THE TOM HASSALL LECTURE FOR 1994

The Palaeolithic Archaeology of the Oxford Region

By DEREK A. ROE

SUMMARY

This paper updates the account of the Oxford Region Palaeolithic given by the author in 1986. Since that time, not only have various new discoveries been made locally, but also our whole perception of the Pleistocene sequence in Britain has altered, the time-scale has extended and a far more detailed succession of climatic stages has been recognized. Discoveries in the Upper Thames Valley have made an important contribution to this process. The author discusses the local Palaeolithic material, with reference to its wider context. Most major components of the British Lower and Middle Palaeolithic are represented in the Oxford Region; Upper Palaeolithic material remains very scarce, though one new site of considerable interest has come to light since the previous report.

INTRODUCTION

This article is based upon the first Tom Hassall Lecture, the purpose of the lecture series being to keep Oxford Region archaeology up to date in a series of reviews, period by period. For a reviewer of the Palaeolithic archaeology of the area, there are certain special problems, which start with a time scale that is enormously long, even when compared with the remainder of Prehistory. The natural background was constantly changing and, while it is easy enough to say that erosion and sedimentation were the main agencies of topographic change, their nature was so varied and their scale so great that they were continually masking or destroying the evidence for previous landscapes so that only fragments survive. Ancient topography is only one aspect of reconstructing the natural background to early human settlement, and not the most important. In the Pleistocene deposits beneath Oxford itself, there is evidence for climates cold enough to favour reindeer, woolly mammoth and woolly rhinoceros, but also for conditions warm enough for hippopotamus and certain molluscan species which today would be more at home in the Mediterranean region. It goes without saying that contemporary climate was a major factor in determining whether the region was suitable for habitation by early humans at any particular time, because it controlled what food and raw material resources would be available, and sometimes whether the area was even accessible. Few Palaeolithic sites are anything like complete or undisturbed, and too often all that survives is a portion of the stone artefacts, probably in a secondary context. There is a limit to what one can learn from such discoveries. Accordingly, Palaeolithic archaeology cannot really stand by itself as a discipline, without the support of all the other sciences of Quaternary Research.

Problems of this kind would be encountered in studying the Palaeolithic settlement of any

region. In the Upper Thames Valley, sites are also relatively scarce. The reason for this is that our region lies close to the extreme north-western edge of human settlement, right through the Palaeolithic period (Pontnewydd Cave, Clwyd, North Wales is the remotest site of all, for the Lower Palaeolithic). It also lies at the edge of the distribution of the favoured stone raw material, flint, and while the early humans certainly used other rocks in Britain,[1] there were no population pressures to drive them into the remoter areas if they did not wish to go there. This 'far north-west frontier' aspect of the Oxford region in the Palaeolithic period gives it a special interest, and serves also to remind us that 'Oxford Region' is not really an appropriate term to use in a discussion of local Palaeolithic settlement – nor should one be constrained by trying to define it too tightly. For the purposes of this paper, the borders of modern Oxfordshire will serve as a defining limit, and they offer us an area with chalk downlands in the south, through which the Thames passes via the Goring Gap: 'Middle Thames' below it, and 'Upper Thames' above.

In the chalk region of south Oxfordshire, flint is abundant, and forms a major component of gravel deposits. In the centre, north and west of the county, it is scarce, and the lithology of the gravels is quite different, with clasts of the rocks which compose the Cotswolds, and other elements from the Midlands and northwest, mainly brought into the Upper Thames basin by glacial processes. Quartzite pebbles[2] are important amongst the latter, not least because Lower Palaeolithic people used them for tool manufacture. As a region for settlement, the Upper Thames basin seems likely to have been an area of relatively low relief, crossed by a major river, with its floodplain and tributaries, much as today, though the actual courses of the rivers may not have been the same.

The account of the Palaeolithic of the Oxford Region which this article updates was published in 1986,[3] though it had actually been compiled and given as a lecture in 1982. Various delays affected completion of the volume in which it appeared, but only minor updating of the 1982 text was allowed; effectively, therefore, the present article is an update after 12 years. There are new local discoveries to report (Fig. 1) but, far more significant, so far as updating is concerned, are the major advances which have taken place during that time in our understanding of the chronology and complexity of the British Pleistocene sequence.

Amongst important publications referring to the local Palaeolithic should be noted the volumes by D. Briggs et al.,[4] J.A. Tyldesley,[5] R.J. MacRae and N. Moloney[6] and D.R. Bridgland.[7] The first of these was the first attempt for some while to draw together the Pleistocene geology of the Upper Thames into a sequence, taking account of new discoveries since the days of K.S. Sandford, W.J. Arkell, M.E. Tomlinson and W.W. Bishop. R.J. MacRae contributed a chapter on the Palaeolithic finds, for a very large number of which he had himself been responsible over the preceding decade. Tyldesley's volume contains a

[1] R.J. MacRae and N. Moloney (eds), *Non-Flint Stone Tools and the Palaeolithic Occupation of Britain* (BAR British Series clxxxix, 1988).

[2] D.R. Bridgland, 'The Quaternary Derivation of Quartzites used by Palaeolithic Man in the Thames Basin for Tool Manufacture', in R.J. MacRae and N. Moloney (eds), op. cit. (1988), 187–98.

[3] D.A. Roe, 'The Palaeolithic Period in the Oxford Region', in G. Briggs, J. Cook and T. Rowley (eds), *The Archaeology of the Oxford Region* (1986), 1–17.

[4] D.J. Briggs, G.R. Coope and D.D. Gilbertson, *The Chronology and Environmental Framework of Early Man in the Upper Thames Valley: a New Model* (BAR British Series cxxxvii, 1985).

[5] J.A. Tyldesley, *The Wolvercote Channel Handaxe Assemblage: a Comparative Study* (BAR British Series cliii, 1986).

[6] op. cit. (1988).

[7] D.R. Bridgland, *Quaternary of the Thames* (Joint Nature Conservation Committee, Geological Conservation Review Series 7, 1994).

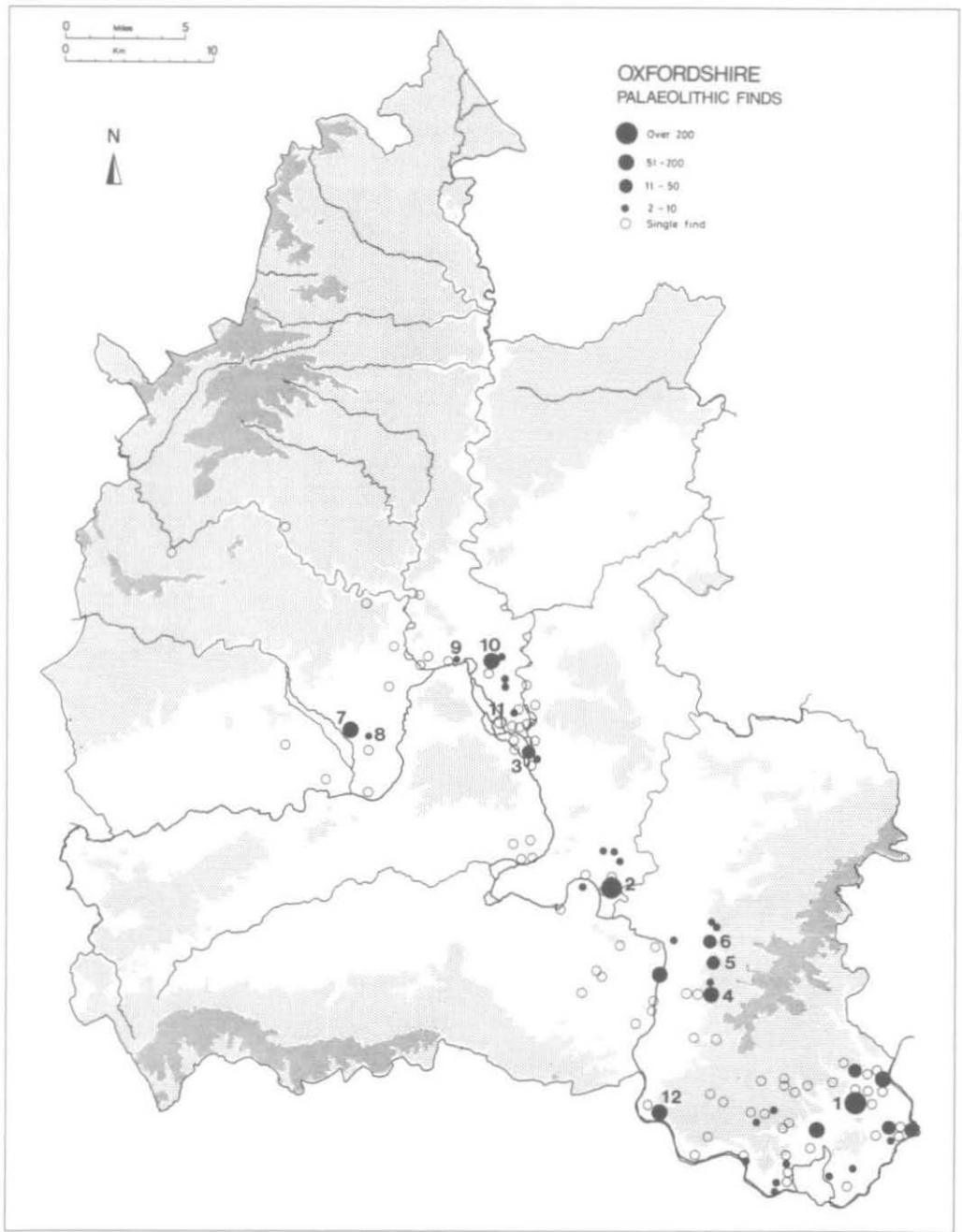

Fig. 1. Distribution of find-spots of Palaeolithic artefacts in Oxfordshire, plotted on a map showing modern relief and rivers. This is an updated version of John Steane's map in *The Archaeology of the Oxford Region* (1986). The numbered find-spots are those particularly referred to in the present paper: 1, Rotherfield Peppard: Highlands Farm Pit; 2, Berinsfield: Mount Farm and Queensford Farm Pits; 3, Iffley: Cornish's Pit; 4, Crowmarsh: Turner's Court Pit; 5, Benson: Gould's Grove Pit; 6, Ewelme: Rumbold's Pit; 7, Stanton Harcourt: Gravelly Guy; 8, Stanton Harcourt: the Stanton Harcourt Channel site at Dix Pit; 9, Cassington: A.R.C. pits beside the A 40 road; 10, Wolvercote: the Wolvercote Channel site; 11, Osney Lock; 12, Goring: Gatehampton Farm.

detailed study of the important Wolvercote Channel Lower Palaeolithic site and its artefacts, in their British and European context, based on a section of her Oxford D.Phil thesis. MacRae and Moloney, in their volume, range beyond the Upper Thames Valley, but include strong contributions on our own region, from both the archaeological and various geological viewpoints: the particular theme is the use by early humans of rocks other than flint, to which I have already referred. Bridgland's book is a detailed study of the Quaternary of the whole of the Thames Valley, in which he devotes two chapters to the Upper Thames, building on and adding substantially to the account of D. Briggs et al (op. cit.), including the results of later fieldwork. Himself a Quaternary geologist, Bridgland takes account of the archaeological evidence, and he offers an interpretation of the whole Upper Thames sequence in relation to current views of the overall British Pleistocene succession and to the Oxygen Isotope Stages (see below) which provide the best basis for worldwide correlations. Also to be noted in this brief review of the recent literature are the publications which have recently emerged as a result of the three-year Southern Rivers Project, sponsored by English Heritage and led by John J. Wymer. The Project aimed to compile a record and assessment of Lower and Middle Palaeolithic sites across southern England, county by county, partly to establish a proper database and partly to aid assessment of the threat to such sites and the likelihood of further finds in the course of future aggregate extraction. In the First Report will be found coverage of the Upper Thames area, with a site-by-site survey and some 14 maps, at 1:25,000 scale, showing find-spots in relation to Pleistocene deposits. It should be emphasised that this is a work of record rather than interpretation, but it should prove of extraordinary value to anyone wishing to become actively involved in a study of the Palaeolithic of the Oxford Region. The Southern Rivers Project's archive reports are already available for consultation, via the Trust for Wessex Archaeology and English Heritage, and in due course a monograph will be published, comprising a collation of the three annual reports.

THE PLEISTOCENE SEQUENCE

Twelve years ago, the British Pleistocene stages were those set out by the Geological Society of London's Quaternary Sub-Committee in 1973,[8] with only the beginnings of general awareness[9] that there were serious gaps in this scheme, which offered the following major stages:

Glacials	*Interglacials*
(Beestonian)	
	Cromerian
Anglian	
	Hoxnian
Wolstonian	
	Ipswichian
Devensian	
	Flandrian (Postglacial)

[8] G.F. Mitchell, L.F. Penny, F.W. Shotton and R.G. West, *A Correlation of Quaternary Deposits in the British Isles* (Geol. Soc. Lond., Special Report no. 4, 1973).

[9] Roe, op. cit. (1986), 2–3.

It had long been apparent from the 'deep sea core' analyses of certain important marine sediments[10] that the actual fluctuations of temperature during the Pleistocene period were vastly more complicated than any scheme with so few glacials and interglacials could indicate. Certain minute foraminifera, of whose remains the deep-sea sediments in question are largely composed, reflect changes in ocean surface-water temperature and composition, that are directly related to changing global climate, including the expansions and contractions of the polar ice-sheets. One particular effect of such changes recorded by these microfossils is variation in the proportions of two isotopes of Oxygen, ^{16}O and ^{18}O, in the calcium carbonate of their shells. Cores taken from the ocean bed in particularly favourable areas may offer a record of uninterrupted sedimentation covering the whole of the Pleistocene, and more: oxygen isotope analysis of such cores can accordingly provide a 'palaeotemperature curve', showing the succession of warmer or colder episodes of global Quaternary climate (Fig. 2). The peaks and troughs of this curve have been assigned numbers and are referred to as 'Oxygen Isotope Stages'; increasingly, these numbers are now being used by Quaternary researchers, including Palaeolithic archaeologists, in place of named glacials, interglacials and interstadials. The odd numbers represent warm events and the even ones cold stages. As the dates of the literature show, this system is not new since my previous article: it is just that it has at last come into its own. The difficulty has always been to establish correlations between the fragmentary record usually offered by terrestrial Pleistocene sequences (where the archaeological sites occur) and the complete, but somewhat detached, one provided by the marine sediments. Fig. 2 shows only the last 9 Oxygen Isotope Stages, but there are at least 19, alternately warmer and colder, between the present day and the start of the Middle Pleistocene around 0.7 million years ago; compare that with the list of names given above, which was originally believed to cover the whole Pleistocene period. Some authorities now distinguish over 60 numbered stages in the marine record for the full length of the Pleistocene.[11] In our own region, the Stanton Harcourt Channel, an important interglacial channel first discovered in the late 1970s at Dix Pit, Stanton Harcourt, was one of the first British discoveries to show that a change of thinking was necessary, by not fitting into the existing framework, which could offer only three Pleistocene interglacials.

In the Oxford Region, there are various sets of Pleistocene deposits which are the main sources of Palaeolithic artefacts; these govern the distribution mapped in Fig. 1.

1. In the south-east corner of Oxfordshire, there are gravel deposits which properly belong to the Middle Thames, notably the so-called Ancient Channel between Caversham and Henley.

2. On the north-facing slope of the Chilterns, in the area of Benson and Crowmarsh, there are massive accumulations of soliflucted gravel, the Wallingford Fan Gravels, consisting of material which has sludged down the escarpment slope and valley sides, under periglacial freeze-thaw conditions, probably on several different occasions.

[10] See for example N.J. Shackleton and N.D. Opdyke, 'Oxygen-isotope and Palaeomagnetic Stratigraphy of Pacific Core V28–239: Late Pliocene to Latest Pleistocene', *Geol. Soc. America Memoirs*, vol. 145 (1976), 449–64.

[11] cf. Bridgland, op. cit. (1994), 11, Fig. 1.2; this is based on work by W.F. Ruddiman and others, reported in their paper 'Pleistocene evolution: Northern Hemisphere ice sheets and North Atlantic Ocean', *Palaeoceanography*, 14 (1989), 353–412.

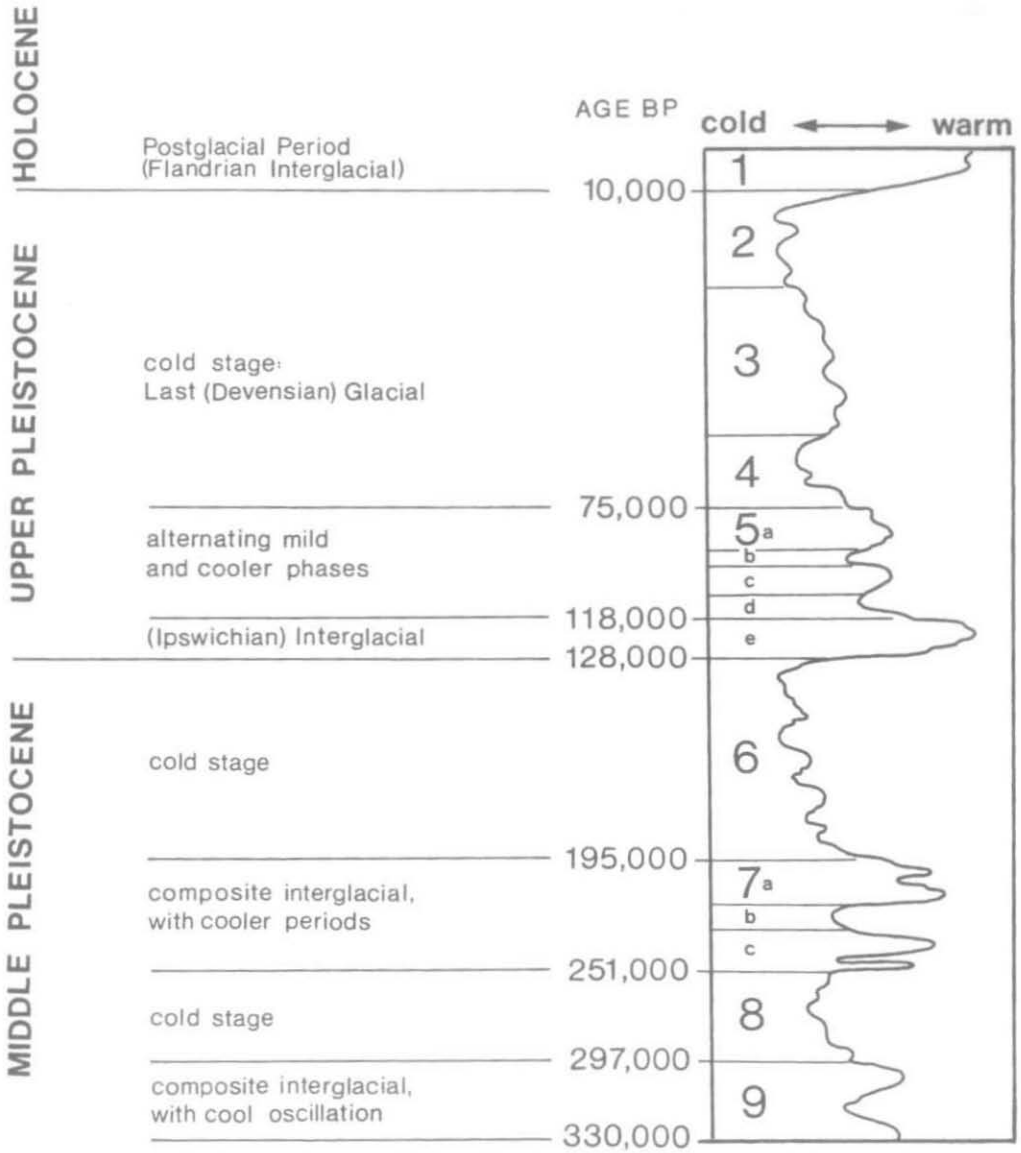

Fig. 2. Oxygen Isotope temperature curve, showing numbered stages, with approximate dates, for the Upper Pleistocene and part of the Middle Pleistocene.

3. North of the Chilterns and the Goring Gap, there are the gravel terraces of the Upper Thames and its tributaries, with important locations both upstream and downstream of Oxford. There are several of these terraces, and some have channel features related to them (Fig. 3). We may also include the buried channel below the present river and certain alluvial deposits, which formed at the close of the Last Glaciation.

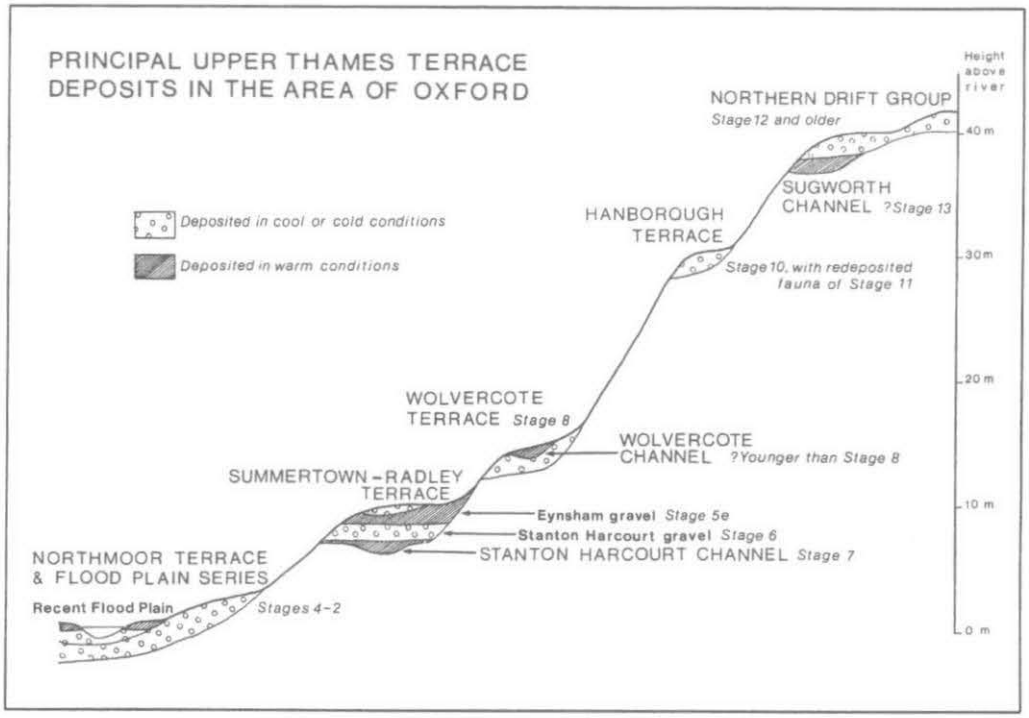

Fig. 3. Relationships of some important Upper Thames terrace deposits in the area of Oxford. Suggestions are offered for correlation with Oxygen Isotope Stages, though gaps and uncertainties remain.

I discussed these and provided references in the previous account.[12] A recent detailed review of high quality by Bridgland[13] is now available, covering the Pleistocene of the whole Thames Valley; while its author has his own interpretations and correlations to put forward, some of which may prove controversial, he describes all the key sites and deposits carefully and documents admirably the history of research on them and the views of other workers. His account is abundantly illustrated, with maps, section drawings and area sequence diagrams. The present paper is intended to concentrate on the archaeological evidence, and the ways in which our understanding of it has changed in recent years, so I will refer to salient points of the Pleistocene sequence without discussing them in detail.

The River Thames, during the Early Pleistocene, followed a course substantially to the north[14] of its present familiar route via Buckinghamshire, Berkshire and Greater London to the modern estuary. It was diverted to approximately its present course by a major ice advance in the Middle Pleistocene, and it seems firmly established that it was the maximum ice advance of the Anglian Glaciation which achieved this, apparently during the cold Oxygen Isotope Stage 12. Interglacial deposits which antedate the diversion of the river do

[12] Roe, op. cit. (1986), 2–4.

[13] Bridgland, op. cit. (1994).

[14] Some recent information about this is included in a paper by C.A. Whiteman and J. Rose, 'Thames River Sediments of the British Early and Middle Pleistocene', *Quaternary Science Reviews*, vol. 11, no. 3 (1992), 363–75.

exist in our region, most notably certain high level gravels on the Chilterns at Priest's Hill near Nettlebed,[15] but no traces of human presence appear to be associated with them. There are also important pre-Anglian interglacial deposits in the Upper Thames valley at Sugworth, between Oxford and Abingdon.[16] These have proved of great significance to geologists working out the early history of the Upper Thames drainage, but again no associated traces of human activity have yet come to light.

The river gravels of our region are remnants of accumulations which formerly covered the floors and lower flanks of the main valley, and tributary valleys, as they were at the time of deposition. Subsequent processes of erosion and minor changes in the rivers' courses have left a series of disconnected patches of the sediments, rather than a complete and continuous succession, as evidence for the changing climates and environments of the Pleistocene. In addition to that, we are usually dependent on commercial exploitation of gravel by quarrying to provide us with substantial exposures to study. This can only be a 'hit-or-miss' situation, so far as locating archaeological material is concerned – a very different matter from the planned excavation of known and visible archaeological monuments in later periods. The structure and contents of each gravel should reveal whether it was laid down in warm or cold conditions, but only rarely are any of the contents, such as faunal remains, so distinctive as to carry a clear time-label in terms of Oxygen Isotope stages. An example is the *in situ* occurrence of remains of Hippopotamus, since the presence of the latter in Britain seems to be confined to sub-stage *e* of Oxygen Isotope Stage 5. For suggested Stage ascriptions, see Fig. 3.

The evidence for Palaeolithic occupation of our region is almost entirely confined to stone artefacts: implements, and the by-products of their manufacture. These also occur in the gravels, more often than not transported by natural processes from their original place of manufacture or use. In the ordinary course of fluviatile erosion and sedimentation, they can even be transferred from the gravels of an older terrace to those of a younger one, and this may happen more than once. In assessing the significance of stone artefacts found in a gravel context, the archaeologist accordingly needs to establish if possible whether or not they are contemporary with that particular phase of gravel deposition. Best of all, of course, are sites where the artefacts are numerous, fresh and minimally disturbed, but such occurrences are few and far between, especially for the earlier Palaeolithic. The Wolvercote Channel Lower Palaeolithic site may have been an example, but the material came to light too long ago to have received proper examination using the archaeological techniques that would now be available.

NEW PERCEPTIONS OF THE BRITISH PALAEOLITHIC

Since 1986, a number of discoveries have been published which indicate that humans were first present in Britain before the Anglian glaciation, Stage 12, probably by about half a million years ago. High Lodge in Suffolk is one such site.[17] Here it was shown that existing

[15] D.R. Bridgland gives a useful summary, citing other references: op. cit. (1994), 105–10.

[16] F.W. Shotton, A.S. Goudie, D.J. Briggs and H.A. Osmaston, 'Cromerian Interglacial Deposits at Sugworth, near Oxford, England, and their relation to the Plateau Drift of the Cotswolds and the Terrace Sequence of the Upper and Middle Thames', *Phil. Trans. Roy. Soc., Series B*, vol. 289 (1980), 55–86; see also D.R. Bridgland, op. cit. (1994), 41–9.

[17] N.M. Ashton, J. Cook, S.G. Lewis and J. Rose (eds), *High Lodge: Excavations by G. de G. Sieveking 1962–68 and J. Cook 1988* (1992).

sediments, laid down in relatively mild conditions and containing artefacts, had subsequently undergone bodily transport by the ice-sheets of the same massive Anglian glacial event which was responsible for the diversion of the Thames to its present course, mentioned in the previous section. The associated faunal remains at High Lodge, sparse though they are, also indicate an age within the Cromerian complex which precedes the Anglian. At Boxgrove, in West Sussex,[18] some important virtually undisturbed Acheulian occurrences are now attributable to an interglacial older than the Hoxnian, on faunal and stratigraphic grounds: Stage 13 would appear most likely. There are a number of other British sites which seem likely to be of pre-Anglian age, though in these cases the actual evidence is mostly less conclusive.

In the case of High Lodge and Boxgrove, it is not only the chronology for its own sake that is of interest, but the nature of the artefacts. At High Lodge, the pre-Anglian sediments contain some very finely made flake tools, which many authors had previously compared with those of the Middle Palaeolithic (specifically, with certain West European Mousterian types of Upper Pleistocene age), and there are also some finely made ovate handaxes which, while they are not directly associated with the flake tools, are also apparently of pre-Anglian age. In the case of Boxgrove, the artefacts include several well-made, symmetrically-shaped handaxes, again mainly of ovate form; some of these are accompanied by large quantities of the typical flake debris of handaxe manufacture, remarkably fresh, with many conjoinable pieces. The nature of this debris makes it clear that 'soft-hammer' flaking technology was being used by the Boxgrove handaxe makers; fine ovates, shaped by soft-hammer flaking, were previously widely regarded as belonging to late industries within the British Acheulian but, as things stand, High Lodge and Boxgrove are two of the earliest sites in the whole British Lower Palaeolithic. One predictable result of these discoveries has been to create something of a vogue for deploring what is now perceived as over-rigid use of typology in previous accounts of the British Palaeolithic – doubtless true, though perhaps not quite to the extent that some of the recent literature seems to suggest. In my previous account of the Oxford Region Palaeolithic,[19] I certainly made some use of typological arguments in trying to classify and assess the significance of our local material, so must clearly take an appropriate amount of care in presenting this update: *tempora mutantur, nos et mutamur in illis.*

THE OXFORD REGION PALAEOLITHIC

Lower Palaeolithic

The earliest industries present in Britain are the Clactonian, and the Early Acheulian. The artefacts of the Clactonian are made by bold 'hard-hammer' flaking, and consist of cores, a few choppers and abundant flakes, some of which are rather roughly retouched. Opinion still remains divided as to whether the Clactonian is a separate entity, attributable to a distinct Lower Palaeolithic population, or merely a part of the Acheulian, made on occasions when, for whatever reason, the bifacial handaxes so typical of the latter were not needed. I myself still favour the view that the two are separate, mainly on technological

[18] M.B. Roberts, 'Excavation of the Lower Palaeolithic Site at Amey's Eartham Pit, Boxgrove, West Sussex: a preliminary report', *Proc. Prehist. Soc.* 52 (1986), 215–45; M.B. Roberts, C.B. Stringer and S.A. Parfitt, 'A Hominid Tibia from Middle Pleistocene sediments at Boxgrove, UK', *Nature*, vol. 369, no. 6478, 26 May 1994, 311–13.

[19] Roe, op. cit. (1986): cf. pp. 7–15.

grounds, but the details of the controversy need not concern us here. Notwithstanding what was said in the preceding section about the occurrence of finely made ovate handaxes at early-dating British sites, it is still true that there are early Acheulian sites in Britain where the dominant handaxe types are heavy and crudely made, by hard-hammer flaking: Kent's Cavern (Devon), Farnham Terrace A (Surrey/Hampshire) and Fordwich (Kent) are examples,[20] while another occurrence, somewhat nearer home, is Hamstead Marshall, on a high terrace of the Kennet Valley.[21] These points together form the background to any assessment of the archaeological contents of the so-called 'Caversham Ancient Channel' gravels of the Middle Thames, which occur in the extreme south-east of our region.

The Ancient Channel gravels appear to represent a former temporary course of the Thames, running more or less straight between Caversham and Henley-on-Thames, active soon after the river's diversion southwards during Oxygen Isotope Stage 12, and correlated with the Black Park Gravel Formation of the Middle Thames, also regarded as of 'Anglian' age. The most prolific of the several Ancient Channel gravel pits which yielded artefacts[22] was Highlands Farm Pit, at Rotherfield Peppard. The collections include much material of 'Clactonian' type, as described above, some crude handaxes made by hard-hammer flaking, and over two hundred fine ovates. The ovates appear to be in fresher condition than the other material, and some authors, myself included, with an eye on what they regarded as the relatively 'advanced' typology of these implements, have in the past regarded them as likely to have been incorporated into the gravel during later re-working, while the more worn condition of some of the Clactonian artefacts and the crude handaxes suggests that they are at least as old as the original formation of the deposit. The message from Boxgrove and High Lodge is clearly that fine ovates are to be expected in Britain even earlier than Stage 12, so it is now easier to regard all the aretefacts from the Ancient Channel gravels as of broadly similar age, with the ovates presumably fresher merely because they have travelled a shorter distance from their original place of manufacture or use. Because all the Ancient Channel artefacts are merely components of a gravel, rather than being in primary context, we cannot say how long a period of time they represent, or whether they are the work of more than one human population; what is certain, however, is that this, the earliest set of archaeological material in our Oxford region, is of genuine relevance to all the current debates about the nature and age of the earliest human occupation of Britain. We should not fall into the trap of supposing that all finely made ovates in Britain are necessarily early: they are not, as the abundant presence of such pieces in the post-Hoxnian deposits of the Lower Thames Valley (in the Swanscombe–Dartford area, for example) indicates.

Following the earliest stage of the British Palaeolithic, with its Clactonian and Early Acheulian industries, comes a variable 'Middle Acheulian' phase, in which industries dominated by well-made handaxes of various forms occur. No doubt the exact nature of these is always influenced by the nature and quality of the raw material used, and the immediate tasks for which the implements were made, as well as by the technological traditions of the makers. Prolific and important Middle Acheulian sites can be found all over southern England, particularly in the Lower and Middle sections of the Thames Valley, in the Solent region, and in East Anglia; between them, they cover the record of intermittent human occupation of Britain from Isotope Stages 11 to 6, and authors such as Roe and

[20] D.A. Roe, *The Lower and Middle Palaeolithic Periods in Britain* (1981), 94–115.

[21] For a useful summary, with further references, see D.R. Bridgland op. cit. (1994), 145–49.

[22] J.J. Wymer, *Lower Palaeolithic Archaeology in Britain as represented by the Thames Valley* (1968), 129–34 and 189–98; D.A. Roe, op. cit. (1981), 145–48.

Wymer have provided information about many of them.[23] I have indicated above the somewhat marginal nature of the Oxford region for human settlement at this time, but it still yields a number of good Middle Acheulian sites, notably the Wallingford Fan Gravels, Berinsfield, Cornish's Pit at Iffley, and the Gravelly Guy Pit at Stanton Harcourt. In addition to these, there are many isolated finds of handaxes to which one can only assign a vague 'Middle Acheulian' label.

There is little to add to the previous descriptions[24] of the first three of these, beyond noting the suggestion of A. Horton and his colleagues,[25] on geological grounds, that the formation of at least part of the Wallingford Fan Gravels may have occurred earlier than had previously been thought, perhaps within the Anglian Glaciation. These deposits yielded substantial numbers of handaxes many years ago, particularly at the Turner's Court, Goulds Grove and Rumbold's gravel pits in the area of Crowmarsh, Benson and Ewelme. As so often with old finds, in many cases the precise relationship of the artefacts to the containing deposits is not entirely clear, and it would be rash to assume that all the handaxes are of Anglian or pre-Anglian age. As we have already seen, human presence on the Chilterns in that time-range is certainly indicated by the Caversham Ancient Channel finds, but it has now become clear that there are more Middle Pleistocene cold phases available to account for periglacial activity on the slopes of the Chilterns than Horton and his colleagues could have envisaged in 1981. The Wallingford Fan Gravels implements certainly compare more closely to those from Middle Acheulian, rather than Early Acheulian, sites elsewhere in Britain.

The prolific finds of handaxes at the Gravelly Guy Pit, Stanton Harcourt, are mostly new since my previous account, and represent another triumph for the skilful and dedicated collecting of Mr R.J. MacRae, who has himself reported on the material.[26] The pit has now ceased working, but it yielded over 80 handaxes or fragments of handaxes and a number of flakes. About 60% of the material is of flint, and the rest of quartzite. Pointed, pear-shaped and large narrow ovate handaxe types are all present, with the occasional cleaver: this combination is strongly reminiscent of the rich Middle Acheulian of the Middle Thames Lynch Hill Terrace sites in the Maidenhead and Burnham areas. An exceptional find was a giant pointed handaxe of the type known as a ficron (having concave long edges in the plan view): MacRae reckons this to be the third largest handaxe ever found in Britain.[27] Ficrons of very large size are again a feature of the Middle Thames sites, such as Furze Platt. No large nodules of good-quality flint are available locally in the Stanton Harcourt area, and MacRae has speculated[28] that the implements were brought to the area in finished form rather than made locally. The paucity of handaxe trimming flakes amongst the Gravelly Guy collections, in spite of careful searching, would seem to support that view. Though many of the artefacts were recovered out of context at the pit – at the processing plant or on the reject heaps – there are strong indications that the main source of them was the extreme base of the gravel, and they may well have lain on a land-surface before being disturbed and

[23] D.A. Roe, op. cit. (1981); J.J. Wymer, op. cit. (1968). Both authors provide abundant further references.

[24] i.e., those given by Roe, op. cit. (1986), 8–14.

[25] A. Horton, B.C. Worssam and J.B. Whittow, 'The Wallingford Fan Gravel', *Phil. Trans. Roy. Soc. (Series B)*, vol. 293 (1981), 215–55.

[26] See for example R.J. MacRae, 'The Palaeolithic of the Upper Thames and its Quartzite Implements', in MacRae and Moloney (eds), op. cit. (1988), 123–54; R.J. MacRae, 'New Finds and Old Problems in the Lower Palaeolithic of the Upper Thames Valley', *Lithics*, 11 (1990), 3–15.

[27] R.J. MacRae, 'The Great Handaxe Stakes', *Lithics*, 8 (1987), 15–17.

[28] R.J. MacRae, 'Belt, shoulder-bag or basket? An enquiry into handaxe transport and flint sources', *Lithics*, 9 (1988), 2–8.

Fig. 4. Stanton Harcourt: excavation of a mammoth tusk in the interglacial channel deposits (1993). A bison bone can be seen in the foreground, below the tusk. The channel fill can be seen in the section behind.

caught up when the gravel, which is attributable to Oxygen Isotope Stage 6, began to be deposited.

The last comment has to count as speculative but, if true, it would suggest close similarity in age between the Gravelly Guy handaxes and the very important Stanton Harcourt Channel site, another new discovery, which lies about a kilometre away at Dix Pit. Though it has produced only a small amount of purely archaeological evidence so far, this interglacial channel is easily the most important Quaternary site found in our region over the past few years. Excavation is continuing there at the time of writing, under the direction of Dr Katharine Scott, of the Donald Baden-Powell Quaternary Research Centre at Oxford University, assisted by Mrs Christine Buckingham, with the participation of specialists in various branches of the Quaternary sciences from several British Universities. Reports are being prepared by Dr Scott and her colleagues, so only a brief summary is appropriate here. The Stanton Harcourt Channel is full of evidence for interglacial conditions: faunal, floral (macroscopic and microscopic), molluscan, coleopteran and sedimentary, *inter alia*. There are excellent grounds for attributing it firmly to Oxygen Isotope Stage 7 (*c.* 200–250,000 years ago), and the quality of its evidence is profoundly important to any understanding of that climatic episode in Britain and north-west Europe, quite apart from the channel's more local value as a dated fixed point in the Upper Thames Pleistocene sequence. The most spectacular of the faunal remains are numerous finely preserved bones, teeth and tusks of mammoth (Fig. 4) – the presence of which casts a surprising light on the climatic and environmental range of the mammoth, so often regarded as exclusively a cold-climate creature – but many other species are present, large and small, including straight-tusked elephant, red deer and various

rodents, frogs and fish. In close proximity to some of the animal bones, three handaxes and two flakes have been discovered during the excavations. Sadly, none of these is in perfectly fresh condition, and they have to be regarded as chance components of the channel fill rather than as evidence of human activities directly associated with the concentration of animal bones. The bones themselves, too, have so far revealed no trace of modification by humans (such as deliberate breakage, or cut-marks from stone tools), but the work has some way to go yet, and the site has a high potential to produce further exciting discoveries.

There is, regrettably, nothing new of a practical nature to report about the important Lower Palaeolithic site at Upper Wolvercote,[29] on the north-west edge of Oxford, where distinctive plano-convex handaxes of Late Acheulian or 'Micoquian' type were discovered in the late 19th and earlier 20th century at a brick pit which is now the lake that gives Lakeside its name. This is not for want of attempts to locate new exposures, as teams from the Nature Conservancy and from those working locally on the Upper Thames Palaeolithic can testify. The artefacts evidently occurred in an interglacial stream-side context. The previous choice of interglacials to which to attribute the site was limited: Hoxnian or Ipswichian, and of these the latter seemed to me in all ways more likely. Now, there are Isotope Stages 11, 9, 7 and 5 to choose from, the last-named with various sub-stages. The only interglacial episode in the British sequence that sees the presence of hippopotamus is the Ipswichian, *sensu stricto*, which equates with Stage 5e and dates from approximately 130–120,000 years ago. There are certainly gravels in the Oxford area that have produced remains of hippopotamus, notably the Eynsham Gravel of the Summertown Radley Formation at Eynsham itself, but no hippopotamus is known amongst the 'warm' faunal assemblage from the old exposures of the Wolvercote Channel. One has to remember that hippopotamus need not be present in every Stage 5e collection of large mammal remains, because hippo bones will hardly be distributed over every part of any landscape which hippos inhabited. The Wolvercote Channel site could still be of Stage 5 age, but Stage 7 is a real possibility. It is true that the peculiar typology and technology of the Wolvercote handaxes make them quite different from the Gravelly Guy series, and from the three derived handaxes in the Stanton Harcourt Channel, both likely to be Stage 7 occurrences, but Stage 7 is a long period, with more than one warm peak. Comparable plano-convex handaxes in Continental Europe certainly seem to be Late rather than Middle Acheulian. Bridgland's recent interpretation of the Upper Thames Pleistocene succession[30] places the Wolvercote Channel in Stage 9. This seems to me too early for an occurrence of that particular style of handaxe manufacture, but I have already noted the general loss of faith in the validity of arguments based on implement typology. For all these reasons, it is highly desirable that a new exposure of the 'lost' Wolvercote Channel should be found and properly excavated. The Wolvercote handaxe assemblage is one of the treasures of our local Palaeolithic archaeology, and is genuinely of far more than local interest.

Middle Palaeolithic

There are no substantial Middle Palaeolithic sites in the Oxford region, but there is a scatter of single finds of artefacts typical of the one industrial variant of the European Middle Palaeolithic that seems to be represented in Britain, namely the Mousterian or Acheulian

[29] For information about this site, see D.A. Roe, op. cit. (1981), 118–28; J.A. Tyldesley, op. cit. (1986); D.R. Bridgland, op. cit. (1994), 59–65.

[30] Bridgland, op. cit. (1994), 63–5.

Tradition. In this situation, Oxfordshire is entirely in line with much of southern Britain. The most developed phases of the European Middle Palaeolithic are the work of the fully evolved Neanderthal population and fall within the first half of the Last Glaciation (*c.* 75–35,000 years ago); the colder parts of this period probably saw depopulation not only of the 'British Peninsula', but also of those parts of north-west Continental Europe which would have provided the population reservoir from which human groups might occasionally spill over into Britain. The few Middle Palaeolithic visitors who came probably did so during milder interstadial conditions, reaching as far as the limestone caves of south-west England and south Wales and traversing much of southern Britain in their wanderings. Their highly typical flat-butted cordate handaxes (the so-called *bout-coupé* type) are almost our only evidence for their presence.[31] In my previous account I mentioned two Oxfordshire examples, one from Abingdon and one from Radley; the total from pits in the general area of Abingdon has now risen to at least 7,[32] and I have seen another from the Standlake area amongst material at the Oxfordshire County Museum. Where any context can be established, these artefacts are related to the flood-plain terraces of the Thames or its tributaries, deposits which are of Last Glacial (Devensian) age. It is worth recording in passing that gravels of Last Glacial age in the Oxford region have often produced faunal remains – mammoth, woolly rhinoceros, bison and reindeer being the commonest large mammal species – and that over the past few years important finds of this nature have come from the extensive gravel digging on the north side of the A 40 road between Oxford and Cassington. Careful watching of the pits has not revealed any artefacts or other traces of human activity contemporary with the fauna, though R.J. MacRae and Terry Hardaker have found a little Acheulian material, one cleaver and two handaxes, doubtless incorporated into the Devensian gravels from some earlier context.

Upper Palaeolithic

The British Upper Palaeolithic offers only a very pale reflection of human events in Continental Europe, during the period *c.* 40–13,000 years ago, for similar – ultimately climatic – reasons to those which gave us such an impoverished Middle Palaeolithic stage. The coldest period of the whole Last Glaciation occurs between about 22,000 and 16,000 years ago, and Britain was probably totally depopulated then and visited only intermittently before and after. A single fragment of a bifacial flint leaf point, found long ago near Osney lock, Oxford, in gravel probably from a buried channel of the Thames, is all we can muster to indicate that British Early Upper Palaeolithic people may have entered the Upper Thames Valley at least once during the period *c.* 38–26,000 years ago, when such pieces were current. In 1986, I had to report a complete blank in our region for the Later Upper Palaeolithic, which is a stage of very different character: by about 12,500 years ago the Last Glacial ice-sheets were well in retreat and, although there was still one sharply cold stage of a few centuries' duration to come (Pollen Zone III, the Younger Dryas stage), southern Britain was an empty ice-free territory, with rich resources to attract hunter-gatherer bands pushing north and west from various parts of Continental Europe during a time of rapid

[31] D.A. Roe, op. cit. (1981), 240–52; J.A. Tyldesley, *The* bout coupé *Handaxe: a Typological Problem* (BAR British Series, clxx, 1987).

[32] See R.J. MacRae, 'New Lower Palaeolithic Finds from Gravel Pits in Central Southern England', *Lithics*, 12 (1991), 18.

ecological change. One or two stray flint artefacts which are probably of Late Glacial age and Late Upper Palaeolithic origin have been reported in recent years from Hardwick and Fairford, but an altogether more important find was made in 1991 at Gatehampton Farm, Goring, during fieldwork by the Oxfordshire Archaeological Unit.[33] A scatter of flintwork characteristic of the 'long blade' industries of the final Pleistocene and earliest Holocene[34] was recovered in close association with a buried channel feature, close to the narrowest part of the Goring Gap. The artefacts had been made on the spot, and disturbance was only slight, since several of the flints could be refitted. The palaeotopographic situation, and the nature of the industry, suggest that the Late Upper Palaeolithic hunters had positioned themselves at a point where they could ambush animal herds crossing a shallow river, and that they were equipped to process the carcasses of their quarry – probably reindeer or horse, to judge from similar occurrences of this age in north-west Europe. While this is the only Oxfordshire example so far found, there are a number of comparable sites in Britain, including some in the valley of the Thames or its tributaries, the nearest being Avington VI in the Kennet Valley west of Newbury[35] and Three Ways Wharf (Scatter A) at Uxbridge.[36]

CONCLUSION

The updating information about the Palaeolithic archaeology of the Oxford region, given in the preceding section, shows that the work of discovery and research is in good heart locally, with a pleasing harvest of new information gathered over the past decade, much of it of considerable importance. The work done has matched well the pattern of current interests in British Palaeolithic archaeology more generally, and has both contributed to, and benefited from, the new perceptions of the British Pleistocene and Palaeolithic successions. There is no reason to expect any falling off in discovery, or in interest, over the next ten years. It remains true, as suggested at the beginning of this article, that the geographical character and role of the region are reflected in the nature of the Palaeolithic sites and finds.

ACKNOWLEDGEMENTS

I am grateful to Mr. M.H.R. Cook for his assistance with the preparation of Figs. 1–3, and to Dr. K. Scott for providing the photograph which appears as Fig. 4.

[33] Information kindly supplied by T. Allen: a report is in preparation.

[34] R.N.E. Barton, 'Long Blade Technology in Southern Britain', in C. Bonsall (ed), *The Mesolithic in Europe: Papers presented at the Third International Symposium, Edinburgh, 1985* (1989), 264–71.

[35] R.N.E. Barton and F.R. Froom, 'The Long Blade Assemblage from Avington VI, Berkshire', in S.N. Collcutt (ed), *The Palaeolithic of Britain and its Nearest Neighbours: Recent Trends* (1986), 80–4.

[36] J. Lewis, 'A Late Glacial and Early Postglacial Site at Three Ways Wharf, Uxbridge, England: interim report', in N. Barton, A.J. Roberts and D.A. Roe (eds), *The Late Glacial in North-West Europe: human adaptation and environmental change at the end of the Pleistocene* (1991), 246–55.