Chapter 4

The Lower/Middle Palaeolithic: Research Agenda

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4.1 Themes and priorities

It was recognised in the 1980s that the present structure of archaeological curation and investigation in advance of development requires a framework of academic and research priorities against which to consider the significance of sites and to guide their investigation. The seminal English Heritage publication *Exploring our Past* (1991) identified three main themes – physical evolution, cultural development and global colonisation. English Heritage has subsequently taken the lead, in conjunction with the Prehistoric Society, in keeping core strategic research themes under review, with updated themes and research priorities issued in 1999 and 2008 (English Heritage/ Prehistoric Society 1999, 2008). A condensed list of national research themes is given (Table 4.1), collated from these sources, and taking account of actual ongoing research across Britain. This has led to the inclusion of an element of material cultural study, which is unaccountably omitted from the proposed national framework, despite still comprising a significant element of the actual practice of Palaeolithic archaeology. It is suggested that all Lower/Middle Palaeolithic research within the Solent-Thames region should be related to this framework, and that much of it will be regionally specific instances of these national generalities.

Within this context, a number of specific research priorities have been discussed above, and others are given for each county in the region in the individual county reports, summarised in sections 4.5-9 below. Generally recurring themes are:

4.1.1 an improved chrono-stratigraphic framework, both for sets of deposits within clearly defined zones such as specific river valleys, and between sets of deposits in, for instance different valley systems

4.1.2 an improved understanding of the taphonomic history of artefact accumulations in all types of deposits, but especially fluvial and Clay-with-flints contexts

Table 4.1 National Lower/Middle Palaeolithic research themes

Aim	*Details*
N 1	Documentation of regional sequences of material cultural change
N 2	Dating of artefact-bearing deposits within regional, national and international Quaternary frameworks
N 3	Developing understanding and dating of regional Pleistocene environmental, climatic and litho-stratigraphic frameworks
N 4	Explanation of diachronic and synchronic patterns of material cultural variability
N 5	Behaviour of Archaic (pre-anatomically modern) hominids (a) at specific sites, (b) across the wider landscape
N 6	Behaviour of anatomically modern hominids (a) at specific sites, (b) across the wider landscape
N 7	Extent of contrasts in Archaic and anatomically modern human behaviour and adaptations, and in fundamental cognitive capacities
N 8	Patterns of colonisation, settlement and abandonment through the Pleistocene
N 9	The climatic and environmental context of Archaic settlement, and the relationship between climate/environment and colonisation
N 10	The history of isolation/connection between Britain and the continental mainland, and the relationship/implications for Palaeolithic settlement and cultural development/expression
N 11	Improved documentation and understanding of hominid physiological evolution
N 12	Investigation of the relationship between evolutionary, behavioural and material cultural change
N 13	Social organisation, behaviour and belief systems
N 14	Models for cultural transmission and learning
N 15	Improving models of Palaeolithic site formation and post-depositional modification

4.1.3 an improved understanding of the distribution of artefact concentrations within gravel bodies

4.1.4 clarification for a number of solifluction and high-level deposits (eg. northern Drift) of whether associated artefact finds are intrusive finds from the surface of the deposits, or whether any of these deposits contain artefacts incorporated within them contemporary with, or earleir than. their deposition

4.1.5 the improved identification, dating and technological/typological characterisation of lithic artefact assemblages, and integration into regional/national frameworks

4.1.6 to put hominin presence and activity in its climatic, environmental and landscape context, as well as within a chrono-stratigraphic framework

4.1.7 Predictive modelling for, and discovery and investigation of: (a) sites rich in faunal and other palaeo-environmental remains; (b) undisturbed sites; and (c) ideally, both together

In addition to these, at the regional and sub-regional level, it seems important to:

4.1.8 develop, compare and contrast regional and sub-regional sequences and distributions of settlement and cultural development. In particular, for instance, how does the sequence and distribution of settlement and cultural development in the Upper Thames Valley compare with those of the middle and lower parts of the Thames Valley? Likewise, how do these sequences compare with those in the Hampshire basin, and in different valleys within the Hampshire basin, such as the Avon and the Test? Fundamental to investigation of these issues is development within each region of an improved chrono-stratigraphic framework

4.1.9 look at these regional and sub-regional histories in relation to the wider national and north-west European history of settlement and colonisation, for instance as expressed in the Lower Thames Valley, East Anglia, the Sussex Raised Beaches and northern France, both from the point of view of mere chronology, and also to bring in material cultural expression

4.1.10 try to identify the original depositional environment of *ex situ* finds, and the location of regional human activity with the catchment, including searching for slack-water contexts

4.1.11 identify buried and sealed deposits/sites, as contemporaneous palaeo-environmental evidence from *in situ* locations is exceptionally rare and would be virtually unparalleled

4.1.12 carry out detailed scientific studies in relation to any human remains, including those in fissure deposits such as Beedings, West Sussex, on the Greensand, and to attempt to isolate isotope suites for the examination of diet (meat vs plant food vs marine foods).

4.2 Specific immediately desirable projects

In the course of the resource assessment process, a number of specific and immediately desirable projects have been suggested. These are listed county by county in sections 4.5 to 4.9 below. Many of these are relevant to specific local and regional research questions. Others, however, are of more strategic importance, addressing themes that are applicable both across the region as a whole, and the nation generally. These latter include:

4.2.1 Compiling and maintaining a database of sites with mammalian and other palaeo-environmental evidence

4.2.2 Developing a GIS model of the available Palaeolithic and Pleistocene evidence to provide an overall view of the palaeo-landscape as well as a predictive tool for potentially artefact- and fossil-rich deposits

4.2.3 Modelling artefact dispersal and the formation of secondary context assemblages, with particular (but not exclusive) reference to the fluvial deposits …

4.2.4 … complemented by an intensive investigation of artefact distribution, vertically and horizontally, within a representative selection of specific terrace beds

4.2.5 Field-walking surveys of specific river valleys for gravel outcrops and Palaeolithic artefacts, supplemented by systematic investigation by controlled sieving

4.2.6 A typological/technological review of existing collections in specific key regions, complemented by targeted fieldwork to provide an improved chrono-stratigraphic framework for the analysed collections

4.2.7 Controlled investigation of high-level and "plateau" gravels, to identify whether artefact clusters are intrusive surface finds, or whether any of these deposits contain artefacts within them of very early date

4.3 Research methods and approaches

4.3.1 The first challenge is to identify at the earliest possible stage whether a site has any Palaeolithic potential. This can be addressed at the desk-based assessment (DBA) stage by consideration of the geological situation of the site, of whether any Pleistocene deposits are mapped in the vicinity, and whether there is a background record of Palaeolithic finds. The primary source of information is the county/unitary authority HER, supplemented by the appropriate volumes of the Southern Rivers Palaeolithic Project (Wessex Archaeology 1993a, b; 1994) or the English Rivers Palaeolithic Survey (Wessex Archaeology 1996a, b; 1997), which collated all information on known Palaeolithic findspots up to *c.* 1990.

4.3.2 There is one particularly fruitful source of information that should, whenever possible, also be taken account of at this stage. Most development projects, and particularly larger ones, carry out a range of geo-technical investigations early in the project cycle. These often involve excavation of test pits, window-samples and deeper U4 cable/percussion bore-holes. Besides the point that these in themselves have archaeological impact, and perhaps should be monitored, they also provide an excellent opportunity for archaeological knowledge to be gathered on a site, piggy-backing on the geo-technical investigations. These investigations reveal the presence and nature of any Pleistocene sediments present. All that is required is monitoring by a person with appropriate expertise, who can record the stratigraphic sequence, and observe and recover Palaeolithic remains if present.

4.3.3 It is necessary, in areas where potential is established for Pleistocene deposits and Palaeolithic remains, that special methods are applied to investigating their presence and potential. Deeper test pits need to be dug than in conventional archaeological trial-trenching, so as to allow investigation and characterisation of the Pleistocene sequence across a site. A key aspect of this is the application of: (a) standardised sedimentological recording; and (b) volume-controlled sieving of bulk samples on-site for artefacts and faunal remains. It is also necessary, when potentially suitable sediments are encountered, to sample and assess off-site for the presence and quality of biological remains such molluscs, pollen and ostracods.

4.3.4 In areas where there is not thought to be even the possibility of Pleistocene deposits, there is no need to carry out a full Palaeolithic/Pleistocene evaluation. However, it would be good practice to at least ask the question as part of conventional evaluation: "Have Pleistocene deposits been encountered, and if so what is their nature and Palaeolithic potential?". Significant deposits may be found in unsuspected areas, and these may then require further evaluation specifically in relation to their Palaeolithic potential. Two useful case-studies in the South-East region of unexpected and highly important Palaeolithic discoveries are the sites of Red Barns, Hampshire (Wenban-Smith et al. 2000), a prolific and undisturbed Lower Palaeolithic site on a hill slope mapped as Chalk bedrock, and Swan Valley Community School, Swanscombe, Kent (Wenban-Smith & Bridgland 2001), another prolific Lower Palaeolithic site on a deposit mapped as Tertiary Thanet Sand.

4.3.5 If Palaeolithic remains are found to be present, it is advisable to take specialist advice on their potential, and on suitable methods for further study or mitigation of any impact. A wide range of options are potentially applicable depending upon the specific circumstance. In many cases a separate phase of mitigation work may not be required, and mitigation can be addressed by increasing the volume or intensity of sampling during the evaluation phase of work.

4.4 Assessment of Palaeolithic importance

4.4.1 An assessment of importance depends upon the extent to which the evidence in a particular deposit can contribute to addressing national and regional research priorities. English Heritage (1998) has published eleven criteria, any of which are deemed sufficient to identify a Palaeolithic site as of national importance (Table 4.2).

4.4.2 The English Heritage criteria successfully pinpoint a number of situations where there is particularly high potential to address a number of research priorities. It should be noted that remains in a primary undisturbed context represent just one of these criteria. Many sites without undisturbed remains may meet these criteria for national importance. Thus, by these guidelines, the absence of undisturbed primary context remains is not a basis for disregarding the potential of a Palaeolithic site and failing to carry out mitigating archaeological works. Furthermore, many sites that are not of national importance in themselves may contain good evidence that contributes to addressing national and regional research priorities, and impacts upon these should be mitigated.

Table 4.2. English Heritage (1998) criteria for Palaeolithic importance

Criterion	*Notes*
Any human bone is present	The only Lower/Middle Palaeolithic remains from Britain are: – one partial skull (occipital region) from Swanscombe – two incisors and a shin bone (two individuals) from Boxgrove – molar tooth from Pontnewydd (Wales)
Palaeolithic remains in primary undisturbed context	There are about a dozen British sites with undisturbed Palaeolithic remains. Less than half have both faunal and lithic remains, and have had areas of more than a few square metres excavated (cf. Wenban-Smith 2004b)
Remains from a period or geographic area where evidence is rare or previously unknown	
Organic artefacts	The only organic artefacts known from Britain from the L/M Palaeolithic are a wooden spear-point from Clacton and bone and antler percussors from Boxgrove
Well-preserved associated biological/ palaeo-environmental evidence	These are important on two counts: – May provide direct behavioural/dietary information – Provide environmental/climatic/biostratigraphic data
Evidence of lifestyle	Can include cut-marked faunal remains, particular topographic situation, artefacts when interpreted in light of their context/ distribution
Remains from different stratigraphic horizons	
Artistic evidence	Can include decorated/carved objects and rock-art. Not presently known before the Upper Palaeolithic, although should not be ruled out as a possibility for earlier periods
Evidence of hearths or structures	No evidence in Britain before the Upper Palaeolithic, but might be expected for the Middle Palaeolithic
Site can be related to exploitation of a particular resource	For instance raw material source, cave/rock-shelter, lake
Artefacts are abundant	No absolute guidelines on how abundance should be assessed. Needs to be considered together with level of investigation. If limited investigation, even low numbers of artefacts may indicate abundance

4.4.3 Finally, and this is a key strategic point, significant knowledge – ie. information that contributes to both national and regional research priorities – can be acquired, not only from single sites with obvious indisputable high quality evidence, but also from repeated observations at sites with evidence that is in itself of little apparent potential. The incremental accumulation of information from repeated observations in, for instance, a single mapped fluvial terrace can lead, over time, to a reliable picture of the density, distribution and nature of Palaeolithic remains. This can not be achieved other than through a coherent strategy of investigation that recognises this from the outset, and sets in place a standardised methodology of systematic small-scale data gathering exercises. A single event may involve excavation of a couple of test pits, sieving of eight x 100 litre gravel samples and recovery of no evidence. This in itself fails to provide sufficient information to make a more general summary of the Palaeolithic remains in a body of gravel that may cover several hundred hectares. However, once this exercise has been repeated a hundred times over a period of maybe 20 years, with hopefully at least occasional artefact recovery, then we will actually begin to both: (a) determine the distribution and prevalence of Palaeolithic remains in the gravel body under investigation; and (b) learn something that can make a major contribution to core national and regional research objectives.

4.5 Particular aims for Buckinghamshire

General aims are to:

4.5.1 Establish the evidence for the earliest human presence in Buckinghamshire.

4.5.2 Date the onset of the Middle Palaeolithic in Buckinghamshire and particularly the appearance of Levallois artefacts.

4.5.3 Compile the mammalian evidence and explore the possibility of using bio-stratigraphy to date key sites.

4.5.4 Establish the potential of the tills of the Buckinghamshire clay lands.

4.5.5 Explore the role of the Buckinghamshire landscape as a migration corridor along the major Rivers Great Ouse and Thames, as well as in the Chilterns themselves.

4.5.6 Develop a GIS model of the available Palaeolithic and Pleistocene evidence to provide an overall view of the palaeo-landscape as well as a predictive tool for potentially artefact- and fossil-rich deposits.

4.5.7 Investigate the locations and migrations of Pala - eolithic peoples, within a tightly constrained geo-chronological framework, between fluvial and non-fluvial landscapes (to be identified)

Specific questions and projects:

A – Great Ouse Valley

4.5.8 To establish a firm geo-chronological framework for the major river terraces

4.5.9 Can a chronology be established for the Great Ouse terraces and can these be tied in with the Thames Valley sequence?

4.5.10 To investigate the potential of these sediments to contain palaeo-environmental evidence for Pleistocene landscapes and/or human presence

B – North Buckinghamshire clay lands projects

4.5.11 To investigate the potential of the lake sediments under Milton Keynes.

4.5.12 To investigate the possible fossil content of the River Thame Shabbington terrace

C – Chiltern Hills projects

4.5.13 To explore potentials for *in situ* finds associated with the clay-with-flints, both Palaeolithic and Pleistocene.

4.5.14 To investigate the likelihood of any Caddington-style brickearth-filled depressions with Palaeolithic potential

D – Middle Thames Valley projects

4.5.15 To date the sediments of the infilled hollow at Slade Oak Lane independently, and investigate the possibility of other proxies as well as artefacts being present.

4.5.16 To resample and establish the sedimentary composition of the brickearth deposits as being Aeolian in nature, and to establish a chronology for the loess deposits and the artefacts contained within them.

4.5.17 To explore and establish the potential for palaeo-environmental evidence, in particular mammalian remains, that could potentially be used for bio-stratigraphic dating.

4.6 Particular aims for Berkshire

Research questions

4.6.1 Does the artefactual material from Berkshire provide evidence relevant to the debate concerning the status of British handaxe and core and flake assemblages?

4.6.2 Can the Levallois material from non-terrace gravel deposits (eg brickearths) be reliably dated (eg using new techniques such as AAR (amino-acid ratio) and OSL (optically stimulated luminescence))?

4.6.3 What are the absolute geo-chronological ages of the fluvial terraces of the Thames and its tributaries?

4.6.4 Can key deposits (including brickearths and/or other sediments associated with primary context archaeology) be re-located and re-investigated using modern, multi-disciplinary techniques?

Specific projects

4.6.5 Independent geo-chronological testing of terrace chronology models (principally for zone 2, but also for zones 3 and 4), including use of AAR and OSL techniques, either through specific re-investigations of remnant deposits or PPG16-funded work in advance of development activity.

4.6.6 Re-examination of key artefact assemblages from zone 2 (eg artefacts from the Black Park, Lynch Hill and Boyn Hill terraces) with specific reference to techno-typological variability and those factors which may explain it, including: raw material quality, knapping strategies and/or 'cultural' knapping traditions, and spatial/chronological contrasts.

4.6.7 Re-examination of key artefact assemblages from zone 2 with specific reference to techno-typological variability and the degree of integrity (in terms of artefact derivation) of specific assemblages. For example, it has been suggested that there was a difference in condition between the handaxes ('waterworn') and the flake and core ('sharp') components) of the Grovelands Pit material.

4.6.8 Modelling of artefact dispersal and the

formation of secondary context assemblages, with particular (but not exclusive) reference to the fluvial deposits and assemblages of zone 2 (see also bullet point above).

4.6.9 Direct, multi-disciplinary, investigation of primary context deposits (if and when such deposits are newly identified and/or re-located).

4.7 Particular aims for Oxfordshire

Research opportunities

As mentioned above, Oxfordshire offers the chance:

4.7.1 to study the Palaeolithic against a spatially variable lithic resource background – from total absence to abundance. The empty spaces may say as much as the dense clusters in helping us to understand what drove early hominids to occupy, or not occupy, terrain.

The physical features of the landscape, different though they were in the remote past, still retained the underlying geology and perhaps some of the topographic surfaces. Thus we can attempt

4.7.2 to study the part played by limestone hills, clay vales and chalk downlands in early hominin use of this region.

Specific research projects

Apart from archaeological work that precedes commercial development, these might include:

4.7.3 A further attempt to locate and date the Wolvercote Channel, excavating on land that still remains undeveloped in north Oxford.

4.7.4 A fieldwalking programme on all the remaining areas of Northern Drift to establish presence of artefacts. There is a need to clarify whether artefacts come from within the Northern Drift, or from its surface. This could be supplemented by a search of other Cotswold plateau areas away from the Drift, to test the hypothesis that lack of lithic resources meant a lack of Palaeolithic occupation.

4.7.5 Detailed study of selected Devensian gravel pits (in the course of gravel extraction) to monitor the distribution of quartzite clasts on the bedrock surface, their relationship with the micro-topography, and their association or otherwise with artefacts, with the objective of testing the theory that these surfaces are 'lag' deposits possibly of pre-MIS 6 age.

4.7.6 A further attempt to locate the Sugworth Channel near Abingdon to amplify the data and especially to try to locate artefacts in it.

4.7.7 Placement in the public domain of the detailed and as yet unpublished supplementary data for the county collected by Roe in the course of the compilation of the Gazetteer (Roe 1968), currently held manually on a card index. This task is underway for Oxfordshire as a pilot study.

4.8 Particular aims for Hampshire

Research questions

The critical lessons to be learned from our increasing understanding of the Lower/Middle Palaeolithic, in both Hampshire and the wider UK, are the importance of an absolute chronology and the importance of the application of chronometric dating techniques to Pleistocene deposits associated with archaeological artefacts.

4.8.1 It is vital that chronometric techniques should be employed in the future on any archaeological investigation of Pleistocene strata to provide an assessment of site age that is independent of artefact typology.

There are, however, other more specific questions that could usefully be explored:

4.8.2 Do sites with properties comparable to Red Barns exist elsewhere on the Portsdown ridge? What survey-based approaches would enable their discovery?

4.8.3 Can the spatial/vertical distribution of raised marine deposits in south-eastern Hampshire be better defined? How might the archaeological significance of these deposits be determined given their present deep burial?

4.8.4. Is it possible to develop an approach to the independent dating of artefact assemblages recovered from Clay-with-Flint strata?

4.8.5 How might river terraces designated for aggregate extraction be better investigated to determine their Palaeolithic archaeological potential?

Priority research projects

4.8.6 Given the success in the PASHCC project (Phases 1 and 2) in providing chronometric ages for key Pleistocene strata in Hampshire (Bates et al. 2004, Bates *et al.* in prep), a priority must be the publication of these key data.

4.8.7 A possible future research project building on PASHCC might be the extension of the

Boxgrove Raised Beach Mapping Project, carried out from 2003-5 (Pope and Roberts 2003), into Hampshire.

The other research questions outlined above can be addressed (presumably) by:

4.8.8 the continuation of the work by the Oxford University's unit for the study of Palaeolithic Artefacts and associated Deposits Mapped as Clay-with-Flint (PADMAC) (Anon. 2006).

4.8.9 a project to survey the Portsdown ridge and hopefully, in the case of the final question, through discussions as part of the Thames-Solent Research Agenda.

4.9 Particular aims for the Isle of Wight

Priority research aims and questions include:

4.9.1 To date the first isolation of the Island from the mainland.

4.9.2 Establish the patterns of occupation and settlement through the Lower/Middle Palaeolithic.

4.9.3 The integration, correlation and chrono-stratigraphic attribution of Plateau and Terrace gravels.

4.9.4 What is the correct interpretation of the dissected strip of Plateau gravel/marine beach deposits mapped between Cowes and Bembridge, and is there an important buried landscape comprising a raised beach or fluvial staircase preserved beneath the ground surface in this area?

4.9.5 The patterns of technological/typological change through the Palaeolithic, and their contrast/similarities with adjacent mainland areas such as the Test Valley, Bournemouth and West Sussex.

4.9.6 To discover faunal/palaeo-environmental remains in fluvial deposits

Priority research projects

As long ago as 1980 *The Vectis Report* identified six priorities for future work (Basford 1980):

4.9.7 Rescue excavation at Priory Bay

4.9.8 Observation at Great Pan Farm during proposed construction of Newport South-Eastern Relief Road

4.9.9 Monitoring of any future gravel extraction at Bleak Down.

4.9.10 Safeguarding the site at High Down for future investigation

4.9.11 Fieldwork along the south-west coast and re-examination of material from this area

4.9.12 Investigation of Pleistocene deposits at Bembridge and Steephill if these sites are threatened with disturbance.

The subsequent Southern Rivers Palaeolithic Project endorsed these recommendations, and incorporated them into a *Revised set of suggestions* (Wessex Archaeology 1993a, 172):

4.9.13 High Level Gravels: recording at prolific sites such as Bleak Down and Priory Bay

4.9.14 Bembridge Raised Beach: the location and recording of palaeoliths *in situ* if possible

4.9.15 Bembridge Steyne Wood Clay: recording to determine context of palaeoliths

4.9.16 Mousterian sites: part of the deposits remaining at Great Pan Farm should be preserved, but if this is not possible full excavation should precede any further destruction of the site

To a large extent, these priorities have still not been addressed. Fieldwork at Priory Bay has confirmed the importance of the site and identified important horizons, but the site remains vulnerable to erosion, and requires further investigation to mitigate its impact. Fieldwork at Great Pan Farm has been driven by development rather than research, so while our understanding has increased, this has raised more questions than it has answered, and further work is required if we are to resolve these.

A more robust chrono-stratigraphic framework

As well as carrying out further work at the specific sites mentioned above, understanding of the Island's Lower/Middle Palaeolithic could greatly benefit from a more robust chrono-stratigraphic framework. This could be achieved by developing a long-term programme of:

4.9.17 Field-walking survey and systematic investigation by controlled sieving of gravel deposits for Palaeolithic artefacts

4.9.18 Survey and attempted broad dating of Plateau gravel outcrops

4.9.19 Systematic OSL dating of Terrace gravels

4.9.20 Typological/technological review of existing collections