry as Marsden's and Knowles's patinated specimens. Brought up by the plough and by the diggings for the sandy gravel beneath the alluvium, the flint products left behind by prehistoric man had lain in much the same condition as the Mesolithic artifacts of Maglemosean facies discovered in the valleys of the Lea, Colne and Kennet.

Unfortunately, neither the peat nor the shell marl above the gravel at Ham was sampled for dating purposes. Had this been done, the site and its industry could no doubt have provided firmer standards for correlations. Once more, therefore, we have typology and condition as guides, but this time with analogy in the mode of occurrence. Not only so, but the relics from Ham constitute a fairly abundant and representative clutch of artifacts rather than isolated finds. Those concerning us are believed to have been extracted from

⁶⁰ Wymer, *op. cit.* (1959 and 1962).

⁶¹ Johnson and Wright, *op. cit.*, 12.

⁶² *Ibid.*

beneath the alluvium, and knowing exactly how comparable flints occurred elsewhere in the same drainage we can be more assertive. Taken altogether, therefore, the series from Ham can be ranged with the assemblages of Maglemosean aspect retrieved from the top of the flood-plain gravel under shell marl or peat assigned to the Late Boreal climatic phase (between 6,000 and 5,000 B.C.) at Broxbourne, Herts,⁶³ and Iver, Bucks.⁶⁴ However, of these industries, that at Ham may be later, for some of the microlithic shapes of this Thames-side station are more advanced in type than any Maglemosean form from the sites studied in the valleys of the tributaries. Nothing in any of these indicates derivation from non-geometric or geometric French Mesolithic industries of the south-west and north-east or from their Belgian counterparts.

(d) *Barnes Common*

Owing to its low elevation and history, Barnes Common in ancient times probably resembled in character Ham Fields beside the Thames. Because of this and its geographical situation, it is considered next as a site yielding relics of Mesolithic aspect.

Long known as a collecting ground of flint artifacts,⁶⁵ it is separated on the north from Barn Elms Park by the Beverley Brook which describes a wide arc beyond its western boundary. The Common lies on flood-plain gravel, the Park on alluvium. Each part of the whole area must have been attractive in its own way to food-collecting man. Nowhere more than 25 ft. (7.60 m.) above sea-level, in prehistoric times the first may mostly have been fairly dry ground dominating the tract just north of it. Across the stream, however, and within the loop of the Thames, opposite what to-day is Hammersmith, must have been a swamp. It is now occupied by the reservoirs of the West Middlesex Waterworks. Nearby there was found, I think in the mud and shingle, one of these curious objects generally attributed to man in a stage of Mesolithic cultural development, namely a quartzite pebble with a symmetrical, aslant, hour-glass perforation, Fig. 2, No. 5. One extremity is slightly bruised. Limy race adheres to the walls of the hole, which indicates that the relic must have lain long on the river bed. Nowhere common, this type, however, is already represented from the side of the Thames by a few specimens in the Layton Collection.⁶⁶

Having examined the ground and tidal fringe of the river, I conclude that the low-lying tract behind it was rapidly flooded at times, particularly when spates conjoined with tides and the distension of the estuary and of this reach of the Thames during the Late Boreal climatic phase and the succeeding Early Atlantic. Consequently, unless exceptionally situated upon a ridge or high bank, any camping-sites along the river in this locality would be

⁶³ Warren, Clark, Godwin, Godwin and Macfadyen, *op. cit.*, 124-7.

⁶⁴ Lacaille, *op. cit.* (1963), 152-4.

⁶⁵ Rankine, *op. cit.* (1952), 3 and 9.

⁶⁶ Vulliamy, *op. cit.*, 74-6 and Fig. 13 on p. 76.

repeatedly washed over. Implements, left by hunters, fowlers and fishers, must in such circumstances have been swept away and distributed or overlaid with sediment. Some might therefore have been brought to light by the dredging of the channel, or found beside the river as was the perforated pebble. Again, engineering works were no doubt responsible for the obliteration of prehistoric floors and the scattering of all that went with them.

Johnson and Wright neither mention nor illustrate artifacts from Barnes Common. The place, however, seems to have been known to G. F. Lawrence who collected so much for the London Museum;⁶⁷ and in his later summary, published in 1956, the late W. F. Rankine states⁶⁸ that there had come into his possession flints from Barnes Common assembled originally by one J. Pierce, of Wandsworth. This collection is said to have contained much Mesolithic material, but so far none has been figured. Mr. L. W. Carpenter, of Worcester Park, too, referring more recently to Mesolithic relics from Barnes Common, but without illustrating any, says⁶⁹ that these are often of the translucent brown flint that may have been taken from such local gravels as those of the Hogsmill valley and from Wimbledon Common (below, p. 38).

One could wish that archaeological finds of types ascribed to the Mesolithic period had been recorded in such numbers from the part north of the Beverley Brook as would afford bases for comparisons with the relics found on Barnes Common proper. For, besides those mentioned above, there are series from here in Mrs. Palmer's and Mr. Marshall's collections. It seems that the Barnes Common prehistoric lithic material is not rich in numbers or quality. However, in the collections examined there are a few specimens that may be Mesolithic. Although surface-finds, they owe their exposure on pebbly patches amidst the grass and heath to the baring of the ground by erosion, rains, human treading of paths, former rabbit-scrapes and the occasional shallow digging for sandy top soil. In or at the base of this the artifacts probably lay. Methodical excavation on Barnes Common might therefore be worth while. It could lead to the stratigraphical linking of the industries that here produced Mesolithic forms with those of the high grounds farther south in Surrey, and perhaps to its placing in relation to the series from under the alluvium at Ham.

Marshaled on an admittedly selective basis, a few objects from Barnes Common are figured. With others drawn for this article they demonstrate that the microlithic element was strong in the flaking industries of the small bands who foraged near the Thames. Unaccompanied by heavy tools, these instruments indicate that the human groups could have sought only small game in an unencumbered environment. Although not numerous, the artifacts from Barnes Common yet suffice to point to the many short sojourns made

⁶⁷ Rankine, *op. cit.* (1952), 3 and 9.

⁶⁸ *Idem* (1956), 19 and 22.

⁶⁹ Carpenter, L. W., 'Some Mesolithic Sites in North-East Surrey,' in *A.N.L.*, VI, No. 7 (1958) [155-8], 156.

here by their manufacturers. That there were no occupations in the strict sense, but only occasional visits, is indicated by the small concentrations of implements at different places. This appears to have been so too on the other open spaces considered in the following section.

Blades are simple, plain, e.g. Fig. 9, No. 1, and worn from use like the fragment, No. 2. Steep marginal trimming or blunting appears on the two long edges of the complete blades, as Nos. 3 and 4. Rather thinner than these, the piece, No. 5, by the fineness of its retouching along one edge only, is as close to the true microliths exemplified by the tiny specimens, Nos. 6 and 7, respectively a diminutive blade blunted along the right and left edges, and a sub-triangular form. Waste in the shape of a fine blade bearing the characteristic oblique micro-burin scar (No. 8) proves that the specialized method of severing such primary material was practised here. This example, however, was not preparatively notched, only skilfully struck at the intended spot. Additional evidence of the making of microliths on Barnes Common is provided by neat little cores, such as Nos. 9 and 10, the first, particularly, shewing by its scars what delicate bladelets were detached from it. Core-trimmings, Nos. 11 and 12, as well as a small basal fragment, No. 13, testify further to the working down of flint nodules.

Comparing the clutch from Barnes Common with others, one inclines to see that its components are all of a kind, and that the producing industry lacked the vitality expressed at Ham and so strongly in the heart of Surrey.

3. OPEN SPACES

(a) *Introductory*

Commons, recreation grounds and public parks, traversed or bordered by streams and comprising ponds, are features of London and its suburbs. Within confines, possibly little different from ancient outlines, several can be visualized much as they were in the past. Particularly is this so where a primitive vegetation recalls how in early post-glacial times they were clad with self-grown trees, shrubs and grasses. On some, prehistoric remains in the shape of barrows and camps have escaped the landscape architect and gardener. From Highgate,⁷⁰ Hampstead Heath⁷¹ and Muswell Hill,⁷² to mention three such places on the north bank, some surface-found stone implements are known and attributable to the Neolithic or

⁷⁰ Report by A. E. Brown in *Newsletter*, July 1962 (N.S. No. 15). Issued by the Thames Basin Archæological Observers' Group. 10-12.

⁷¹ *The Archæologist in Essex, Herts, London and Middlesex* (1959) [1960]. Issued by Regional Group 10, Council for British Archæology, p. 19, Nos. 199 and 120; report by A. E. Brown in *Newsletter*, March 1963 (N.S. No. 15). Issued by the Thames Basin Archæological Observers' Group. 8.

⁷² E.g. an axe-head of metamorphic rock described by the present writer in *T. London and Middx. A.S.*, XX, Pt. ii (1960), pl. and note facing p. 81.

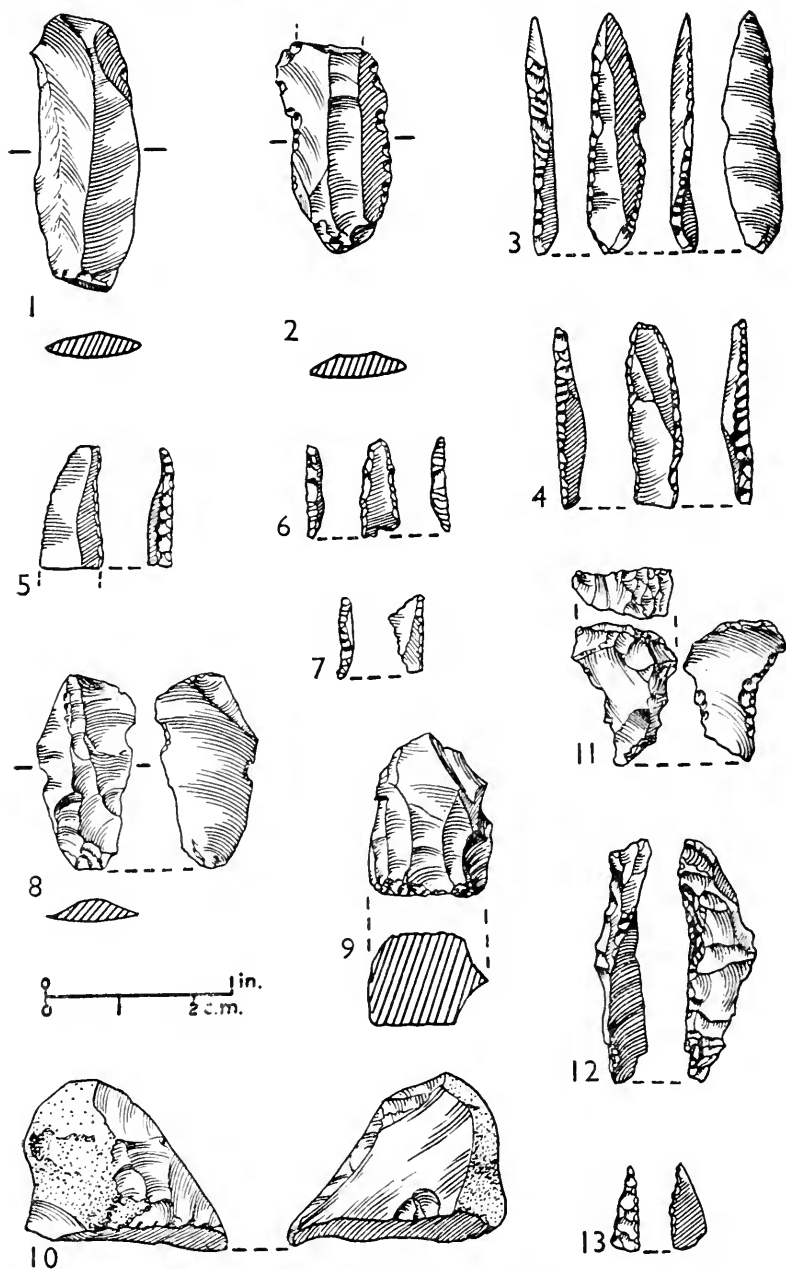


FIG. 9.—FLINT INDUSTRY FROM BARNES COMMON.

Blades: 1, plain; 2, utilized; 3 and 4, retouched; 5-7, trimmed in microlithic style; 8, micro-burin. Cores: 9 and 10. Core-trimmings: 11-13.

(1, 2, 9-11, S.L.P.; 3-8, 12, 13, Anthony Marshall Collection.)

Bronze Age, but none so far to the Mesolithic period.* Unless such areas were heavily wooded in late pre-Neolithic times, they must have been good hunting-grounds for small communities and migrant bands. Hence it is always possible that relics of Mesolithic type will be found there, since comparable expanses on the right bank have rewarded searchers.

Here, on the Surrey side of the Thames, many open spaces have survived the widespread urbanization that has taken place during the past century and a half. Several are still surprisingly large and in places quite wild. Some are low-lying like Barnes Common, others comprise high ground. Both sorts locally support small woods and heath, as do the large areas farther south in the Greensand and Wealden Clay which are well known for their prolific Mesolithic industries. It is in a few of the parks and commons now considered, and bearing just such vegetation, that there have been found some of the artifacts of Mesolithic facies we shall now notice.

On places of this kind not much has been written. Archæologists, however, ought to be grateful to such inquirers as Messrs. Johnson and Wright who so long ago as 1903 gave pleasing accounts of their antiquarian explorations in north-east Surrey. They then described stone implements among prehistoric finds, besides barrow-burials and remains of pit- and pile-dwellings. From their reports it emerges that they used the term Mesolithic in a different sense from what it connotes to-day.⁷³ Yet it seems that they had come across a few artifacts of Middle Stone Age type from open spaces, among these which recently (and inside London postal districts) repaid the scrutiny of Mr. Carpenter.⁷⁴ To him we are indebted for enlarging the list of finding-places of Mesolithic forms in Surrey by his extensive searching, chiefly at Ewell⁷⁵ and Old Malden.⁷⁶ These places, like Esher where Mr. Burchell made the important discovery of a Mesolithic microlith-producing industry,⁷⁷ may more properly be regarded as lying on the periphery of what Rankine calls the Thames section of the south-eastern region of our Mesolithic province.⁷⁸ They mark therefore the deeper penetration inland of some of the elements I have mentioned from the sites considered to be in the inner or nearer band.

* Since this was written, Roger Jacobi, a senior pupil of Merchant Taylors' School, and a team of schoolboys working under him have found a Mesolithic industry on the high ground on the borders of Middlesex and Hertfordshire. (R. M. Jacobi, 'The Prehistoric and Roman Sites at Sandy Lodge,' in *The Uxbridge Record*, No. 5, March 1965, pp. 9-10.) The yield of the young archæologists' excavations compares with that brought to light nearby in a digging by Mr. Desmond Collins while still at this famous establishment. So far as I know, Mr. Collins's discovery has remained unpublished.

⁷³ Johnson and Wright, *op. cit.*, 7, 11, 146.

⁷⁴ Rankine, *op. cit.* (1956), 21 and 23; Carpenter, *op. cit.*, 155-6.

⁷⁵ Carpenter, *op. cit.*, *passim*.

⁷⁶ Rankine, *op. cit.* (1956), 20 and 23; Carpenter, *op. cit.*, 155-6.

⁷⁷ Burchell, J. P. T., and Frere, Sheppard, 'The Occupation of Sandown Park, Esher, during the Stone Age, the Early Iron Age, and the Anglo-Saxon Period,' in *A. J.*, XXVII (1947) [24-46], 24-32.

⁷⁸ Rankine, *op. cit.* (1956).

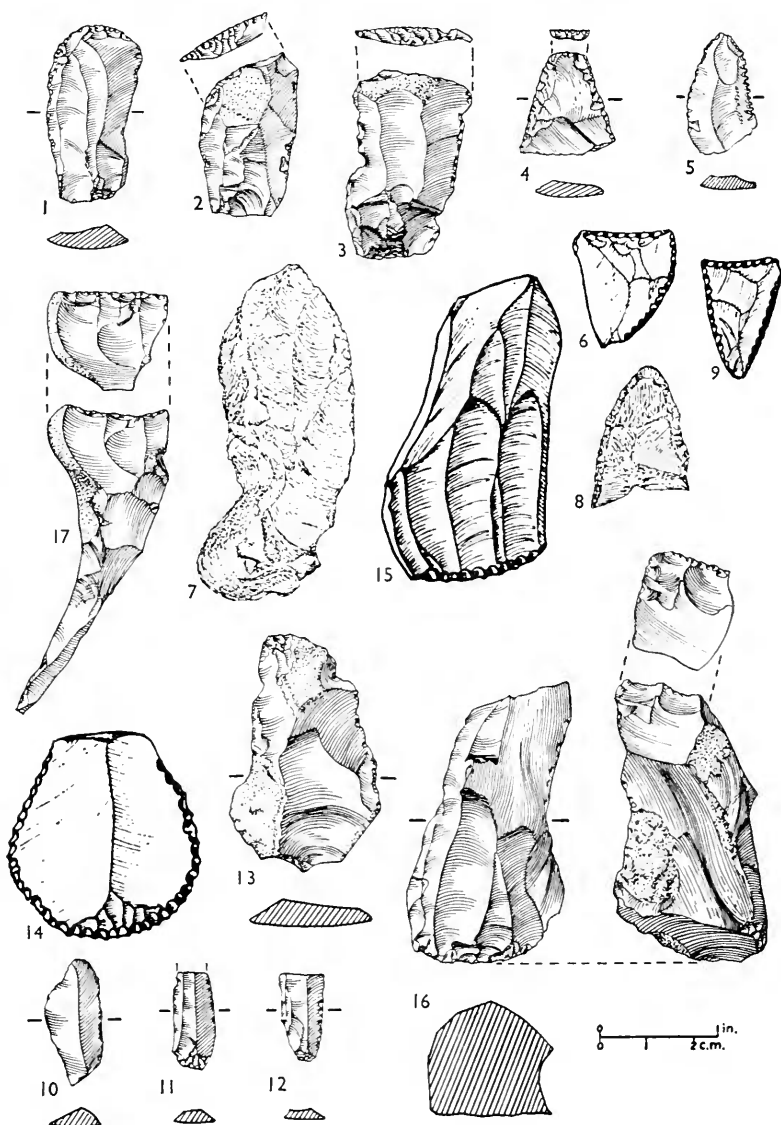


FIG. 10.—FLINT ARTIFACTS FROM OPEN SPACES.

Ham Common: 1-3, scrapers; 4, *petit tranche*; 5, saw. Richmond Park: 6, microlith (after Carpenter, 1958). Wimbledon Common: 7, knife (after Johnson and Wright, 1903); 8, *petits tranchets* or triangular arrow-heads (after Johnson and Wright, 1903) and 9 (after Carpenter, 1958); 10-12, utilized blades; 13, another with inverse retouch; 14, scraper trimmed in microlithic style (after Carpenter, 1958); 15 (after Carpenter, 1958) and 16, core-scrapers; 17, concave scraper.

(1-5, L.M., Nos. 60.176/247, 60.176/267, 60.176/105, 60.176/102; 6, 9, 14 and 15, L. W. Carpenter Collection; 10-13, 16 and 17, S.L.P.)

(b) *Ham Common*

Ham Common has been cited as producing the Mesolithic relics amassed by J. G. Marsden and W. H. Knowles, but, as we know, their discoveries all came from Ham Fields, a stretch lying to the west (above, p. 21). Inspection of collections, however, reveals that a few flint implements have been found on the Common proper. Comparatively small in area, this tract, from 24 ft. (7.60 m.) to 27 ft. (8 m.) above O.D., may be described as a low-lying, western extension of Richmond Park. Its flat surface supports self-grown trees and a dense cover of shrubs. Sandy exposures in clearings have yielded prehistoric artifacts that are now in the London Museum. These include some Mesolithic forms, a selection of which, illustrated in Fig. 10, is an addition to sets of credibly cognate representatives from other public grounds in north-east Surrey. It helps further to demonstrate the spread of the Mesolithic facies into the hinterland of the Thames and near its minor tributaries.

Of the three steeply trimmed end-scrapers on blades (Fig. 10, Nos. 1, 2 and 3) the last is the only patinated specimen from here. Light blue and worked at the top, it suggests that a blade of a pre-Neolithic industry was picked up, trimmed and re-used later. Two unaltered artifacts complete the small group. These are a finely executed *petit tranchet* (No. 4), and a saw with the finest of serrations along an edge of the upper part of a slim blade (No. 5).

(c) *Richmond Park*

The search for signs of the spread inland of the Mesolithic facies from the riverside leads to greater elevations and eventually to the well-studied Surrey territory. On the way I have not traced significant objects from Putney Heath which, owing to its situation and resemblance to Barnes Common, might be thought productive.

To those knowing the Surrey high grounds as the sources of rich series of Mesolithic artifacts, and as a field made classic by the works of Clark and Rankine, large areas like Richmond Great or New Park and Wimbledon Common are suggestive links between the finding-places along the Thames and the familiar major sites south of the river. Particularly ought much to be expected from the first-named. Regrettably, what little has been written on its possibilities has attracted scanty attention, and few relics of the sort now concerning us can be traced from this area. We have to be content with Carpenter's recent brief reference and Johnson's and Wright's sixty-year-old observation.

Without going into its history, however interesting before and after the enclosure of Richmond Park and other spaces in 1637, we take account of its geologically favoured and admirable situation. Moreover, it is well endowed with water, springs and ponds occurring even in elevated parts whence the ground slopes down to fair-sized streams. What is now a well-tended estate was a wild area in early post-glacial times, bearing only a light heath vegetation and surely abounding in game. Profitably, therefore, Mesolithic bands could

reach it from their riverine and palustrine encampments along the Thames. Spreading upon the high ground, they would adapt their equipment, devising forms of implements to the demands of a new environment. That this was like that controlled by the Surrey Lower Greensand or Wealden Clay is suggested by the few artifacts known from Richmond Park.

Commenting on this locality and the artifacts of Mesolithic appearance that he collected there, Carpenter says that White Lodge Hill, rising well above the 150-ft. contour and overlooking the Beverley Brook, yielded broken flakes and blades.⁷⁹ Similar relics could be recorded from around Dann's Pond and Ham Dip Pond near Ham Gate. Before him, Johnson and Wright reported cores and flakes close to the Penn Ponds in an area of gravel and sand,⁸⁰ more than 100 ft. (30 m.) above sea-level, now thickly covered with turf. If properly investigated, this might prove of greater archaeological import than the odd spots laid bare by rabbits, rains and footpaths. Carpenter also stresses that much of the higher ground is similarly composed, and suggests that if it were disturbed other sites would be discovered.⁸¹ His only illustration of an artifact from this park,⁸² an exceptionally wide and short form, with steeply blunted top and convexly curved left side, is sufficiently decisive to be reproduced (Fig. 10, No. 6).

(d) *Wimbledon Common*

Wimbledon Common, standing mostly above the 150-ft. contour, and attaining a maximum of 198 ft. (60 m.) above O.D., between the River Wandle on the east and the Beverley Brook on the west, provides material evidence of prehistoric man in various stages of his cultural development. Thus, stone implements have been picked from its surface; earthworks and burials occur within its irregular bounds. Little order has been made out of the first, but more serious attention has been paid to the second. Nevertheless, Carpenter, in his praiseworthy summary of Mesolithic sites in north-east Surrey, notes from Wimbledon Common several surface-found artifacts which he separates from apparently Neolithic and even later relics of stone industry,⁸³ ranking them with Mesolithic products. Like the implements from the commons of Ham and Barnes, and later no doubt than the objects enshrining the Maglemosean tradition of the fens and river banks, they bear the mark of the delicate handicraft that characterizes our well-developed microlithic industries. The artifacts indeed are what one could expect in such an area as Wimbledon Common.

Comprising, besides small marshy and clear ponds as well as rivulets, wide tracts of heath, scrub and small trees, much of the common carries down to the present day kinds of terrain visited by

⁷⁹ Carpenter, *op. cit.*, 156.

⁸⁰ Johnson and Wright, *op. cit.*, 128-9.

⁸¹ Carpenter, *op. cit.*, 156.

⁸² *Ibid.*, No. 18 of Fig. on p. 157.

⁸³ *Ibid.*, 155-6.

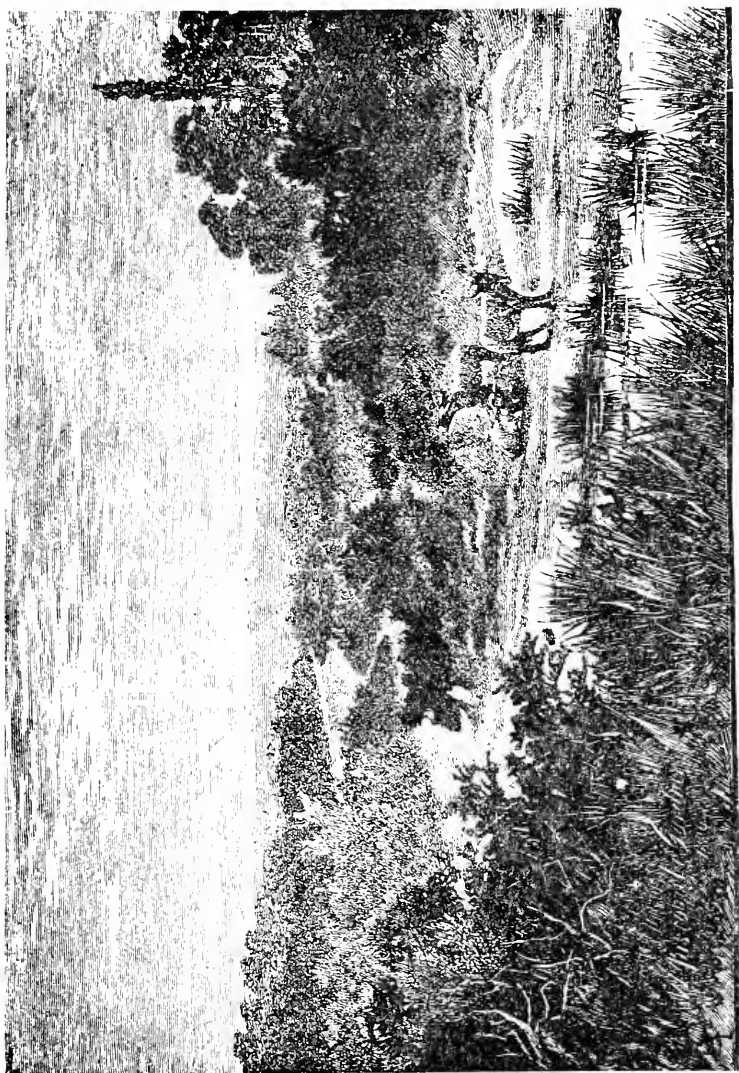


FIG. 11.—ON WIMBLEDON COMMON.

(From a drawing by W. Biscombe Gardner, in Walford, 1898. Reproduced by permission of Cassell and Co., Ltd.)

Mesolithic hunters and migrants. Fig. 11, reproducing a drawing made eighty years ago by W. Biscombe Gardner,⁸⁴ is better than any description. For, as depicted by the artist, a part of Wimbledon Common typifies the hunting-ground of early post-glacial man. On this public ground, therefore, the field-worker can visualize an open environment common during the Mesolithic Age, even as in the valleys of the Colne, Lea and Kennet he will see fenland surroundings like those also favoured then.

Johnson and Wright actively searched Wimbledon Common, but record vaguely the finding-places of flints, one being referred to as a ploughed area near Cæsar's Well.⁸⁵ Carpenter also reports specimens attributable to Mesolithic workmanship from sand beside a footpath crossing the golf links on the heights, half-mile south-west of the famous windmill⁸⁶ and bordering ground like that which attracted the artist. About here, too, on the top of the slope above a small stream, Mrs. Palmer picked up several.

The first-named authors figured three flint implements from Wimbledon Common⁸⁷—a knife, a scraper and a steeply dressed triangular form which they called an arrow-head. Since the originals are believed to be relevant, their illustrations of the first, Fig. 10, No. 7, and last, No. 8, are reproduced. Considering the other archaeologists' discoveries on this common, the first might be a core-trimming and the last a *petit tranchet* in the Mesolithic fashion, like that from Ham Common (No. 4), and therefore significant. Unfortunately, as is so usual in books and papers, no section accompanies the drawing to shew the thickness of the implement. A copy of their representation of this, however, is also included with that of Mr. Carpenter's drawing of another, No. 9.⁸⁸ To these are added figures of specimens chosen from Mrs. Palmer's garnerings.

Flint of the same rich, brown, banded variety, like that comprised in the gravels of the Hogsmill valley, served on Wimbledon Common, as on Barnes Common (above, p. 30), and at other sites in north-east Surrey, as well as a smoky grey sort. That fine flakes and blades, besides tools made on them and on cores, were produced in these materials, appears in the series in Fig. 10. All the blades, complete as No. 10, fragmentary as Nos. 11 and 12, exhibit wear from use as scrapers or knives. No. 13 shews additionally some inverse retouch on one side at the upper end, while No. 14⁸⁹ is a particularly well-made and minutely edge-retouched scraper. High, finely faceted cores were converted here into scrapers of the kind produced in Upper Palæolithic and descendant Mesolithic industries, as Nos. 15⁹⁰ and 16, the second being worn at the upper end. These rank with

⁸⁴ Walford, Edward, *Greater London A Narrative of its History, its People, and its Places*, London (1898), II, fig. on p. 475.

⁸⁵ Johnson and Wright, *op. cit.*, 125–6.

⁸⁶ Carpenter, *op. cit.*, 156.

⁸⁷ Johnson and Wright, *op. cit.*, 126–8 and Figs. 8, 9 and 10.

⁸⁸ Carpenter, *op. cit.*, No. 16 of fig. on p. 157.

⁸⁹ *Ibid.*, No. 6.

⁹⁰ *Ibid.*, No. 5.

the core-scraper, Fig. 2, No. 4, from the riverside muddy gravel at Battersea, the archaic aspect of which has been stressed (above, p. 11). Dressing of edges quite up to microlithic standards is exemplified in a steep concave scraper executed at the apical end of a core-trimming, No. 17.

It cannot of course be asserted that all these artifacts belong to one industry. At the same time, the style of the implements, the distinctive workmanship expended on them, and the presence of the wide triangular forms point to lateness in the Mesolithic order. Reasonably, therefore, these relics from Wimbledon Common can for the present be linked with most examined in this communication.

III. CONCLUSIONS

1. All the materials basic to the foregoing review of antiquities of Mesolithic, or Middle Stone Age, type come from sites on the right bank of the Thames (Fig. 12). The main river, adjoining tracts and neighbouring high ground are concerned, the territory being formerly or still within the administration of Surrey. Taken broadly, the relics of Mesolithic facies discussed in this communication match those from the opposite side. Nevertheless, while identical forms indicate the contemporaneity of industries on both sides of the river in and around London, certain Mesolithic types are lacking from the one or the other bank. Yet, altogether they give a fairer sketch of man's movements along and from the riverside on the right bank in Surrey than could have been drawn before. For the evidence is assessed in the knowledge gained of artifacts of Mesolithic character from left bank localities in London, Middlesex, Hertfordshire and Buckinghamshire. The relics will fit better into the picture one hopes can eventually be presented of the period between the Palæolithic and Neolithic Ages, particularly in the London area. This will be possible when more is known of the geological, vegetational and faunal background and early post-glacial developments of prehistoric industries in the lower and middle Thames, including tributaries and hinterland.

2. As on the left bank of the Thames, so on the Surrey side the most obvious Mesolithic forms are the so-called Thames picks, actually *tranchet* axe- and adze-like flaked flint tools. Very many have been dredged from the bed of the river or picked up in the muddy shingle between the tides. Several, credibly the earliest, exactly match Maglemosean implements from the Baltic lands. Their parallels have been found under peat of Late Boreal Age in the tributary valleys of the Lea, Colne and Kennet. By then the Maglemosean culture had attained and passed the peak of its development in its own fenland regions of growth. Before this some of its exponents had crossed the uplifted North Sea bed, and over the generations spread far along what is now our east coast, besides pushing up the Thames and tributaries, all in a similar environment.

However, while inheriting the tradition of the Pre-Boreal and

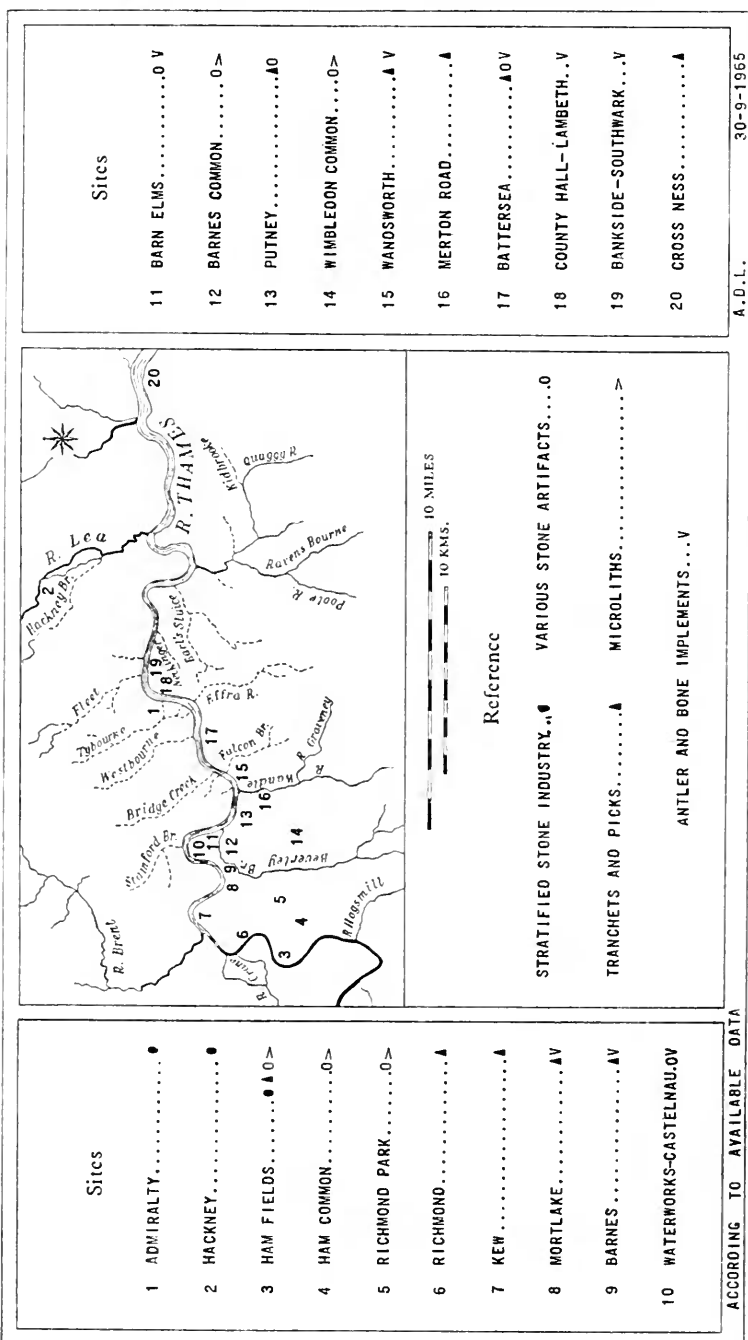


FIG. 12.—MAP INDICATING FINDING-PLACES OF ANTIQUITIES OF MESOLITHIC TYPE AROUND LONDON, MAINLY SOUTH OF THE THAMES.

Boreal Baltic Maglemosean, most of the relics discussed in this article appear to be of later Mesolithic execution, being fashioned after the English equivalent of the Ertebølle industries that are attributable to the Atlantic climatic phase. As such, they would be the products of industries active when the estuary and full tidal reach of the Thames and the lower parts of its tributaries in the London region were distended concomitantly with the submergence that followed the elevation. The facies of the tools shews that their users' economy was the same as that of their predecessors. Only, with the rise of forest trees, particularly beside the main rivers, the trend was towards the inclusion of heavier items of equipment.

Again, other artifacts are no doubt of Neolithic or even later date, and as flaked core-tools like their long-persisting counterparts of the high grounds in the south-eastern region of the Chalk.

3. Only rare stone flake- and blade-implements, suggestively of Mesolithic age, have been noted from the foreshore of the right bank in the area considered. Many, however, can be recorded from the strip behind it. Ham, the most important site, has yielded the only assemblage of Mesolithic types from Thames-side believed to come from a sealed deposit. These include *tranchets* and blade-tools, besides non-geometric microliths, among them *petits tranchets*, indicative of a late Mesolithic industry. Its output is therefore probably coeval with the majority of the *tranchets* from the riverside and with the equivalent of the Baltic Ertebølle at Lower Halstow, Kent.

4. Except for fishing-gear in the shape of barbed and plain points of red deer antler and bone of Maglemosean aspect from a few places on Thames-side bounding north-east Surrey, the other implements made in these substances from the right bank appear to be of an age with most of the resemblant objects from left bank localities. These consist mainly of mattock-heads perforated for hafting, the hole bored parallel to the axe-like but blunt working-edge. So arranged, they are in the style of the Ertebølle bone-work grown from the earlier Maglemosean. It is possible, as has been proposed, that such antler edge-tools, which were used perhaps for removing fat from the skins of large animals, and hammer-heads continued to be made in this part of the Thames basin by man in stages of cultural development later than Mesolithic. Condition, however, is usually an indication of age with antler artifacts from the bed or foreshore of the river. Nevertheless, at least one well-preserved piece is known from a great depth in marsh clay, which suggests that a determining factor of preservation is the lie of the relic.

5. Up till now the south or Surrey side of the Thames provides incomparably more artifacts of Mesolithic type testifying to man's movements towards the uplands in the interior than does the opposite equivalent. The evidence comes from several open spaces at no great distance from the river. Among these tracts are plateaux

between the valleys of tributaries flowing northward to join the Thames. That such high grounds, of which the vestiges of some now form parks and commons, supported light cover for small game, is reflected by the character of the flint implements picked from the surface. Few so far, but comprising various defined forms, they appear to be separable from Neolithic and later objects. Abruptly edge-dressed, domestic blade- and core-tools, besides micro-burins, emphasize the comprehensiveness of the producing industries and certify to the cultural stage of their practitioners. The repeated occurrence of the *petit tranchet* in these areas seems once more to point to a phase of Mesolithic industry even later than is represented nearer the Thames.

6. By supplementing work already done in the Mesolithic field of inquiry in Surrey, this communication brings to notice many hitherto unpublished reminders of the rich industries of artifacts made in Middle Stone Age style that thrived along the right bank of the Thames between what are now Teddington Lock in the west and Rotherhithe in the east. The purpose of these notes will be accomplished if they lead to the investigations in different conditions that they hopefully suggest may be conducted within or without the same band. Outdoor, these researches could be concerned with the shores and fringes of the right bank, without forgetting gravel- and sand-exploitations and other utilitarian excavations, besides the undrained or reclaimed marshes backing the estuary, and also the high grounds. As regards both, modern methods used as materials and circumstances dictate will lead to the refining and elaborating, the correcting, too, of some views expressed here and offered as guides to future inquiry.

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Past awards by the Trustees of the late Lord Leverhulme and the British Academy are thankfully remembered, for they enabled me to carry out the initial outdoor and indoor researches of a work that has been continued owing to the facilities granted and aid generously provided by the Wellcome Trustees and the Wellcome Foundation Limited, London.

Save for those acknowledged here, in the text, or sub-titularly, the drawings of artifacts appearing in this communication have been executed by Miss M. O. Miller, of the British Museum, to whose talent I once more pay grateful tribute. Lastly, I wish to record that my assistant, Mrs. C. F. Hayes, has my thanks for her patient dealing with the script in its different phases.